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THE INTEGRATE ISSUE

16 INDUSTRY POWERHOUSES SHOWCASE THEIR AV SOLUTIONS AHEAD OF INTEGRATE 2023...

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- / John O'Brien's Backstage
- / Brian Coleman: The Gaffa Tapes

Road Test

- / Digital Forecast
- Trouble Shooter
- X_TS mini

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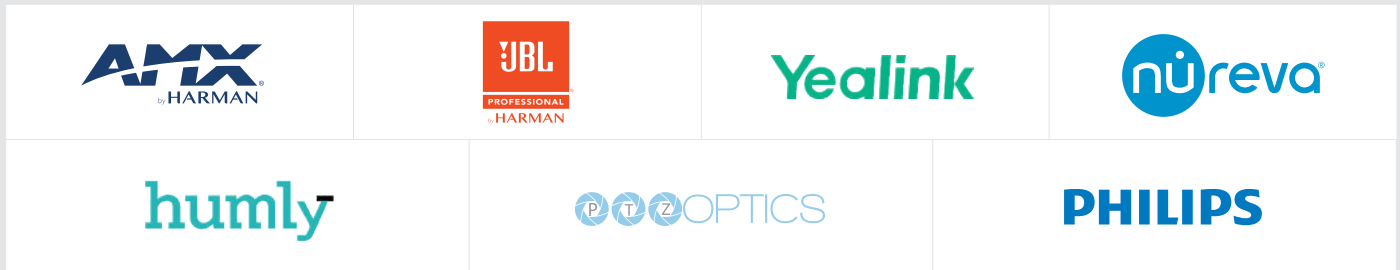
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THE INTEGRATE ISSUE

Integrate 2023 Showcase

Take a sneak peek at the AV solutions of 16 Industry powerhouses: Altronics, Amber Technology, Audio Brands Australia, Audio Visual Distributors, Bose, CMI Music & Audio, Epson, Jands, Lightware, MadisonAV, PAVT, MelbourneLED, Sennheiser, The P.A. People, TAG, and ULA Group

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Cover Photo – Exosphere, NBA Summer League. Photo Credit: Sphere Entertainment.
Contents Photo – Roskilde 2023. Photo Credit: Ralph Larmann

CX is published by VCS Creative Publishing Pty Ltd
PO Box 1045, Ascot Vale, VIC, 3032
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Editor and Publisher: Jason Allen
Layout: Hush Creative Productions – Mark Underwood and Alisha Hill

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L'Acoustics K1



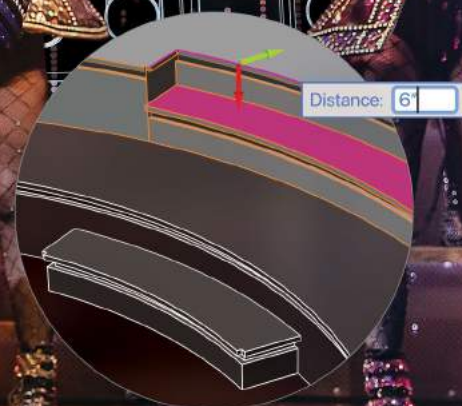
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JBL VTX RANGE COMPLETED

New line array takes aim at the big four

With over 20 brands on the market and the top four sellers competing in a white-hot market, JBL have thrown everything into a brand-new range aimed straight at the middle. Completing the VTX rollout with the VTX A6, they now have a proposition for almost everyone.

CX attended a launch function at Sydney's Star Event Centre where a surprisingly large rollout of audio professionals was generally impressed. One consultant said he was now positioning VTX as a 'value engineered solution', meaning the installed price is less than some other systems.

Distributor MadisonAV hosted the launch and CEO Ken Kyle revealed the firm, 35 strong in the AV division and employing well over 160 across all its tech arms, have made what I would call a very large investment in demo stock. They have enough to supply multiple

events at the same time and it's all very well packaged from the racks and cables to the rigging.

We were looking at it when we came into the venue, having been generously catered in the foyer. MadisonAV were gaining a lot of new friends and making a statement, that they are all-in with the performance audio market. We met their VTX team Peter Kubow, Benjamin Page, and Andrew Taylor, who are now charged with getting the demo systems out there across the market. "People won't buy it without trying it first", Peter said. "So I'll bring it. Call me."





JBL have a significant advantage against the vast majority of brands as JBL build all componentry, including the high frequency elements. Most other brands use OEM components, after JBL amortise the research and development, they have a cost advantage. More importantly they can tailor components, which really shows in the high frequency driver which is common across all three VTX A cabs.

“When you choose the JBL VTX A-Series, you’re building a complete ecosystem, with common acoustic profiles and rigging systems, consistent voicing and standardised system design and operational tools,” says George Georgallis, Director, Product Management - Performance Audio at HARMAN Professional Solutions, who own the JBL brand. Harman threw a lot into the launch with half a dozen head office folk on hand to answer questions.

I rated the launch as world class, because nothing was spared. The presentation was mercifully succinct, which doesn’t always happen when product specialists are thrust in front of a microphone and let loose with a slide deck. Then we heard the three configurations - A6, A8 and A12 - with various sub combinations and not a Steely Dan track to be found. It’s nice being in the next century!

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For cake icing, a real band – Atomic – performed and they are a cut above 10-piece with some legendary session musicians on the stage. The sound engineer did a great job; no pressure at all with a couple of hundred of us ready to step up if he fainted at the controls!

Heard for the first time is the newly launched A6 - a 6.5-inch passive two-way line array element, which can be used as a standalone system or as an addition to larger VTX systems. With two custom 6.5-inch woofers and the 3-inch annular-diaphragm compression driver, the A6 has all the acoustic innovations from the larger VTX A8 and A12, including things like (warning, brand buzzwords coming) "Radiation Boundary Integrator" and the "Differential Drive" dual-voice coil, dual-magnet woofer. The passive A6 gives a low-frequency extension and a maximum SPL of 134 db.

It does all this while weighing just 18kg, and it comes with a full suite of rigging options including a low-profile roof mount frame which excited some of the integrators present who need to under hang from balconies and give schools more options. On that, just the night before I'd worked sound on a large private school concert in a premium venue setting and was amazed how the big dollar private schools are now throwing so much into music training. That's a 'this century' thing which only helps when selling top end audio.

Another winning proposition is that the whole VTX line is amplifier efficient. Using Crown iTech HD amps, you can run multiple cabinets on one quad amp. This promises lower cost than with some other brands. Four A6 elements can run on one amp channel as the A6 is a passive 2-way design. Moving up, the 3-way A8 needs 2 amp channels and you can run 3 elements on each channel. The top-dog A12 needs 4 amp channels, and again 3 elements per channel can be done. On that, a hang of 12 A12s only needs 3 quad amps.

JBL put sense into the new A-Series branding, with the A6, A8 and A12 full range boxes joined by the B15, B18, B28 subs, and this is just so logical: 1 x 15", 1 x 18" and 2 x 18". They kick well too.

They put a few years work into these, and ticked off stuff a lot of lesser brands mess up. The A8 is 6db less than the 12, while the A6 is 12db less. I like linear marketing and design. The high frequency drivers are based on a polymer, not metal, diaphragm. More than one seasoned (that means old) sound engineer sidled up to me and said "they got rid of the 'oink'," referring to a trait displayed in older JBL high frequency drivers.

There's a lot more to the story, but I ran out of ink in my biro, so you'd best talk to one of the product gurus. Overall, a new era for JBL and a calculated bold and brave move for MadisonAV.



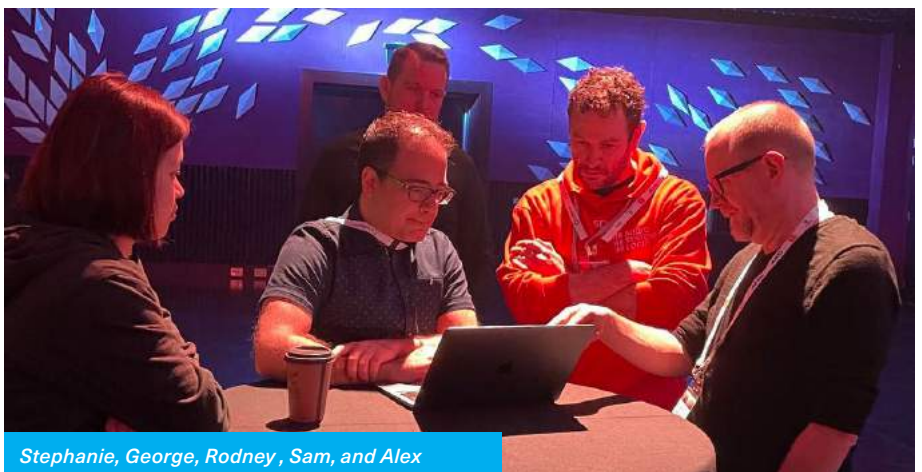
The Team



Jeff Shoesmith, Glenn Leembruggen, and Julius Grafton



Jeff Shoesmith, Glenn Leembruggen, and Camille Hanrahan-Tan



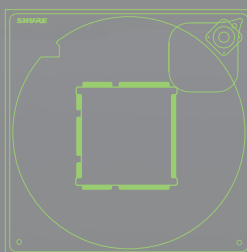
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ENTECH Adds



Single City Exhibitors

The October roadshow visits Sydney, Melbourne, Brisbane, Adelaide and Perth, returning to pre-pandemic scale. A growing collection of single city exhibitors are signing up, keen to be part of something big and meet potential new contacts, drawn from new channels of events professionals alongside traditional trade from integrators to techies.

ENTECH has diversified this year with a wider variety of trade exhibits, and a doubling of the headphone theatre, with up to 20 sessions located directly alongside the larger, central cafe. The floor plan covers 2,000 square metres with exhibits looking inwards to the central cafe and extra table and chair seating to enhance networking.

Event Manager Kate McKenzie told CX pre registrations were running 15% hotter than previously, before targeted marketing to the broader events community, who will be looking for new and broader options for production hire and supply. In this sector, ENTECH has signed Brisbane Sound, Novatech Creative Event Technology, Resolution X and Chameleon, with other production suppliers looking at single city and national exposure.

"We see a lot more mobility in events work with interstate firms turning up and competing against local suppliers", Kate said. "Some of this is because some of the smaller cities have retained more skilled crew attracted by lifestyle and lower cost, while larger city suppliers are still short of experienced crew. We even have Pacific Cruise Lines at ENTECH looking to hire younger techies who might enjoy some Caribbean or European cruising!"

Exhibition sales are at exhibit@entech-roadshow.com and early registration is at www.entech-roadshow.com



entech

10 - 24 October 2023

TAG Launches 40-FOR-40 to Celebrate its 40th Year!

Armed with \$100,000 Technical Audio Group (TAG) is seeking to spread love to forty community and social programs.

"Support for community has been in our company DNA since day one," said TAG Director Maxwell Twartz. "And our 40th Anniversary provides a perfect opportunity for us to dive deeper into it."

Now one of Australia's leading AV distributors, TAG started from humble beginnings in 1984 and has grown steadily over the years. For much of its history the company has partnered with and distributed the products of four leading AV manufacturers; Martin Audio since 1992, QSC/Q-SYS since 1994, Allen & Heath since 1996, and Audio-Technica since 2005.

"Forty years is a bit of a moment and a chance to pay tribute to the many staff, customers and suppliers that have helped us along the way," stated TAG Director Anthony Russo. "But rather than pause and look back we want to pause and pay forward. In the spirit of thanks and appreciation to all who have contributed

to and been instrumental in our company journey we've allocated a chunk of money and on their behalf, we're planning to use it to impact some lives in positive ways. We're calling it TAG 40-FOR-40."

During the twelve months leading up to the company's fortieth celebration, TAG plans to make forty individual community and social program donations of \$2,500 each from an allocated fund totalling \$100,000. The programs will align with the company's human development, sustainability and environmental goals and standards, and the aim is to complete the whole program and fully expend the fund by TAG's fortieth birthday in April 2024.

'Doing the work' has always been the TAG way and 40-FOR-40 is no different, the idea is that the forty donations won't be passive, they will be proposed and undertaken by forty individual members of TAG staff who will not only deliver the donation but spend

some time with their chosen program, learning what they do and experiencing first-hand the frustrations and joys of a 'day in the life.'

"Many of the team at TAG are already involved with or have a passion for a particular social, community or charity program so 40-FOR-40 will just be an extension of that," explained Twartz. "By documenting their experiences with a few photos and maybe a video, our guys have an opportunity to share with the AV community why they do what they do and the impact that it has."

Stay in touch with TAG 40-FOR-40 as it develops over the next twelve months at tag.com.au or TAG Facebook, LinkedIn, or Instagram.



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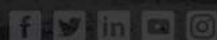
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The logo for NOVASTAR, with 'NOVA' in a bold, italicized sans-serif font and 'STAR' in a regular sans-serif font, both in uppercase.

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Lightware's new Sydney HQ and Experience Centre



Jason Lewis in Lightware's foyer



Gordon Anderson and Jason Lewis

Lightware Visual Engineering officially launched its new office, warehouse, experience and training centre in Sydney's Newington, adjacent to the Olympic Park district, in late July. With the area home to several AV suppliers and integrators, it's a convenient location for consultants, installers, and their customers to drop in, test integrated solutions, and get up to speed on Lightware's range of AVoIP solutions.

The facility, covering 200 square metres, includes offices, an agile warehouse, and multiple spaces for equipment testing and training. General Manager Jason Lewis and Gordon Anderson, National Manager for Defence, Intelligence & Government were on hand with the rest of the Lightware team including Patrick Kong, Lightware Australia Technical Director to formally open proceedings, show us around, and share some hospitality in a relaxed environment.

With a foyer featuring a museum cabinet of Lightware's greatest hits of the last 25 years, and a solid videowall running off their VINX AVoIP transport & vector processing, the building is light, airy and welcoming. A subsequent training room featured the high bandwidth, zero-latency UBEX 10GB AVoIP device family, delivering pixel-accurate 4K60 video in real-time. Across the room, the UCX Taurus family were running simulations of BYOD and BYOM meeting spaces, showing how they can make integrating a Webex, Teams, or Zoom room easy, along with third-party connectivity to PolyCom, Cisco, and Logitech.

It's all customer-focussed, and Lightware are already using the facility to assist with project design, testing, and education. "Just this

morning, we had a consultant and an end-user in discussing multiple projects using Cisco and Lightware," relates Jason Lewis. "We've had system integrators bring in their own equipment and customers to work through solutions where Lightware can add value, for example by expanding the capabilities of a camera or soundbar with one of our switching solutions."

All of Lightware's hardware is still made in Budapest, Hungary, and the Sydney warehouse receives deliveries from the home country once a week. Lightware has a solid national team on board, including John Ungerer in South-East QLD, who appropriately video called in and controlled a laptop in HQ for the launch. John Garfi looks after Victoria and Tasmania from Melbourne. Gordon Anderson takes care of sensitive government customers in defence and intelligence from Canberra, a large part of Lightware's business, and many of their products are in the DAHL (Defence Approved Hardware List) and NATO approved.

Lightware's office is located at 45/8 Avenue of the Americas, Newington NSW 2127. You can contact them on +61 423 511 691 or via email: sales.anz@lightware.com or support.anz@lightware.com

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ICC SYDNEY

TRANSFORMS DARLING HARBOUR THEATRE

Mission Accepted for Mission: Impossible – Dead Reckoning Part One

In an innovative move, ICC Sydney recently showcased its versatility by transforming one of its renowned venue spaces into a state-of-the-art movie theatre for the Australian premiere of Mission: Impossible – Dead Reckoning Part One. As the first time hosting a film premiere, this remarkable achievement required modifications to the theatre, encompassing sound, vision and lighting enhancements to ensure an immersive cinematic experience. With careful planning by the inhouse audio visual team and collaboration with industry experts, ICC Sydney successfully delivered an unforgettable experience hosting 2,500 for this massive blockbuster event.

Immersive sound: Elevating the cinematic experience

To create an immersive audio experience, the team at ICC Sydney designed a custom 7.1 sound system that covered both the lower and upper bowls of the theatre. The modifications included three identical d&b audiotechnik V-Series line array setups, with ArrayProcessing enabled, positioned behind the screen for the LCR (Left, Centre, Right). Additionally, four d&b audiotechnik SL-Sub Woofers for the LFE were placed directly below the Centre Array. Downstairs two side (1 per Right Side and Left Side) point source speakers were positioned under the balcony, with special modifications made to the venue to fly them out of egress. Four point-source

speakers were set for the Rear Surround (2 per Left Rear Surround and Right Rear Surround) that provided a uniform surround experience in the lower stalls. For the rear surround in the upper stalls two side (1 per LS and RS) point source speakers and two rear point source speakers were installed. By working closely with a Dolby sound engineer, ICC Sydney achieved optimal sound quality and ensured compliance with the required specifications resulting in an exceptional sound experience for all guests.

Dual PA systems: Balancing formalities and film

To address the different audio requirements for both the film screening and formalities, ICC Sydney implemented two separate PA systems. The primary system delivered a 7.1 surround sound experience for the film, while the secondary system was specifically designed for speeches ensuring clear audio coverage for all 2,500 guests in both the lower and upper sections of the theatre. By adjusting the positioning and angle of the standard PA in the room, sightline issues to the screen were effectively mitigated, allowing every attendee to fully immerse themselves in the movie.

ICC Sydney Head of Audio Ed Nixon worked alongside Senior Audio Technicians, Andrew Crow and Liam Shearer to create this transformation. Nixon said, "It was an exciting challenge to transform the existing PA system into a surround sound experience. Our goal

was to transport the audience into the heart of the action, and sound played a crucial role in achieving that."

Seamless vision: Overcoming unique challenges

With a screen size of 17 metres, the team at ICC Sydney faced a unique challenge of visual light reflection, uncommon in traditional conference scenarios. To tackle this, the venue team made various adjustments, including flying out the standard sound system to reduce reflections from speaker cabinets. Additional measures included installing black carpeting on the stage, removing portable reflective surfaces, and strategically placing masking to the edge of the proscenium. These modifications ensured that the audience enjoyed an uninterrupted visual experience.

Dedicated projection room: Optimising projector performance

To accommodate the main and backup projectors, ICC Sydney repurposed the bio box into a dedicated projection room. This involved clearing out AV ops equipment and draping the front window to minimize noise and light distractions. Moreover, exhaust ducting was installed to vent hot air from the projector through the cable hatch, ensuring optimal performance without compromising audience comfort.

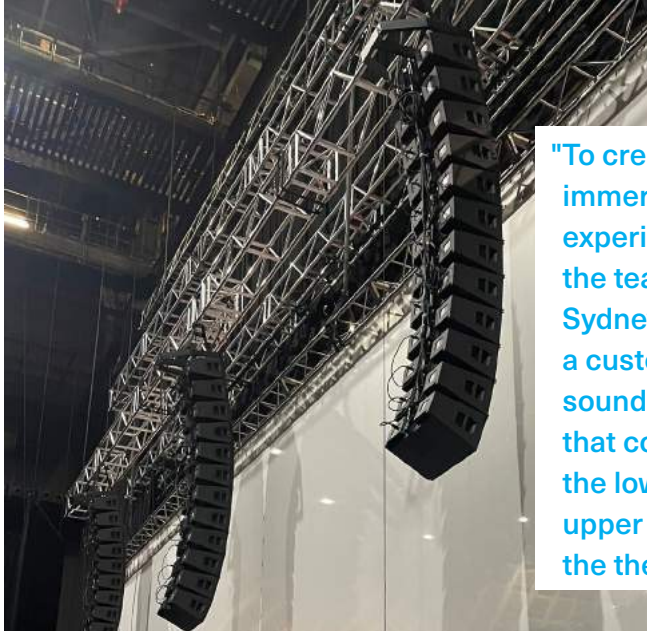
ICC Sydney Audio Visual Project Manager, Jamie Warmeant collaborated with the client and the broader inhouse audio visual team, overseeing all the technical production elements. Warmeant said, "Through meticulous planning, our unwavering attention to detail and the expertise of our inhouse audio visual team, no aspect was overlooked, resulting in a flawless execution."

Enhanced lighting: Creating the cinematic ambience

ICC Sydney employed various lighting techniques to create an immersive cinematic atmosphere. By gelling the wall footwell lights, the venue effectively reduced light spill and adjusted light levels to match those found in traditional movie theatres. Additionally, moving light fixtures were strategically placed to enhance the ambience and create a visually engaging experience for the audience.

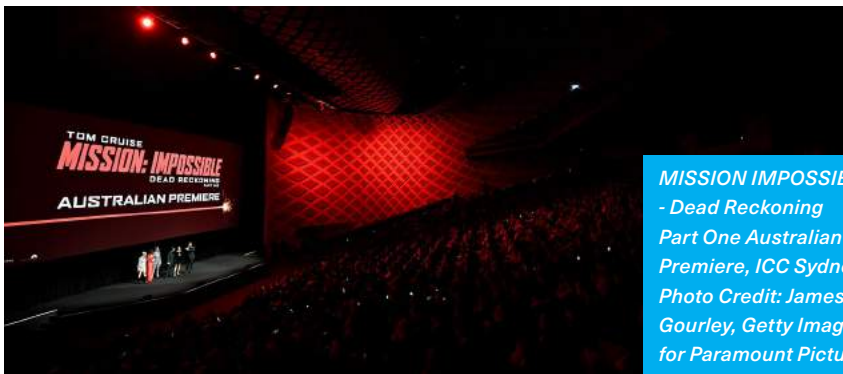
Result: Mission successful

ICC Sydney Director of Audio Visual Services, Brian Nash said, "We are thrilled with the success of transforming our venue space into a state-of-the-art movie theatre for the premiere of Mission: Impossible – Dead Reckoning Part One. This achievement demonstrates our versatility and commitment to delivering extraordinary experiences. Our team's careful planning resulted in an exceptional event, setting a new standard for cinematic experiences at ICC Sydney."



"To create an immersive audio experience, the team at ICC Sydney designed a custom 7.1 sound system that covered both the lower and upper bowls of the theatre."

ICC Sydney PA (NB screen not in position, yet to be flown to trim height)



MISSION IMPOSSIBLE - Dead Reckoning Part One Australian Premiere, ICC Sydney. Photo Credit: James Gourley, Getty Images for Paramount Pictures



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INTEGRATE STAND #F30



NOVATECH LEADS THE WAY

on Staff Reward and Retention

Adelaide's Novatech Creative Event Technology continue to lead the production industry with remuneration, allowances, and staff incentives that go far beyond what is standard at other firms. After making sweeping changes to pay and conditions in July 2022 in response to a highly competitive labour market, Novatech have not only kept their innovations in place, but expanded on them.

Against a background in which base salaries have been increased by 10% over two years,

Novatech have increased the rates for all casual workers while offering increased overtime eligibility for all.

Their unique 'Production Shift Allowance', which rewards head office staff that work on-site on live productions in addition to their normal duties, has been raised from 30% to 35% for Project Managers and from 10 to 15% for technicians.

To support new parents working in production, Novatech now pay \$4000 New Family Member Support to any staff member with a new baby joining the household. To help keep everyone healthy, Novatech will reimburse gym and sporting club memberships under their Physical Health Incentive Scheme.

Joining their already extensive Reward and Recognition programme, which gives employees discounts across thousands of stores and allows for ad-hoc gifting to employees who have excelled, is Reward and

Recognition Leave, which allows for up to two weeks extra annual leave per year, based on service duration.

Keeping their worker's skills relevant and up-to-date is Novatech's Professional Development Fund. Any staff member can apply to have external professional development courses, conferences, or events funded by the company.

These initiatives, plus ongoing programmes such as Time Off In Lieu being paid out at a higher weekly threshold of hours, have seen production wages increase by 30% on average, with the highest increase being 50%.

Novatech have achieved all of this without raising their prices to any of their clients, or increasing charged out labour rates this year. This has been achieved, in part, by significant investment in new systems and processes over the past three years, streamlining and passing efficiencies gained to their customers.



In the fiercely competitive battle to find, hire, and retain staff, Novatech's employee-friendly policies are an example for other companies to follow. In addition to helping lure technicians to move to Novatech's Adelaide base, a 'lifestyle superpower' capital city compared to Melbourne and Sydney, they promote mental and physical health in an industry that famously struggles with both.

"The last 12 months have proven that the changes we adopted in 2022 were not only

the right thing to do, they are sustainable, profitable, and a win-win for both us and our workers," confirms Leko Novakovic, Managing Director of Novatech. "We introduced these changes in response to the spiralling cost of living, and it only got worse after successive interest rate rises. We're happy to say we've kept ahead of the challenges of the last 12 months and are going even further to look after our greatest asset, which is our people, all while continuing to deliver world-class production across Australia."

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NEW



Pliant Technologies MicroCom 900XR

The new MicroCom 900XR All-in-One wireless headset combines the great sound quality, excellent range, and budget-friendly price point of MicroCom XR with the comfortable fit, exceptional noise isolation, and flip-up microphone muting technology of the SmartBoom PRO headset, but without the wire. The MicroCom 900XR belt-pack technology is engineered to fit into the SmartBoom PRO headset ear cup for an “all-in-one” design.

Available in single-ear and dual-ear configurations, the wireless headset is lightweight and its adjustable design allows for comfortable all-day wear. Best of all, existing MicroCom 900XR belt-packs can be combined with the All-in-One headset for a custom mix of traditional belt-packs and All-in-One wireless headsets to meet the needs of different applications.

Australia: NAS nas.solutions or 1800 441 440
New Zealand: NAS nz.nas.solutions or (09) 414 4220

Crest Audio PCX 1616

The PCX 1616 is a digital matrix speaker management processor. It supports 32 input and 32 output channels, with 16 analog inputs, and 16 analog outputs and 16 digital inputs and 16 digital outputs via the optional Dante card, allowing signal to be routed in multiple configurations to meet virtually any requirement. Harnessing power and flexibility to perform loudspeaker management functions as well as matrix mixing, room combining, and other audio processing functions, the PCX 1616 is well-suited for installed and portable sound systems.

The crossover filters are fully adjustable, and any input can be routed to any output via the digital matrix system, allowing for any speaker management cabinet configuration. The PCX 1616 has 96kHz sample rate processing with an exceptionally quiet and accurate AD/DA interface (24-bit Delta Sigma) and filter response. Crest Audio’s software and advanced DSP (digital signal processing) algorithms offer professional audio-grade signal processing and control features to manage, optimise, and protect, ensuring exceptional audio signal clarity and integrity without loss or coloration.

Australia: NAS nas.solutions or 1800 441 440
New Zealand: NAS nz.nas.solutions or (09) 414 4220



dbTechnologies Opera Reevo 210 and 212

OPERA REEVO 210 and OPERA REEVO 212 are “Quasi 3-way” configured. Reevo uses a coaxial acoustic design, featuring a front integrated HF horn with diamond-shaped cutouts, with the aim of rendering comb filtering-free high frequency reproduction. Both models are equipped with a Class-D Digipro G2 amplifier which delivers 1050W RMS and 2100W Peak power, and feature advanced DSP processing with FIR linear phase filters. Opera Reevo includes factory-tailored voicing presets to adapt to multiple scenarios, including when in need of a wedge stage monitor or a completely standalone full-range PA system.

Australia: NAS nas.solutions or 1800 441 440
New Zealand: Direct Imports directimports.co.nz or (06) 873 0129

NEW ALL-IN-ONE HEADSET



PMC-HS900XRS-AN



PMC-HS900XRD-AN

MICROCOM[®] XR

WIRELESS INTERCOM FOR EVERY BUDGET

The new MicroCom 900XR All-in-One wireless headset combines the great sound quality, excellent range, and budget-friendly price point of MicroCom XR beltpacks with the comfortable fit, exceptional noise isolation, and flip-up microphone muting technology of the SmartBoom PRO headset, but without the wire. The MicroCom 900XR beltpack technology has been engineered to fit into the SmartBoom PRO headset ear cup.

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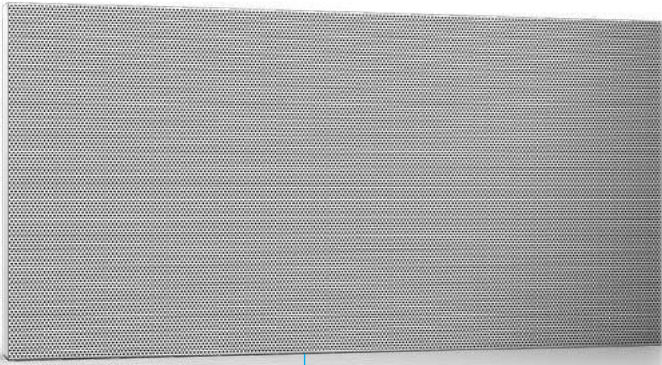
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- Unique All-in-One Design
- Two-Channel System
- Up to 10 Full Duplex Users
- Unlimited Listen-Only Users
- Available Drop-in Charger
- Excellent noise isolation
- Mix/Match with MicroCom 900XR Beltpacks & Receiver Packs
- Lightweight & Comfortable
- Collapsible for easy storage
- Field-Replaceable Battery
- No BaseStation Required

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HOLOPLOT X2

Designed to revolutionise sound reinforcement for a multitude of audio applications, X2 is the latest hardware innovation from Berlin-based industry disruptor, HOLOPLOT.

Wrapped in a more compact hardware design, HOLOPLOT's newly conceived X2 embraces the same core technologies of 3D Audio-Beamforming and Wave Field Synthesis as the multi-award winning X1, making it more accessible for integration projects across a variety of sectors.

The highly anticipated X2 is optimised for speech applications and builds on achievements from HOLOPLOT's formative years, when tests of a technology prototype resulted in some of the highest Speech Transmission Index (STI) measurements ever recorded on a train station platform.

The Modul 30 (MD30) is a Matrix Array loudspeaker, incorporating 30 full-range drivers in a single layered matrix arrangement. X2 taps into intelligent software-based optimisation of sound system design and performance, as well as guaranteeing seamless and customisable integration.

X2 is specifically engineered to tackle longstanding acoustic issues, significantly decreasing the need for acoustic treatment by mitigating unwanted reflections, ensuring

NEW GEAR

clear and consistent audio experiences. With the ability to be discreetly positioned behind acoustically transparent screens or wall panels, X2 preserves the architectural integrity of any space, while HOLOPLOT's optimisation algorithms counteract transmission loss.

X2 boasts a surprisingly compact size without compromising on the exceptional sound control that defines HOLOPLOT. The simple, intuitive mounting frame of X2 allows for clean and efficient installation, making it a practical choice for a variety of environments. Building on the modular Matrix Array principles of X1, X2 can be scaled effortlessly to meet the demands of a multitude of spaces. Recognising the crucial role of clear communication in public address and voice alarm applications, X2 is an optimal choice for safety-critical applications such as train stations and airports.

Engineered to endure challenging environments, X2 is built to withstand extreme weather conditions including high temperatures, humidity, and water exposure. This durability allows X2 to be installed in outdoor venues or other demanding settings without compromising performance or longevity. Whether placed in a tropical resort, a humid indoor pool area, or large outdoor congregation spaces, the MD30 module delivers consistent, high-quality audio performance, no matter the climate or conditions.

With the announcement of X2, HOLOPLOT is also releasing a brand-new version of its sound system design software HOLOPLOT Plan. Alongside a number of feature updates, it now enables planning and simulation of HOLOPLOT sound systems with X2 Audio Modules.

More info: holoplot.com





THE PARADIGM SHIFT

There hasn't been a paradigm shift in the audio industry for a couple of decades or more, by my reckoning. The wholesale adoption of all things digital marked the last significant shift in our industry, and since then the changes have been evolutionary rather than revolutionary. But that time is passing. We're now on the cusp of the greatest technological shift in recent memory.

It's a big call, foolhardy even, predicting a seismic shift in any industry, let alone the audio industry, which generally advances like an agitated eight-armed octopus rather than a single homogeneous mass. Each of us has our own perspective from the vantage point of whichever arm we flail upon, about the various ways technology has impacted our industry. From my arm in the recording industry, specifically (with occasional views from FOH), I've mostly witnessed us traveling around in concentric circles in recent decades, rather than forging ahead, particularly with respect to audio resolutions.

While visual industries were advancing headlong into hi-res formats of every description some years ago now, bringing along with them millions of customers who quickly left their old CRT screens on the roadside, the audio industry was regressing into the world of MP3 formats, vinyl, and tape. Three dead or dying formats, all of them inferior to the resolution at which I recorded, mixed and mastered, were cynically being touted as the next big thing, in one case by a huge multinational with a vested interest – thanks Apple.

This, of course, was rubbish. We weren't advancing at all. But the world swallowed it nonetheless and we were left to stagnate in a retrograde technological cycle from which we are yet to fully extricate ourselves.

But in this century at least, particularly from a recording engineer's perspective, things have evolved quietly in a manageable way, there's no doubting that. And in some respects, many would agree that technological evolution is by far the preferred pace at which change should occur anyway. Paradigm shifts are usually synonymous with job loss, prohibitive cost blowouts for professionals, plummeting values of equipment we already own, and a general unease around the prospect of having to invest in new technology that may ultimately prove a long-term failure. The latest of these has arguably been Atmos or Immersive Audio: choose your own terminology there.

The only winners in any significant technological paradigm shift tend to be manufacturers and resellers, all of whom are generally keen for wholesale change to occur, particularly if it sweeps away, and renders valueless, old technology.

And a shift is coming, or perhaps already has. It is, of course, AI.

This innocuous two-letter abbreviation has finally reached the inboxes of most of us by now, though how this technology might directly affect us all remains far less clear. But affect us it will.

AI is set to career into us like a bowling ball down a slippery alley. Some of us in our ten-pin staggered formation still seem blissfully unaware of the impending strike, but from my

vantage point somewhere on the outside of this hapless triangle, it appears to be coming towards us at a rate of knots.

The only question now is whether AI's impact will score a strike that knocks us all for six, or spares a few of us... for the second ball, at least.

To assert that AI may only affect the audio industry to a lesser extent, if at all, is to grossly overstate our industry's autonomy in the grand scheme of technological advancement. We are not at the cutting-edge of technological development; in the audio industry, we adopt, repurpose, and modify it to suit our needs.

AI is barreling towards us, has already impacted several of the ways we go about our work, and its early adopters have already sent shockwaves through the industry about what's possible, what's probable, and just how destabilising the technology might ultimately be.

The paradigm shift is here, today, writing its own code as we speak and acting autonomously, if only to prove one point: that we really don't know where this leads us, how it might benefit us and what the downsides, which are potentially considerable, truly are. But make no mistake: these changes will affect us, our children, and from there... who knows.

And if I'm wrong, awesome.

The Eagle Has Landed

Let's take a side-step for a moment though shall we, draw breath, and consider a few facts that have already been borne out by recent events.

AI technology is already being used to synthesise voices in every corner of the world where a human voice was previously utilised in communication. In the music industry more specifically, there have already been many examples of songs written with AI, lyrically and musically, which have then been 'sung' by a famous artist, though of course, it's not them, but rather a synthesised facsimile rendered by a computer. Some of these songs have already been viewed in their millions on YouTube and are convincing in their vocal mimicry; some of the comments from listeners alongside which have been statements like: "It sounds like Drake, only better!"

So here already we have a scenario where a song that is popular online has had no human featured as the singer, songwriter, or arranger. Worse still, it has brought into legal question the very notion of who owns the sound of an individual's voice; a conceptual question for which the answer was, up until recently, self-evident.

What does this single scenario alone mean for our industry: for artists, songwriters, singers, record labels, publicists, recording engineers? Already people are using AI to build virtual entertainers from the ground up using algorithms alone. This might seem kooky for now, or nothing more than a marketing exercise to some. But it's real, and it's advancing faster than Usain Bolt. There's currently no regulation around it in our industry or any other, and by the time governments have moved glacially to limit AI's impact, 'Usain' will have done several celebratory laps around the arena.

A Future Not Written - Yet

The way AI technology is used today, tomorrow, or decades from now is unknowable. Even when we limit our projections to a much shorter timeline, looking forward only a year or two from now, things still seem murky at best. Perhaps a couple of years from now, if vocalists become a threatened species (which I doubt will happen), microphones and preamps will become redundant in all but certain pockets of the audio industry. This may seem fanciful, but it is possible. Maybe new AI artists will become so popular that they'll start to dominate the 'live' scene, at which point touring companies and venues will be free to dispense with mics, foldback, consoles and even in-ears, since no-one on stage has any. Ears, that is.

And in 10 or 20 years will there be AI robots in

the security pit at concerts? Dunno.

AI's Massive Upside

In the same way AI is having a powerful, positive impact in fields such as medicine and transportation, the audio industry is set to reap huge benefits from this gargantuan leap in technological advancement.

Within the next year or two there are likely to be massive advancements in all corners of the audio industry: from sound restoration, noise reduction, and noise-cancellation tools, to exponential improvements in everything from compression, gating, effects generation and feedback control, dynamic EQ, mix visualisation technology, immersive audio, and of course manufacturing standards, both digital and physical.

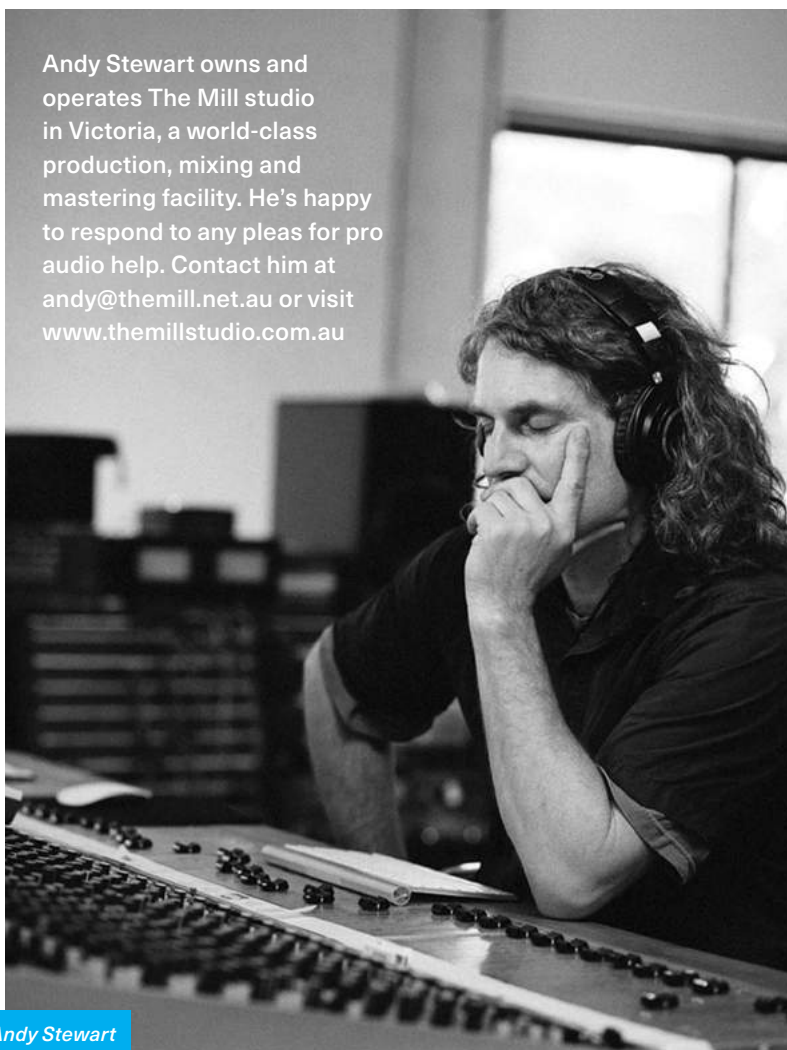
Very soon there will be advanced tools at our disposal to perform tasks around countless audio control methods, particularly those requiring endless, real-time dynamic parameter shifts, like multiband compression, equalisation and feedback management, to name but a few. These will contribute massively to the way we go about our daily routines in various roles within the industry.

From a personal perspective, I'm very much looking forward to spending far less time in the studio de-clicking audio files, labouring

over the removal of spurious noises, and managing the settings of four compressors simultaneously in a signal chain of a dynamic vocal recording. I won't pine for the days when distortion was basically impossible to remove from a blown-out audio signal nor bemoan my loss of autonomy around having to manually concoct 40 decent crossfade points between countless takes of a single overdub.

Live, in situations where a lead singer simply doesn't know how to project into a microphone, but also insists on having the loudest foldback known to man, I'll enjoy AI's tireless assistance in helping to prevent vibrate-shattering, unpredictable feedback. Having more time to advance the tone and depth of a live mix, rather than merely trouble-shoot technical dramas or sweat over gain before feedback, will help lower my stress levels and possibly even free me up to enjoy the show!

But will AI get so good at any or all of these roles that I will eventually be made redundant? Inevitably, some of the tasks we currently perform in our various roles in the audio industry will be thrown on the scrap heap soon enough. But this won't mark the end of our careers. On the contrary, it will signal a new, exciting beginning where many of the things we have always wished we could achieve in our fields of expertise, will suddenly become possible. That is an exciting prospect.



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

Andy Stewart

SPOTLIGHT ON SUSTAINABILITY



Te Pae Christchurch Convention Centre

Ōtautahi Christchurch The venue, the agency, and the AV company

Whilst sustainability is on everyone's radar, for some it sits in the too hard basket, and for others it remains on the list of things to do. With many cities across New Zealand committing to net zero emissions, Ōtautahi Christchurch recently announced that it will be delivering a comprehensive Business Events Sustainability Framework this year. ChristchurchNZ, the local economic development agency, is encouraging the events sector to do its bit to help achieve the city's target to halve emissions by 2030 and reach net zero emissions by 2045. We talk to three Christchurch companies involved in the entertainment industry who have already initiated their own sustainability journeys and believe that every business can play a part.

The Venue:

Te Pae Christchurch Convention Centre

Te Pae Christchurch's first step on its sustainability journey was to get an accurate benchmark of operations to find out where they were at and what they needed to do, with a focus on achieving net carbon zero operations. General Manager Ross Steele explains, "The goal is then to bring clients and suppliers along on the journey and look at ways to work with them to minimise the impact of the events we host, something we are well

supported in with Ōtautahi Christchurch's own commitment to reaching net zero emissions."

When looking for partners to assist the Centre in its journey to carbon zero, Toitū Envirocare was the obvious choice for Ross, "Toitū has been an invaluable part of our journey to date. The guidance and support they have provided us since 2020 in their capacity as New Zealand's strongest environmental programme has set us up well to take this next step. The fact that their programmes take a science-based approach also gives us the confidence to aim high and set big goals in this area."

Toitū is a wholly-owned subsidiary of Manaaki Whenua – Landcare Research, a Government-owned Crown Research Institute. Though developed for New Zealand business needs, Toitū Envirocare's offerings currently serve over 800 clients worldwide. A team of scientists and business experts, they offer a system of robust environmental programmes that are internationally recognised. They provide the science-based tools to measure and recommend actions and capture the evidence businesses need to make real progress.

Toitū Envirocare have supported Te Pae Christchurch to draft the agreement to commit to reduce its environmental footprint and work towards being a certified Toitū net carbon zero

organisation, and to measure their progress to date. The Centre has achieved gold level accreditation from both Toitū Enviromark and Qualmark's Sustainable Tourism Business Awards and was the recipient of the Exceptional Achievement in Environmental Management Award in the 2022 Toitū Brighter Future Awards.

For Ross such external acknowledgements are an important part of bringing the whole team on the sustainability journey with you; "Sustainability is a key operational pillar for us and an area that our leadership team is genuinely very passionate about. It is our people who actually 'do' sustainability; the





Te Pae Christchurch Convention Centre

implementation, the monitoring, and all the hard work. These awards are wonderful recognition for our team's commitment in this area."

However it is also about the little things. Ross and his team were just as delighted to partner with the Canterbury Community Garden Association (CCGA), the Just Dirt Trust and City Care in the distribution of soil food created by the Centre's onsite dehydrator. Provided by Sustainably, the dehydrator has the capacity to process 200 kilograms of food waste a day and works by heating the Centre's excess food (food that is unsuitable to be donated to Foodbank Canterbury) to a set temperature over nine hours, reducing the food to a soil-like consistency which is rich in nutrients, "It's fantastic to see weekly pickups of soil food underway and to hear about the benefits local gardeners are finding as they use the soil food."

The Events Consultancy: RAD Agency

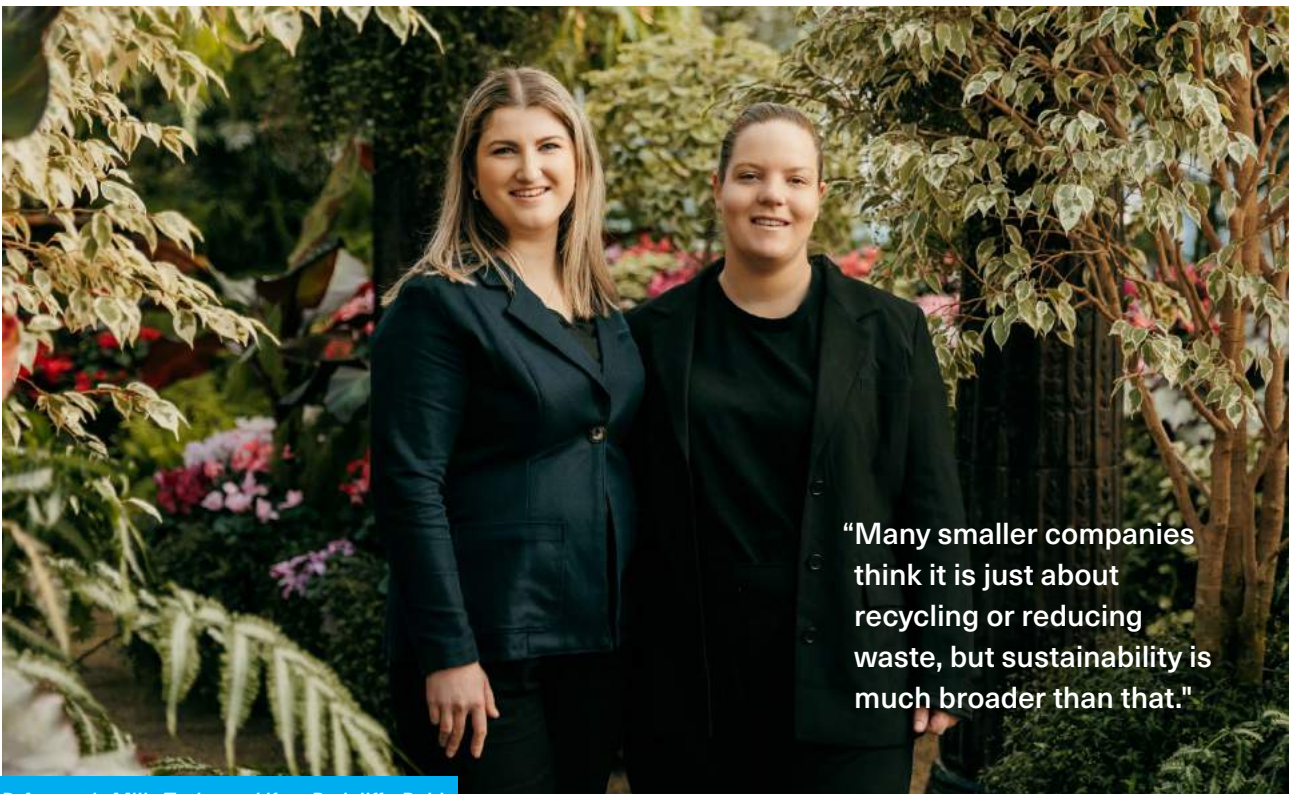
RAD Agency is the result of a fortuitous partnership between environmental scientist Mille Taylor and event organiser Kate Radcliffe-Reid, borne of Kate organising Millie's wedding, "I realised that I was focused solely on the success of the event and the enjoyment of the participants, not on the impact that the event was having on the environment. Millie asked all these questions of the venue, hire company and caterer that I would never have considered. I knew then that there was a need for Millie's expertise within the wider events sector."

RAD Agency offers an alternative to larger accreditation programmes for businesses or events looking to establish their sustainability objectives. Millie and Kate partner with SMEs and event organisers offering practical advice

on how to minimise their carbon footprint, be it within the company itself or in the service it provides; "Many smaller companies think it is just about recycling or reducing waste, but sustainability is much broader than that. We can measure a business or an event's environmental impact and calculate how much they can mitigate, be that through logistics or the event plan, hiring rather than purchasing, supporting local businesses, or by offsetting carbon through tree planting. We focus on how they can make a genuine difference, making suggestions that they then have the option to implement. We find that our clients are immediately starting work on 70 to 80% of our recommendations and are often surprised to see how much they are saving economically too."

There is currently a lot of interest in RAD Agency's work in the corporate space, not surprisingly in the holistic health and well-being sector, "We are working with two companies who are looking to reduce the impact on the environment of their functions; we're also coordinating the events for Earthweek; offering sustainability advice to event organisers through ChristchurchNZ, and we have won a scholarship from the social enterprise 'Business but Better' which has led not only to a mentorship from Brianne West, CEO of Ethique but also coordination of her speaking tour."

Kate's real passion though is the entertainment sector; "I love providing relatable, educational support to festivals, concert organisers and those in the corporate events industry, not bogging them down in paperwork but making it easy for them to make a real difference and to simply be 'good humans'."



RAD Agency's Mille Taylor and Kate Radcliffe-Reid

"Many smaller companies think it is just about recycling or reducing waste, but sustainability is much broader than that."

The AV Company: Shipleys

Craig Whitnall, CEO of the longstanding event technology, production and integration company Shipleys, believes business has no choice but to start now, "The phrase 'climate crisis' rather than 'climate change' is very apt. With the predicted rise in sea levels and the impact we are having on water cycles we are irreparably changing our entire planets ecosystem, not just for our children's children but for our whole human family and all creatures on this earth. The delicate equilibrium formed over millions of years is being severely disrupted as we head towards the planet's sixth major extinction event, with some predictions saying we could lose half of all animal species on earth in the next eight decades."

Craig knows his stuff and how bleak the future could be, but he has not given up on humanity yet, "We need to help people to conceptualise what the future will look like if we don't all do something and also provide guidance and support to enable others to make a difference." For Craig that education and empowerment can come from government, agencies and consultancies but also crucially from small business, "There are over 700,000 registered companies in New Zealand, even if what you're doing is small, collectively it matters."

At Shipleys, Craig's approach started with the people, "I have spent the last ten years building a team who are conscientious citizens, good people, who have values that align. We talk about sustainability internally and think about what we can do, not only in the long term, but as part of our day to day decision-making."

As a result, four years ago the office phased in waste management systems. Craig set up recycling bins and waste disposal services



E-Waste

for packaging including plastic, rubber, cardboard, and polystyrene; for empty toner cartridges; for scrap metal including cabling; for small projector lamps, tubes and other items containing mercury; and for electronics via Ecotech Services, a local Christchurch company, "We are a technology integrator so we are regularly removing old hardware from clients premises and unpacking new. All those components and the metals on the PCB's are no longer going into landfill. If every small business did the same and saved even a couple of tonnes of waste each a year, that's going to make a difference to our environment."

Next on the list was carbon emissions, "We have considered switching to electric vehicles for a long time now, but the economics still don't quite stack up for us yet. To purchase vehicles suitable for our workload is quite a significant investment and recovering from Covid, we don't have a lot of spare capital and need to allocate funds to support our core

business before we are able to invest in this area too."

Craig's dream is to run a fully EV fleet and take advantage of their north facing office by installing a roof covered in solar panels to provide power to charge the vehicles, "That's where I want to be, but in the meantime all businesses can start with the simple stuff. Sort your waste, recycle your electronics, swap your warehouse lighting to LED, and investigate electric vehicles."

Craig takes a philosophical approach to his business decisions, "As the dominant species on this planet we have a responsibility to protect all species, to preserve our ecosystem, to make responsible decisions to minimise the suffering of others and to do all we can to continually improve the quality of life for our human family and all future generations."

To learn more about Shipleys' sustainability programme visit www.shipleys.co.nz

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by Julius Grafton

SYDNEY'S 'HIDDEN' VENUE DAZZLES

Oneohtrix Point Never at City Recital Hall, Sydney. Photo Credit: @jessgfeason



INVESTMENT IN PREMIUM AUDIO PAYS OFF

City Recital Hall or CRH as we know it in Sydney, is a hidden, 1,240 seat gem of a venue, tucked in a lane between Wynyard and Martin Place, and until recently almost exclusively the home of orchestral and chamber music. But it has just been overhauled with a million dollars' worth of d&b audiotechnik Soundscape immersive audio, and the ability to remove the seats for a general admission dancehall mode.

City Recital Hall's new programming direction is tagged as a sonic shift to contemporary music with a whole new dimension in listening. The venue has dramatically expanded its audience and is being hailed as a 'new venue' by generations who hadn't considered the traditional acoustic offerings of the past. New leadership from CEO Justin Boschetti drove the project.

Head of Technical Production Richard Fenton oversaw the installation of the groundbreaking audio equipment into the auditorium, tuned at an occupied reverberation rate of 1.75 seconds. The auditorium, designed by Peddle Thorp & Walker Architects in 1999, includes

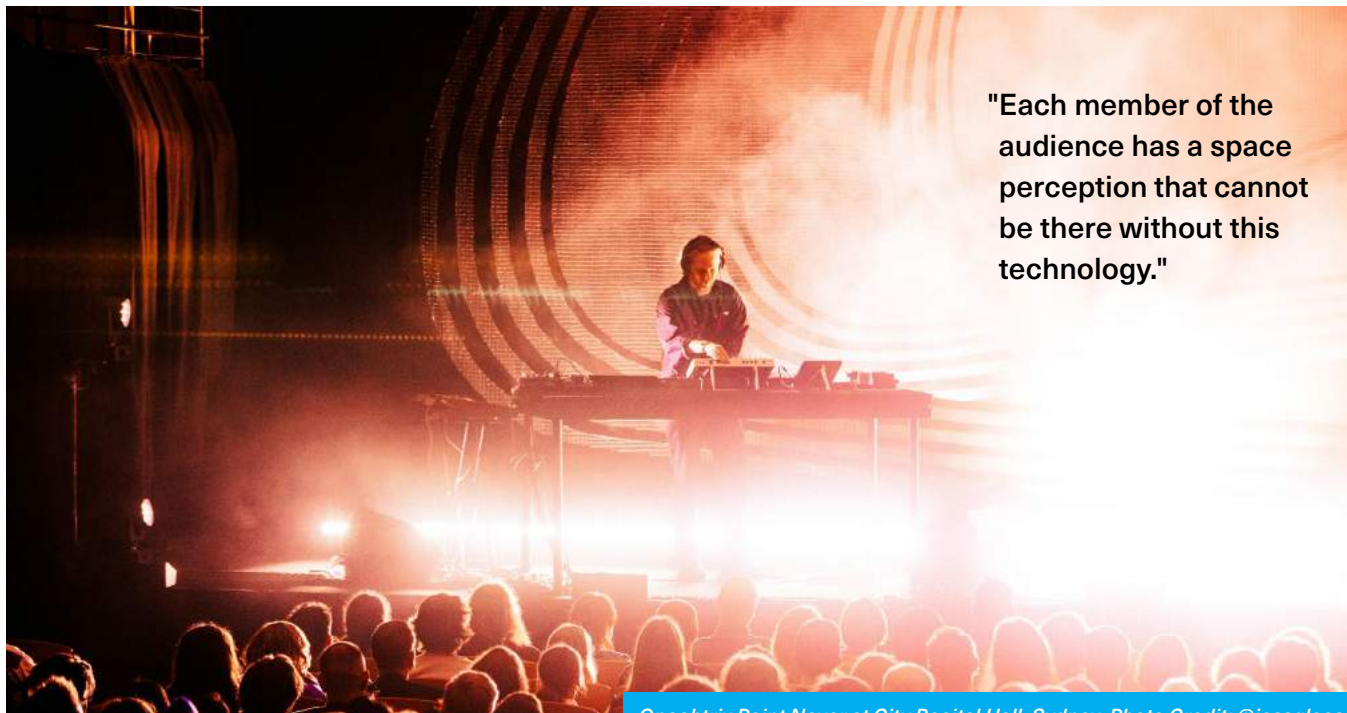
remote controlled acoustic blinds that allow for conversion to a more suitable dryness for amplified shows.

The renewal of the amplification equipment at City Recital Hall has a coalition of Create NSW and City of Sydney funding behind it. In the early stages of researching the new equipment, Fenton arranged for the hall's Director of Programming Stuart Rogers to attend a Soundscape demo in Germany where, to coin a hackneyed phrase, the lights went on. "We need this," he said, and the process took off.

Rogers saw the obvious: once artists and audiences become accustomed to immersive 360 degree sound, they'll insist on it, akin to

what Dolby did to cinema. Installed over the past three months this year, the 91-speaker system comprises three hangs of six XSLi in the main arrays, with 21 fills and delays, and four flown and six under-stage subs, and 42 venue speakers across all three levels.

Using d&b ArrayCalc and R1 software, the system is configured according to requirements, and fed by a recently added Allen and Heath d-Live 5000 console. The official launch concert on Friday 14 July featured Oneohtrix Point Never (OPN), an American experimental electronic music producer and composer who already runs his touring show on Soundscape.



"Each member of the audience has a space perception that cannot be there without this technology."

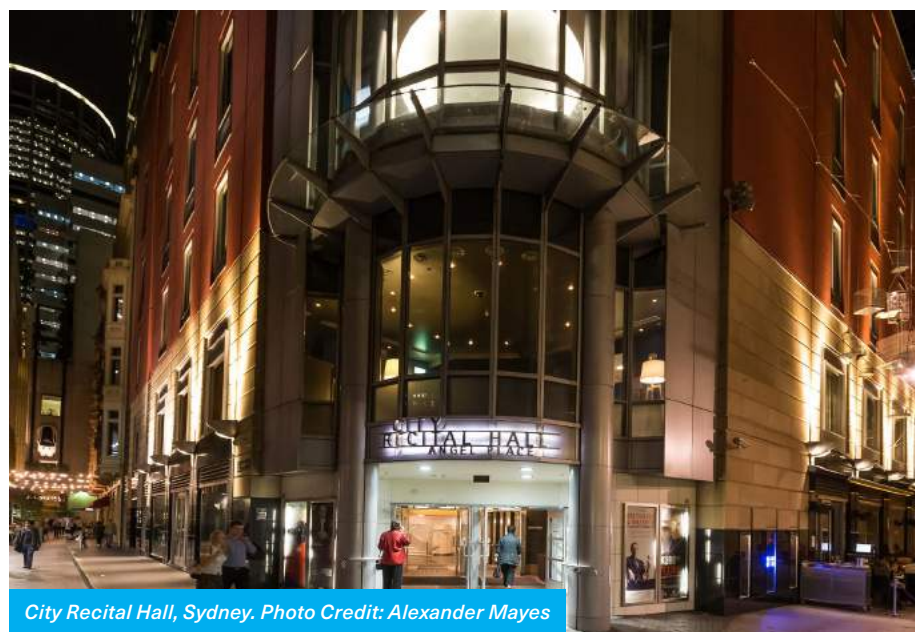
Oneohtrix Point Never at City Recital Hall, Sydney. Photo Credit: @jessgleeson

OPN's touring crew arrived, plugged in and instantly the massive immersive system reproduced their swirling futuristic sounds. As an introduction to the concept for a full house plus a VIP list of promoters and government stakeholders, it was the perfect choice of act. OPN demonstrate how music can exploit the ability of a Soundscape system, but the system

has an alternate functionality which allows an engineer to 'place' performers in space.

Soundscape, and other immersive spatial audio systems, were unveiled in 2017 and are making inroads globally. Around ten d&b systems are in use across Australia now, along with other brands and the transformation

is taking hold. In demonstration, hearing a traditional left/right system switched to immersive is radical, even just placing musicians in space - without sending effects into surround - opens the audio right up. Each member of the audience has a space perception that cannot be there without this technology.



City Recital Hall, Sydney. Photo Credit: Alexander Mayes

CRH is now expanding its utilisation for both contemporary and classical performances with Rogers drawing in promoters and producers who regard the transformed venue as a miraculous 'new' addition to a city perilously short of venues.

Julius Grafton is the former publisher of CX and now works freelance as a sound engineer. He is on roster at CRH.

Soundscape Technical:

Connectivity: The Allen & Heath dLive S5000 digital mixing console with a DM64 I/O DSP is connected to the d&b DS100 Signal Engine via Dante. The PA is then fed either via native Dante on the D&B 5D amplifiers, or via AES with DS10 converters to the 40D amplifiers.

Spatial Audio Processing: The DS100 Signal Engine processes the audio signals received from the dLive S5000, applying d&b's advanced spatial audio processing algorithms. It allows for object-based positioning, movement, and immersive effects to be applied to the audio sources, creating a 3D audio experience within the Soundscape system.

Inputs and Outputs: The DS100 is a 64/64 device, accepting 64 inputs and provides 64 loudspeaker outputs.



Richard Fenton



Justin Boschetti



Stuart Rogers

Meyer Sound PANTHER



Orange Stage. Photo Credit: Ralph Larmann

Drives the Main Stages at 2023 Roskilde Festival

The 51st edition of the Roskilde Festival, Northern Europe's largest and longest-running celebration of music and the arts, wrapped in early July following seven days of the annual event's distinctive blend of entertainment, artistic expression, and global citizenship.

This first year of the festival's second half-century also marked the sixth year of partnership with Meyer Sound, and in 2023 four of the festival's stages were powered by systems based around the new PANTHER large-format linear line array loudspeakers.

The first in a new generation of Meyer Sound loudspeakers, PANTHER offers dramatically reduced power consumption along with an unprecedented size and power-to-weight ratio.

"Roskilde is always aiming to improve the audience experience," says Lars Liliengren, the festival's head of production. "After day one of working with PANTHER, we have realised

better coverage of the site, with more clarity, and a system that's easier to work with."

A complement of 141 PANTHER loudspeakers were deployed at the iconic Orange Stage, which hosted headliners including Lizzo, Blur, Lil Nas X, and Kendrick Lamar. PANTHER arrays powered not only the mains but also outfills, center fills, and the five delay towers. The balance of the 227 total PANTHER at the

festival was installed in systems at the Arena (46 PANTHER), Avalon (20 PANTHER), and Apollo (20 PANTHER) stages.

The task of designing systems for maximum coverage, minimum inter-stage leakage, and potent, full-bandwidth coverage once again was entrusted to Bob McCarthy, Meyer Sound's director of system optimisation.



John Meyer, Signe Lopdrup and Helen Meyer. Photo Credit: Nalle Magnusson

"In the three smaller venues it was mainly a one-to-one substitution for LYON loudspeakers, so we immediately benefited from lighter weight and reduced power consumption," McCarthy observes. "At the Orange stage, we replaced both LYON and the much larger LEO loudspeakers on a near one-one-one ratio with PANTHER, gaining even more benefits."

The response from the audience and engineers has been rewarding, he says. "The improvements in coverage and clarity are just stunning. It's been amazing to everybody who has heard it, myself included!"

Tight coverage is helpful with open-air stages such as the Orange, but it is absolutely critical in tent stages like the Arena, which featured international headliners including Rosalía. "Last year, I was feeling we had reached the limit of what we could do in there without serious acoustic treatment," says McCarthy. "With the control of PANTHER, the sound was noticeably improved. The pattern cuts off sharply, and that had a favourable effect on the amount of energy hitting the sides of the tent."



Orange Stage. Photo Credit: Ralph Larmann



Arena Stage. Photo Credit: Ralph Larmann



Apollo Stage. Photo Credit: Ralph Larmann



Orange Stage. Photo Credit: Ralph Larmann

The 25% weight reduction on the rigging points, compared to the prior LYON solution, allowed better positioning on the outriggers, which in turn enabled optimum tilt and aiming of the arrays, says Meyer Sound Technical Services Manager, International, Dennis Tholema. "This also helped with unwanted reflections, so the large, tented venue was much better behaved than before."

The lighter PANTHER arrays also reduced loading on the delay towers, and that combined with beefed-up structures allowed flying rather than ground-stacking delay subwoofers. "This allows us to bring the full impact of the shows all the way up the hill," says McCarthy. "You cannot underestimate the importance of low-frequency impact with today's music. Last night, for example, everybody was fully engaged with Kendrick Lamar at 150 metres from the stage."



Orange Stage. Photo Credit: Ralph Larmann



Arena Stage. Photo Credit: Ralph Larmann



Arena Stage. Photo Credit: Ralph Larmann



Bob McCarthy, Detlef Eckert, Charlie Albin, Alex Harbaugh, Josh Dorn-Fehrmann, Brian Bolly, Lars Liliengren, Sana Bassam-Romanos, Katharine Murphy Khulusi, David Vincent, Merlijn Van Veen, Michael Pohl, Theis Romme, Morten Büchert, Dennis Tholema, Oscar Barrientos. Photo Credit: Nalle Magnusson

Leading the team responsible for creating PANTHER was Katie Murphy Khulusi, engineering director, acoustical and mechanical, who came to Roskilde to evaluate the impact of their work.

"We don't want our products to add anything, but rather we see our role as reproducing the work of the artists and making sure that the experience is carried to everyone in the audience, not just the people in the front," she says. "We want every single person, even way in the back, to clearly hear what the artists and their teams are putting out there."

Meyer Sound President and CEO John Meyer, also on hand, made a similar observation. "You can theorise all you want about how the system will respond, but ultimately you need to get out there and see how the audiences react to it. You want to see that they are happy to be there and that you can hear the music far in the back just as well as right in front of the stage."

For Roskilde 2023, Meyer Sound systems were installed at three other featured stages. The Gaia stage relied on LEOPARD compact linear line array loudspeakers for mains with LINA very compact linear line array loudspeakers for delays, while the Gloria stage deployed LINA systems for both mains and delays. The system at the Eos stage was anchored by LYON line array loudspeakers. The total complement of 795 loudspeakers also included UPQ-D1, UPQ-D2, and ULTRA-X40 full-range loudspeakers; 1100-LFC, 900-LFC, and 750-LFC low-frequency control elements along with 500-HP subwoofers; and MJF-212A, MJF-210, and MJF-208 stage monitors. The audio systems supplier for Roskilde 2023 was Victory Event, Stage & Tour ApS of Risskov, Denmark.

As in prior years, audio production for the Roskilde Festival was a monumental team effort involving Meyer Sound technical teams from North America, Europe, and the Middle East, the crew from Victory, and the festival's own professional audio crew.

With memories of the pandemic finally fading, the 51st edition of the Roskilde Festival was a celebration of renewed hopes. "It's great that the festival is back full force this year," remarks Meyer Sound Executive Vice President Helen Meyer, also at the festival.

"You can tell that there's a new spirit here that feels really good. John and I are very proud and happy to again be part of it."

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Photo Credit: Sphere Entertainment

Las Vegas's highly anticipated Sphere illuminates

Sphere illuminated the Las Vegas skyline with its impactful exterior, the Exosphere, for the first time on July 4, 2023, introducing a new global landmark. The Exosphere features 580,000 sq ft of fully-programmable LED lighting, making it the largest LED screen on Earth. This vivid canvas displays stunning and dynamic imagery unlike anything ever seen before, all at an unparalleled scale.



Photo Credit: Sphere Entertainment

A signature feature of Sphere, a next-generation entertainment medium, the Exosphere will showcase a wide range of artistic and branded content that will be seen not only by guests at Sphere and the 40+ million visitors to Las Vegas each year, but also is photographed and shared around the world on social media.

As part of a special show to celebrate the

Fourth of July, for the first time ever, Sphere's exterior was completely illuminated. The show started with a welcome and was followed by dazzling fireworks and stars and stripes animations, before transitioning through a wide array of visual content, from vibrant underwater scenes to performances to vividly-textured lunar surfaces, putting on full display the versatility of this unparalleled canvas.

Guy Barnett, SVP Brand Strategy and Creative Development, said: "The Exosphere is more than a screen or a billboard, it is living architecture, and unlike anything that exists anywhere in the world. Last night's show provided a glimpse of the Exosphere's captivating power, and the possibilities for artists, partners, and brands to create compelling and impactful stories to connect with audiences in new ways."

“Sphere’s Exosphere is a 360-degree canvas for brand storytelling that will be seen around the world, offering our partners an unparalleled opportunity to become part of the greatest show on Earth.”



NBA Summer League Assets. Photo Credit: Sphere Entertainment



Photo Credit: Sphere Entertainment

David Hopkinson, President and Chief Operating Officer of MSG Sports, who oversees global marketing and brand partnerships across Sphere Entertainment and the MSG family of companies, said: “Sphere’s Exosphere is a 360-degree canvas for brand storytelling that will be seen around the world, offering our partners an unparalleled opportunity to become part of the greatest show on Earth. There’s nothing comparable to the impact from displaying innovative brand and immersive content on the world’s largest video screen. The extraordinary experiences we can create are only limited by imagination, and we’re thrilled to finally share with the world the spectacular potential of the Exosphere.”

The Exosphere consists of approximately 1.2 million LED pucks, spaced eight inches apart. Each puck contains 48 individual LED diodes, with each diode capable of displaying 256 million different colours, creating a vivid new landmark on the Las Vegas skyline.

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The Fourth of July production was just the beginning for the Exosphere, as it will continue to display creative activations in coordination with major events in Las Vegas, with more content planned throughout the month. Later this year, the Exosphere will be prominently featured as part of Sphere's opening in September with U2: UV Achtung Baby Live at Sphere, as well as during the first Sphere Experience, Postcard from Earth directed by Darren Aronofsky, in October. In November, during the Formula 1 Las Vegas Grand Prix, Sphere will have a prime position along the circuit to showcase the Exosphere to a global audience, in-person and on TV, as well as significant exposure through planned takeovers of the Exosphere for race-related content, activations and advertising. Eventually, the Exosphere will display a wide range of artistic and branded content daily, from rituals such as sunrise and sunset, to impactful brand campaigns, to delightful moments running at set times.



Cross Section Render. Photo Credit: Sphere Entertainment



Underwater Render. Photo Credit: Sphere Entertainment



NBA Summer League Assets. Photo Credit: Sphere Entertainment

The Exosphere was developed by an interdisciplinary team of creative, production, technology, and software experts at Sphere Studios, the immersive content studio dedicated to creating live entertainment experiences exclusively for Sphere. Sphere Studios partnered with Montreal-based SACO Technologies, an industry leader in solid-state LED video lighting and media solutions, to design and manufacture the Exosphere's unique LED display. The Studios team also worked with 7thSense, a creative software and technology company specializing in high profile media-based attractions, to deliver programming onto the Exosphere using their advanced media server, pixel processing, and show control technologies, in continuation of a decade-long partnership with MSG. The content for the Fourth of July show was designed and developed by Sphere Studios' experienced in-house Creative Services team.

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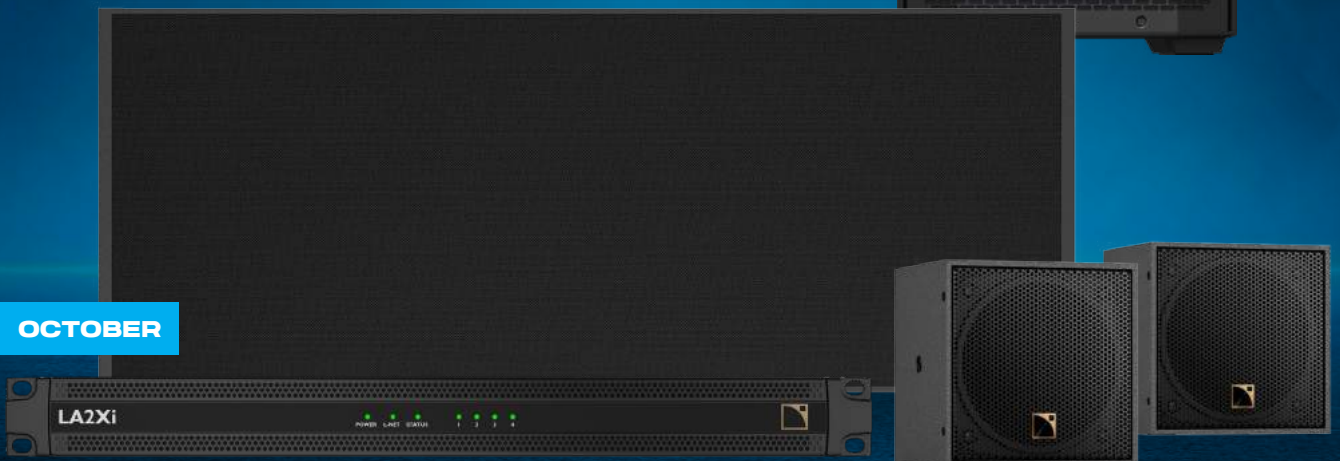
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BSG UNLEASHES K3 IN TOWNSVILLE

In late 2022, Brisbane Sound Group became the first production company in Australia to own a concert-and-festival sized L-Acoustics K3 line array system. Sitting under its larger siblings K1 and K2, the newer K3 boasts big-box sound and performance in a lighter, smaller package, wowing audiences and technicians alike with its clarity and power-to-size ratio.

After BSG got to know K3 and its performance on a few smaller gigs, they finally had the opportunity to deploy it as a full-sized left-right array at the new Tropic Sounds music festival in Townsville QLD, a one-dayer headlined by Tones and I. The festival was held at Reid Park, hosted by Townsville Council's North Australian Festival of Arts, and also featured rapper and crowd favourite ILLY, indie-folk/blues duo Pierce Brothers, indie-rock duo Clews, DJ Dolly Llama, and local acts.

A mighty 12 elements of K3 were hung per side, supplemented by 15 KS28 subs in cardioid configuration (and a cheeky one on drum fill), with 8 L-Acoustics KIVA II used as front fill, all powered off just three LA RAK II power and processing racks. On stage, 12 L-Acoustics X15HiQ wedges were powered by 2 L RAK IIs, and the DJ booth was hammered by two KS21 subs and two A15 Wide top boxes.

James Young is Brisbane Sound Group's Hire & Production Manager, and had the pleasure of being Production Manager on Tropic Sounds. "Part of the reason we were awarded the tender for Tropic Sounds was our new K3 system," relates James. "The Council were thrilled to be able to have a new PA with this power and form factor. This is where we saw the opportunity for a K3 system; we've seen growth over the last 18 months, and K3 is a new product with new technology that allows us to stay in front of the market."

The response from the multiple guest sound engineers on the day was uniform. "Everyone loved K3," reports James. "It gave everyone the sonic signature they expected, and reminded us of the larger K2. It was everything you expect from L-Acoustics;

power, headroom, all the details in the mix and that nice, crisp sound, not lacking anything. I love the way you can hear every little thing you're looking for."

The K3 purchase is part of Brisbane Sound Group's strategy to align their production inventory with products they are specifying and installing on the sales side of the business. "We see a PA of this size and capability as really attractive for venues like convention centres," observes James. "K3 offers large format sound at a smaller scale and can produce a more-than-healthy 143dB. It definitely has serious grunt, yet is light and easy to rig."

Australian and New Zealand L-Acoustics distributors Jands support all L-Acoustics systems deployed in the territory, from landmark installations at venues like Sydney's WestHQ, to the big line arrays powering the festival circuit, down to point-source distributed systems in hospitality. There's always training available from Jands, including on L-Acoustics SoundVision design and prediction software. More K3 is already on the way into service, including at BSG, as Jands continues to Set The Stage.

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Redback have provided audio products to the commercial PA industry with Australian made products since 1976.

Their range includes a variety of amplifiers, paging, mixing and signal processing equipment for commercial audio installations. Redback have been Australia's leading commercial audio brand since 1976, with industry leading warranty and unique design features not found on imported product.

In 2023-24, Redback are focusing on expanding their range of mixing solutions and integrated paging and announcement solutions. The new A4660 touchscreen paging console is a single control and paging solution for a whole suite of Redback products. It simply connects to the relevant Redback product and it automatically customises the screen controls to suit the connected device, making installation a breeze.



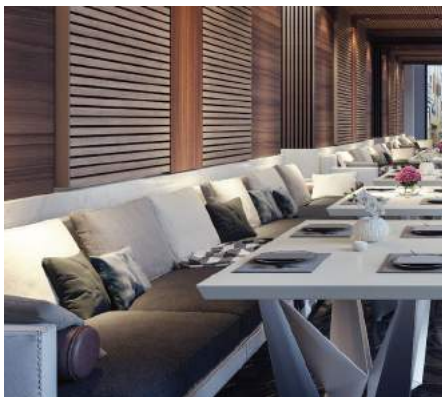
AMBER TECHNOLOGY

Amber Technology is a leading provider of audio visual and streamlined communication solutions infrastructure. With a strong commitment to excellence, Amber is dedicated to delivering innovative technology that enhances audio and visual experiences. When you visit stand H28 at Integrate, you will have the opportunity to explore the latest advancements in Audio, Vision, Unified Communications, Control and Network AV.



As the trusted representative of renowned brands, Amber Technology offers a wide range of exceptional products and solutions. Their portfolio includes superior sound quality systems, state of the art projection equipment, comprehensive unified communication solutions, intuitive control interfaces, and cutting-edge network AV solutions. They pride themselves on delivering the highest level of performance and reliability, ensuring that our customers can fully optimise their audio visual experiences and streamline their communication processes.

Amber understands the importance of staying ahead in the evolving world of technology. That is why they continuously seek the most advanced and innovative solutions, bringing them to their customers to meet their unique needs. Whether you are looking to enhance audio clarity, create immersive visual experiences, establish seamless communication channels, or manage your AV Network efficiently, Amber Technology is your trusted partner for all your audio visual and communication requirements.





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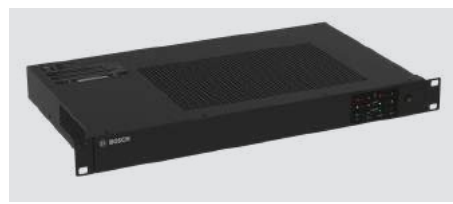
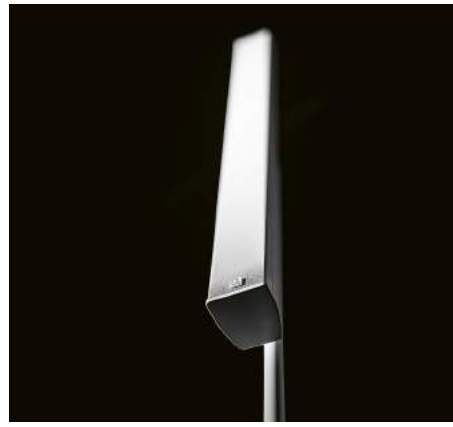
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AUDIO BRANDS AUSTRALIA



Audio Brands Australia will have a wide range of their commercial audio and AV solutions on display, along with their sales and technical teams, plus some international guests. Some of the many new releases on display include:

- MIPRO 5.8GHZ Digital Wireless Mic and IEM Systems
- NETGEAR AV M4350 line of managed switches for large AV installations
- Fohhn Audio Focus Slim, a brand-new line of compact, affordable beam steered columns
- Optimal Audio Zone Processors and new Cuboid 3" and 5" wall speakers
- Bosch PRM-4P600 Power Amplifier; an all-new 1RU, 600W, 4-channel power amplifier
- Earthworks SR117 vocal mic and SR3117 wireless capsule. Everything you expect from Earthworks except the price
- Alfatron Wireless Presentation Systems and DSPs
- FBT MDA Series Power Amplifiers with DSP

Be sure to drop by. The Audio Brands team are on-hand to show you around and discuss any of your audio and AV needs.

Audio Visual Distributors

Audio Visual Distributors are importers and distributors of specialist audio visual products. With offices across all major centres in Australia as well as New Zealand. Their team is made up of AV professionals with more than 30 years' experience in the audio visual and IT industry.

Product highlights on the AVD stand include ClearOne's BMA 360D Microphone Array Ceiling Tile, AVPro Edge's MXNet AVoIP ecosystem, and Barco's ClickShare CX-50 Gen 2 premium wireless conferencing and remote collaboration tech.



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Bose Professional are very excited to be launching two new products at Integrate 2023.

PowerShareX Amplifier Range

The PowerShareX series of adaptable power amplifiers is comprised of the PSX1204D, PSX2404D and PSX4804D. Designed to deliver exceptional performance, these smart amplifiers, with Dante digital audio, offer 1200, 2400 and 4800 watts of rated power across four channels, providing the precise power and functionality required for a variety of applications. Building upon the success of the existing PowerShare amplifier range, the PowerShareX models bring even higher power levels and enhanced features, making them the perfect complement to Bose Professional loudspeaker systems.

S1 Pro+ wireless PA System

The new Bose S1 Pro+ wireless PA system is an ultra-portable, all-in-one system, evolved to deliver more power in a lighter package at just 6.5kg, with features that ensure ultimate flexibility for gatherings and events. The S1 Pro+ all-in-one can be used as a PA system, floor monitor or practice amplifier. With four positioning options; vertically on a table, tilted back or horizontally on a floor, or mounted to a stand, the auto EQ sense the orientation and adjusts its performance to maintain the best sound possible. Simplify setup by eliminating the need for cables with the rechargeable lithium-ion battery that provides up to 11 hours of usage time on a single charge. The optional mic/line and instrument wireless RF transmitters pair effortlessly with the system's integrated wireless RF receivers, and store neatly in the S1 Pro+ unit and charge when not in use.



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¹Passion, Pride, Pitfalls Dec 2014

CMI MUSIC & AUDIO



At Meeting Room 3.10, CMI Music & Audio will receive attendees with a captivating showcase of ground-breaking audio solutions designed to elevate the listening experience to unprecedented heights. The company's team of experts will be on hand to guide visitors through an immersive journey, offering an insider's perspective on the future of audio technology.

Book your session with CMI at www.cmi.com.au/integrate.

Visitors can expect to witness the unveiling of several cutting-edge products from CMI Music & Audio, including JBL Professional's SRX900 Series launch, Tascam's Sonicview digital mixers, Adamson CS AVB-enabled loudspeakers and the Adamson Fletcher Machine immersive audio processor, and the Pan Acoustics of steerable loudspeakers.

In addition to the product showcase, CMI Music & Audio will also host engaging presentations and live demonstrations throughout the event.



DAY 1 - WEDNESDAY

CMI PRES 1 Adamson Fletcher Machine Presentation (Featuring Carlos Sallaberry, Applications Engineer, Adamson Systems Engineering)

CMI PRES 2 The Simulation Evolution by CMI Music & Audio

DAY 2 - THURSDAY

CMI PRES 3 Spatial Audio Powered by JBL Solutions

CMI PRES 4 Tascam + Project Based Solutions = Good

DAY 3 - FRIDAY

CMI Open Q&A Session



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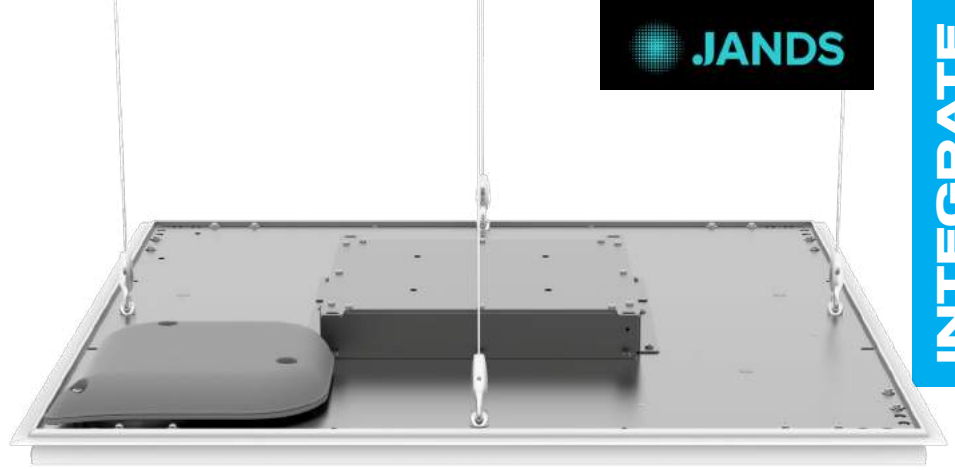
Epson invites you to see the new Extreme Short Throw Projector EB-810E in an ultra-wide 21:9 meeting room set-up. The EB-810E can be placed just centimetres away from a wall to create bright, 4KE images up to 160". It projects content in stunning clarity and offers a low cost, energy efficient large display solution with a convenient and quick set up.

Epson are partnering with Igloo for an immersive installation featuring Epson High Brightness projectors with ultra short throw lenses. Enjoy a wide range of content with wall-to-wall images as well as floor projection, allowing for a fully immersive experience for those within.

Epson will also be showcasing their brand-new PQ Series 4K High Brightness projector. Built on the previous small compact and light 20,000lm model, but now outputting 4K resolution on screen. This large venue laser projector is ideal for rental and staging, events, lecture halls, churches, and museums.



EPSON



Jands

Jands, an Australian-owned and proudly independent company established in 1970, is a trusted distributor of leading audio, lighting, and staging brands for the installation, production, and retail industries in Australia and New Zealand. With a commitment to excellence and innovation, Jands offers top-tier solutions tailored to individual needs and budgets. They represent renowned suppliers, including Shure, Biamp, Blustream, Ampetronic, L-Acoustics, Electro-Voice, Dynacord, RGBlink, Clear-Com, ETC, Robe/Anolis, Blaze Audio, Furman, and RF Venue.

At Integrate 2023, visitors can experience these cutting-edge products, receive expert guidance from the experienced team, and explore the exclusive demo room on Level 3, room E3.7. Join Jands at booths #D10 and #G28 and discover the latest in audio, video, control, lighting, and staging technologies. Some of the highlight product they'll be showcasing are:

Shure - MXA902

Redefining audio conferencing, the Microflex Advanced MXA902 Integrated Conferencing Ceiling Array by Shure is a premium ceiling-mounted solution for small to medium-sized rooms. Integrating an advanced microphone, a wide-dispersion loudspeaker, and an onboard IntelliMix DSP, it assures high-quality sound, Microsoft Teams and Zoom Rooms compatibility, and minimal noise with its Single Zone Automatic Coverage Technology. Enhanced by Shure Audio Encryption for secure communication and a sleek, modern design, the MXA902 is the future of efficient and reliable conferencing.

Shure - Stem Ecosystem

Revolutionise your conference rooms with the Shure Stem Ecosystem, an adaptable and cost-effective solution for superior audio quality. With a no-programming approach, it allows for easy customisation, while a range of components, from the Wall Mount Array Speakerphone to the Hub Communication Centre, enable ideal audio configurations for every space. Delivering exceptional sound through powerful drivers and integrated technology, the Stem Ecosystem, compatible with leading conferencing platforms, promises optimal audio experiences, enhanced manageability, and seamless integration.



Biamp – Max Connect

Reinventing the Bring-Your-Own-Meeting (BYOM) space, Max Connect from Biamp delivers a comprehensive and intuitive conferencing experience. With the capability to join meetings from any room, using any device, it expands video collaboration across all UC platforms and messaging apps. From syncing with room peripherals to enabling sharing, viewing, or annotation from personal devices, Max Connect simplifies the entire process, providing a uniform experience. Complete with enterprise-class security and management convenience for IT teams, Max Connect is the modern-day solution for efficient and secure collaborations.



Biamp – Parlé VBC 2500

Transform your conference room with the Biamp Parlé VBC 2500 Conferencing Video Bar, a comprehensive solution designed for precision and convenience. Featuring a wide-angle 4K camera streaming at 2160p @ 30fps, it offers stunning video clarity and intelligent auto framing for participants. Enjoy effortless room acoustic optimization with Biamp's Launch feature and versatile connectivity options. Equipped with beamtracking technology and an AI noise reduction algorithm, it ensures clear voice reproduction, making the VBC 2500 a one-stop solution for a superior conferencing experience.

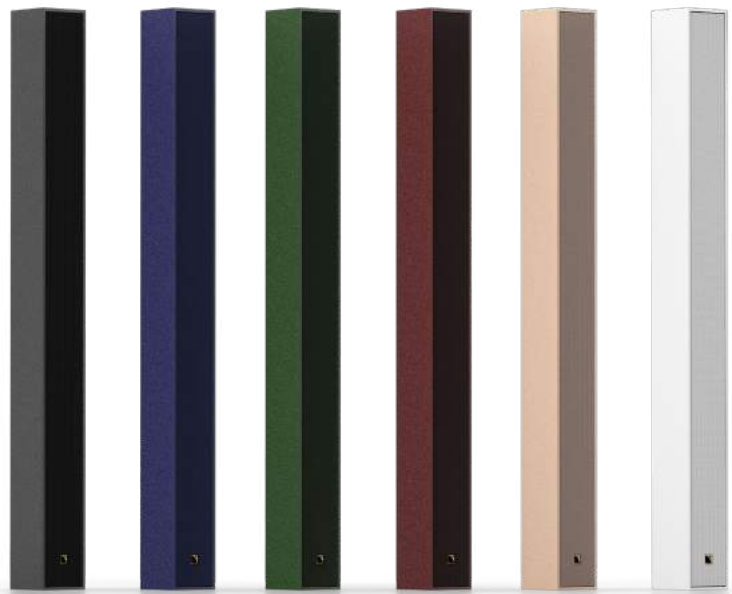
Blustream – IP350UHD-RX

Elevate your multimedia experience with the IP350UHD-RX, a Dante-enabled 4K HDMI receiver by Blustream. Offering virtually latency-free distribution of 4K HDMI video over a 1Gb managed network, it guarantees visually lossless compression and compatibility with the IP300UHD product line. Supporting all known HDMI audio formats, it also facilitates HDMI extension up to 100m over a single CAT cable or fibre. With dual RJ45 network ports and an SFP port, this unit provides unrivalled flexibility, allowing video and Dante audio distribution from a single network, even accommodating video walls and PoE powering, making it a versatile choice for diverse installations.



L-Acoustics – Soka

Experience the magic of concert-quality sound with the Soka colinear source system by L-Acoustics, an elegantly designed solution for medium throw applications in high-end settings. Combining nine 3.5" neodymium LF speakers and three 1" neodymium HF compression drivers, Soka ensures ultra-wide coverage with exceptional sound quality. With its ability to adapt to specific acoustic needs using presets and provide up to 133dB of output, Soka's compact form and minimal visual impact are ideal for anyone seeking top-tier audio without compromising on aesthetics.



Sometimes it all gets too much...



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



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Lightware will introduce the new Taurus UCX TX / RX variants at Integrate 2023. These market-leading devices allow users to extend USB-C signals over longer distances (up to 100 m), empowering system architects with more flexibility for designing collaborative spaces.

In recent years, the company has invested in delivering full featured USB-C solutions that users can trust. Integrate participants will be able to discover the BYOM compatibility of Taurus UCX & Lightware certified USB-C cables to simplify switching between video conference sources and leverage meeting room assets including UC cameras, microphones, keyboards, and mice. Taurus UCX also allows seamless connectivity across various UCC platforms, including Cisco, Microsoft Teams, Zoom, and others. The EU-based AV manufacturer will also present how users can unlock the full potential of Cisco Room Devices & Logitech Room kits.

The company's wide range of demos will include the USB extensions as well, extending USB 2.0 signal only using point-to-point and network infrastructures, creating and configuring virtual hubs with up to seven end points.



Visitors will also be able to discover the HDMI-TPX-TX106 and HDMI-TPX-RX106 extenders. With AVX technology they are Lightware's newest development and a natural progression from the widely popular HDMI-TPS-TX/RX96 series, allowing users to extend HDMI 2.0 signals up to 4K60 4:4:4 video resolution through a single CATx cable over distances up to 100 meters.

Last but not least, Lightware's universal switcher transmitter, the Taurus TPN will be presented too. It is part of a transmitter-receiver configuration that provides the same functionality as the UCX product range in terms of signal management and connectivity. The bundle overcomes the limitations imposed by the USB and HDMI cables and allows for the extension of video, audio, and control signals in one direction and the USB 2.0 data in the other up to a transmission distance of 100 meters.



See Lightware on Stand H2

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EXTENSION
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TX/RX



Future-proof your meeting room with Taurus.
Extend USB-C signals up to 100 m and get more flexibility for designing collaborative spaces.

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MADISONAV

Building on a significant presence at Integrate last year, the MadisonAV team will again be showcasing a substantial number of products from their expanding range of professional AV brands.

With AMX and HARMAN Audio brands JBL, Crown, and BSS already being a major drawcard, the team at MadisonAV are also expecting to experience a strong level of interest in new brands Yealink, Nureva, and Humly.

There will also be a significant number of new product releases that will be demonstrated or featured on the stand, and the team of MadisonAV sales and technical experts will be on hand to deliver key product insights and application advice.

Some of the brands and new products showcased by MadisonAV include:

AMX MUSE, a powerful next-generation automation platform that goes beyond the traditional capabilities of AV control and is capable of simultaneously processing multiple scripting languages, supporting no-code and low-code capabilities and simplifying

routine development tasks, opening up the possibilities for technicians and IT managers of all skillsets to deliver advanced automation in a modern market.

Also being demonstrated or featured are several newly released AMX solutions, including:

- AMX CE Series Universal Control Extenders with open control API and integrated web interface
- AMX SVSI N4321D Audio Transceiver with Dante and AES67, with open control API
- AMX SVSI N2600 Series Encoders and Decoders
- AMX Jetpack affordable switching, transport, and control solution
- AMX Varia Professional-Grade Persona-Defined Touch Panels

The recently expanded range of JBL Control Contractor products will be featured, as well as key products across the vast range of ceiling, surface mount, pendant, column, all-weather and landscape speakers.

Newly released product includes two new JBL Slim Column Loudspeakers, COL600 (24-inch 600 mm) and COL800 (32-inch 800 mm), that are ideal for a variety of applications, including conference and meeting rooms, lecture halls,

retail stores, concourses, transit spaces, fill applications and more.

In the performance audio space, the new VTX A6 sub-compact line array and B15 subwoofer will also be featured as part of a VTX A-Series display.

The recently released Yealink MeetingBar A10 will be featured alongside the interactive MeetingBoard and a vast range of Microsoft Teams Room and Zoom Room products. The versatile range of Yealink products provide high quality audio and video conferencing capabilities, compatibility with various platforms, advanced security features, and competitive pricing.

The multiple award-winning Nureva HDL300 audio conferencing system will be showcased alongside the next generation HDL310 system for mid-sized rooms. Both products feature the power of Nureva's patented Microphone Mist technology.

Newly available in Australia, Humly offers a beautifully designed and intelligent suite of products that book, manage and optimise meeting rooms, desks and other workspaces for businesses of all sizes. The solution includes a flexible suite of hardware and software that assists with booking, wayfinding, visitor sign-in and floor-plan visualisation of space availability.



A number of newly released PTZOptics PTZ camera products will be featured, as part of a comprehensive refresh of the PTZOptics range. This includes the Move SE 1080p camera with auto tracking, Move 4K, and Link 4K (with Dante AV-H) Series – providing resolution and output combinations to satisfy all requirements. Also on show is the new StudioPro camera – a complete content creation and livestreaming solution.

With dozens of Philips Professional Display Solutions being used throughout the stand, you will be able to evaluate a complete range of panels all in one location. This includes the recently refreshed Q & D Series digital signage panels with upgraded Android for superior system on chip performance. Whether your project requires touch screen, 24/7 robust performance, integrated tuner, or video wall capability, there is a Philips display screen to suit.

Plus, you will see exceptional products from other leading brands including Crown, BSS, SpinetiX, HuddleCamHD, AUDIOropa, RoadworX Soundmasking and Icron. MadisonAV's team of specialised technical experts will be on hand to discuss, design and demonstrate the impressive suite of solutions they supply.



Stand G2

PAVT

Production Audio Video Technology (PAVT) is a proudly Australian-owned and operated company that has distributed professional audio, video, conferencing, and production products for coming up on 40 years.

During this time PAVT has established themselves as a leading AV provider for corporations, small-to-medium business, institutions, public buildings, and live production houses. With a highly skilled technical department delivering design, simulation, measurement, and commissioning services, PAVT partners with a customer's choice of Integrator, to take their project from conception to operation while supplying industry benchmark products that will reliably deliver best-in-class results.

PAVT will be releasing several new and key products from our suppliers, including AtlasLED, Audix, EAW, FSR, Powersoft, RDL, Symetrix, Televic, and Visionary.

Our key staff will be on hand to discuss your needs and all of our product lines, to help you achieve the result you require.



Stand E36

MelbourneLED

MelbourneLED has been in business since 2009, expanding to a Brakeside, VIC, warehouse in 2015 with 400 sq metres' worth of stock. In 2021, MelbourneLED expanded to a second warehouse next to the original location, keeping stock for AV integrators and strategic retail clients.

Their Chinese factory, XD Vision, has an annual turnover of 100 million RMB and has been manufacturing LED panels since 2017, supplying to China, Asia, Europe and US markets, with Australian distribution exclusive to MelbourneLED.

Since 2021, MelbourneLED have distributed Shenzhen's Luxon Visual, providing niche and special project products. Their LED Kiosk is designed and manufactured in-house, with more than 100 units sold since launched. MelbourneLED will be sponsoring four LED Kiosks at this year's Integrate show. 2023 will see MelbourneLED expand their product offering to include 3D letters, lightbox signage and logos, and vinyl printing.

2023 has seen MelbourneLED become the Australian distributors for Colourlight, Yestech, and Dahua.





YES TECH's Magic Stage Series is suitable for all indoor and outdoor applications, including dance floors, interactive, stadiums, and sky curtains. For more info, please visit: youtu.be/UAv5cwyrpGA

A Equilite Experience Solution

Model	Resolution
EQ100	1080P
EQ200	4K
EQ300	4K
EQ400	4K
EQ500	4K
EQ600	4K
EQ700	4K
EQ800	4K
EQ900	4K
EQ1000	4K

B Standard Commercial Solution

Model	Resolution
SC100	1080P
SC200	4K
SC300	4K
SC400	4K
SC500	4K
SC600	4K
SC700	4K
SC800	4K
SC900	4K
SC1000	4K

C Supreme Deluxe Solution

Model	Resolution
SD100	1080P
SD200	4K
SD300	4K
SD400	4K
SD500	4K
SD600	4K
SD700	4K
SD800	4K
SD900	4K
SD1000	4K

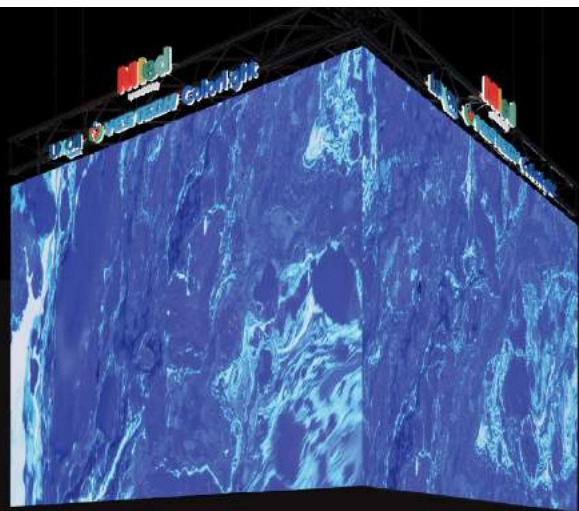
Colorlight provides video system processing solutions, including as OEMs for many Tier 1 brands. The Coloulight distribution and technical centre is now based at MelbourneLED's warehouse, and offers competitive pricing, extended warranty, replacement option plans, and free-of-charge Coloulight certification training. Integrate will showcase Coloulight's X100Pro video processor.

Yestech is a premium LED product offering, with 80 sq metres of rental products to arrive in August 2023. Yestech is well known on the global stage, with recent projects including the Beijing Winter Olympic Games, and Dubai G20 Summit.

SEE US AT INTEGRATE STAND E36

Mled

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Stand B16



SENNHEISER

For the first time at Integrate Expo, Sennheiser's entire TeamConnect Family, an agnostic conferencing portfolio with state-of-the-art technology for spaces of all sizes, will be showcased in Australia. This includes Sennheiser's first venture into the unified communications AV bar market, the TeamConnect (TC) Bar Solutions. These newly launched solutions are scalable, all-in-one conferencing devices, designed to address the needs of modern-day meeting and collaboration environments.

With powerful built-in microphones, speakers, a 4K Ultra HD camera, and Dante integration, Sennheiser's TC Bar Solutions have options for small (TeamConnect Bar S) or mid-sized (TeamConnect Bar M) meeting and collaboration spaces. Both easily integrate with any meeting platform and can be further enhanced with other compatible products, including those from Sennheiser.

Sennheiser's TeamConnect Family of solutions including the multiple award-winning TeamConnect Ceiling 2 (TCC 2), and TeamConnect Ceiling Medium (TCC M) will also be showcased at Integrate Expo, allowing visitors the opportunity to experience Sennheiser's superior ceiling microphone offerings. Visitors will also be able to see the newly updated MobileConnect Assistive Listening app which enables higher education AV teams to better engage hybrid students with hearing loss to use their own mobile device to effectively listen and engage with a lecture, regardless of where they are in the classroom. Other solutions for corporate and education environments on display include the new EW-DX wireless system, SpeechLine Digital Wireless, Control Cockpit and the Sennheiser Room Planner.



Jakub Kolacz

Tech Talk: Securing AV over IP

In an exclusive Tech Talk, Sennheiser's Business Communications Product Manager, Jakub Kolacz, will present best practices for securing AV products over IP. With an ever-increasing number of devices connected to the network, increased wireless access, and greater content and data volume, the complexity and number of end points to protect can become daunting.

Join Jakub at the Tech Talk stage at 1:00pm on Thursday 31st of August to identify the biggest challenges faced by AV networks and learn how to prepare a risk-based security strategy to mitigate threats.





'TECH TALK' SESSION

Friday 1/9 at 11am

The P.A. People's Peter Grisard - Manager, Venue Engineering, and Andrew Mathieson - Chief Engineer, will be presenting "Venue Engineering Q&A – Safe Workplaces, Your Duty of Care"

In this business we constantly remind ourselves that we suspend, lift and move significant gear over performers and audiences, making the issue of fit-for-purpose - gear & people - paramount. If it's installed, you (the Venue) own it; if it goes wrong, you also own the outcome. This session discusses the roles of staging technology designers, engineers, integrators, installers, the importance of maintenance - and adds some well-seasoned, non-brand-specific advice. (Some takeaway notes will be provided at the Session).

THE P.A. PEOPLE

Sydney integrators The P.A. People will be showcasing equipment from across their venue engineering business, including:

Movecat: Germany's number one supplier of specialist entertainment hoists. See their ECO-X D8 chain hoists, PROstage+ D8+ chain hoists, OMK & VMK BVG-C1 hoists, and SIL3 motion control systems.

TEQsas's pro audio tools including the LAPTEQ Motion Integrated Hoist Control with inclination, height, load temperature, and humidity measurement, and their TQX Loudspeaker tester.

Theatrequip's Drum & Pile Wind Hoists, Flown and Architectural Lighting Bars, Curtain Track, Drapes and Fabrics, TensionGrid Virtual Floors, Counterweight Systems, and Acoustic Banners.



Andrew Mathieson



Peter Grisard



PROstage+ Series Chain Hoists

Our lightest D8+ single-fall-hoist ever:

- 500kg or 1000kg D8+ lifting capacity
- Weight ~29kg (500kg) / ~62kg (1000kg) @ 18m
- Improved body with unique 'D-shaped' chain
- Limit switches and 6 pin Weiland control
- 12m, 18m or 24m black chain and textile chain bag
- Stocked in Australia

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venueengineering@papeople.com.au / papeople.com.au





tag zero



ALLEN & HEATH®

Technical Audio Group

There are two sides to this stand. On one side you can mix with the guys from Allen & Heath and sound great with Martin Audio and on the other there's ZERO. Interested? Thought so! See you there.

Allen & Heath

Allen & Heath will be showcasing their family of mixers, featuring their flagship dLive mixing consoles alongside the popular AHM range. In exciting news, Nic Bretta from Allen & Heath HQ will be joining the team at the stand; make sure to stop by and say hello.

Martin Audio

Martin are back back with their mighty loudspeaker display! Flaunting their unique series TORUS - the definitive constant curvature array. For applications that typically require a throw between 15-30m (50-100ft), a full-blown line array is not always practical, optimal or affordable. Released in 2021, TORUS is designed specifically to fill that gap. Combining optimised coverage, SPL profile and cost efficiency.

Q-SYS

Q-SYS is a cloud-manageable audio, video and control platform designed with modern, standards-based architectures. Experience the latest in collaboration technologies, software, hardware and remote management.

Audio-Technica

Audio-Technica are staying right out of the way! They're putting microphones in the ceiling and going seriously wireless. Nothing to see but plenty to hear – the new DECT Engineered Sound Wireless system will be front and centre at Integrate 2023, offering a simple, smart, and scalable high-quality audio wireless audio system for your next meeting. Now certified for Microsoft Teams, Zoom, Google Meet, and an official technology partner of Q-SYS, the ATND1061 beamforming ceiling array microphone will feature on the stand, supported by product specialists directly from Audio-Technica HQ.



M
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tag | Technical Audio Group

ULA GROUP

ULA
GROUP

ULA Group is a leader in innovative visual technology, proudly representing these world-leading industry brands: Acclaim Lighting, ACME Lighting, Arkaos, Astera, Brompton Technology, ChainMaster, ChamSys, DJ Power, DopChoice, Elation Professional, Glassiled, Griven, Lumenradio, Luxibel, MDG, Milos Structural Systems, NovaStar, Pharos, SGM, UV Medico, and VuePix Infiled.

The ULA Group stand at Integrate 2023 expo will feature the latest commercial LED display and signage technology from VuePix Infiled, including the XR studio solution, ultra high-res

Digital Wallpaper canvas and the latest digital display offerings for both outdoor and indoor environments.

Also on display will be the award-winning wireless technology for film and entertainment lighting professionals by Astera, paired with the range of the latest accessories by DopChoice.

The professional entertainment lighting range will focus on the latest offerings from Elation Professional and Acme Lighting. The latest trends in the field of architectural lighting will be presented by Griven, SGM and Acclaim lighting.

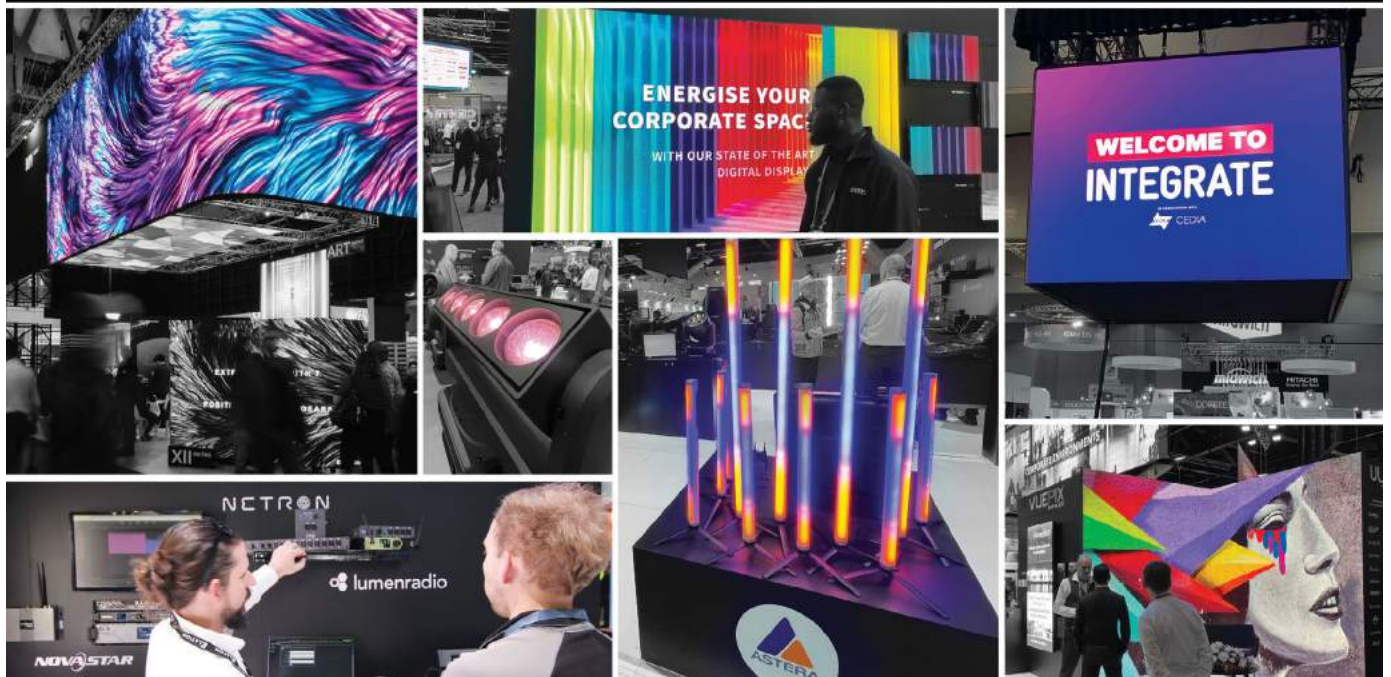
All technology on display will be paired with the latest advance control solutions, software and networking systems.

ULA GROUP

EXPERIENCE OUR TECHNOLOGY

INTEGRATE EXPO, 30 Aug - 01 Sep, ICC Sydney

ULA Group Stand #F30





Working From Home in the Live Events Industry

What are your thoughts on working from home? Does it represent freedom, or does it allow your employer to encroach on your private life?

One of the biggest challenges facing employees and employers is the concept of working from home. The last few years has seen a sizeable shift in how and where we work. The term 'hybrid working arrangement', 'work life balance' or similar seems to be present on a lot of job adverts out in the world. How does it relate to what we do in our industry?

Working from home, or doing work at home is not a new thing for our industry. Technology allowed for this to happen many years before it became a recent buzzword. Conference calls, emails and personal computers capable of running programs such as Vectorworks, MA on PC, and the Adobe suite, meant that it was possible to do some elements of pre and post production from outside of the office.

Working from home in the past has been more of a chore than a liberation for those employed

full time by companies. With the all or nothing nature of the industry sometimes you end up with so much extra work you have no choice but to take it home with you.

Freelancers operating as sole traders or small companies typically did not have the extra means to justify spending on an office. Hot desks and other shared office spaces were not really a thing. Doing work from the home office or dining room table was therefore the only feasible option.

Working from home, as it were, was born more out of necessity than luxury or a desire for a better work/life balance.

Some could argue that we were ahead of the curve five years ago, but this all changed after 2020. Events were closed down while other industries rigorously tested the work from home model. Consequently we are a touch out of step. Just about any job that could be done at a computer or on a phone could be done at home.

It's also not going away anytime soon. On the 14th of July this year, NAB reached a deal that lets its employees work from home. It is one of the first deals worldwide to give private sector staff legal protection for remote work.

Reporting on the deal for Reuters on July 14 2023, journalist Byron Kane wrote; "The deal breaks ground in a global stand-off between corporation and their staff since bosses started calling an end to home-working arrangements that were precipitated by COVID-19." Like anything one bank does, the other major players all follow in time.

Attitudes have changed in our industry. We are seeing a few job adverts for positions such as in-house technicians/managers/co-ordinators being offered with the flexibility to work at home when it suits. People are more open to a work from home model in many aspects not previously considered. We also have a labour market currently which heavily favours workers, and those that can reasonably propose reworked terms and working conditions will often get them approved.

Pros of working from home in our industry:

- In an industry of long and irregular hours, having more friendly hours on your terms creates a bit of balance
- You can work at your own pace and rhythm. Not everybody is at their productive peak

between 9-5. Not everybody needs eight hours to get their work done either. There are some of us who are early risers who basically switch off after lunch. Others don't start firing until late afternoon and into the evening. If you know where you sit you can align your hours working from home with your most productive hours. Try it; you will be surprised how much more you get done and how much more you enjoy it

- You have your own creature comforts with you at home, hopefully making for a much more relaxing environment
- Working from home doesn't necessarily mean working from home. You could pack up your computer and head down to the beach, park, or favourite café for the day. Much better for your mental health than sitting under fluorescent lights all day
- Cuts out the commute. Many people in the industry travel over an hour each day to get to work, saving both time and money
- Can be an incentive to work quicker and better. A lot of the people employed in this industry are employed to complete a task, and not for their time. There are not as many shift workers in our line of work than the rest of the population
- Potentially a healthier lifestyle. If you can get in a walk during your lunchtime break, or get up and make yourself a healthy breakfast, they will not only help with your health, but your productivity too
- Tax advantages. The amount of stuff you can write off as a cost of working from home makes it worth a look, especially if you are operating as a company. Just make sure you use a qualified tax professional as this is likely to be one of the areas the ATO will be doing a lot of its audits on in the future as more people shift across to working from home

Cons of working from home in our industry:

- Blurring the lines between work life and home life
- Stigma about working from home and being professional. When we think of people working from home we don't always think of a professional set up. We often think of someone in their pyjamas on their couch with food in one hand. This can make it hard to be treated, and in turn, paid like a professional
- Some managers are not quite across remote work, so they could be a little more overbearing and micromanaging of those working at home than they would be if they were in the office
- Never underestimate the social value of working in the office or around others. This can't be replaced with Teams meetings and emails
- For some, moving away from the office and to a work from home environment sees their productivity plummet
- Not applicable for all jobs. Loading trucks, bumping in and out shows and all other hands-on tasks can't be done remotely
- Falling into traps of bad habits. For some, working from home has led to long sleep-ins, unhealthy and irregular eating habits, and being too easily distracted by surroundings such as having the TV going in the background
- No catering

The hybrid working model, while not as new and disruptive as it has been in other industries, still warrants proper consideration. It's going to be about finding a balance. We don't want to be so stuck to old ways that we lose quality people to more family friendly

settings and deter newcomers chasing a more flexible lifestyle. On the other hand we don't want to go too far that we end up with events that are flat, disjointed, and ultimately lower quality.

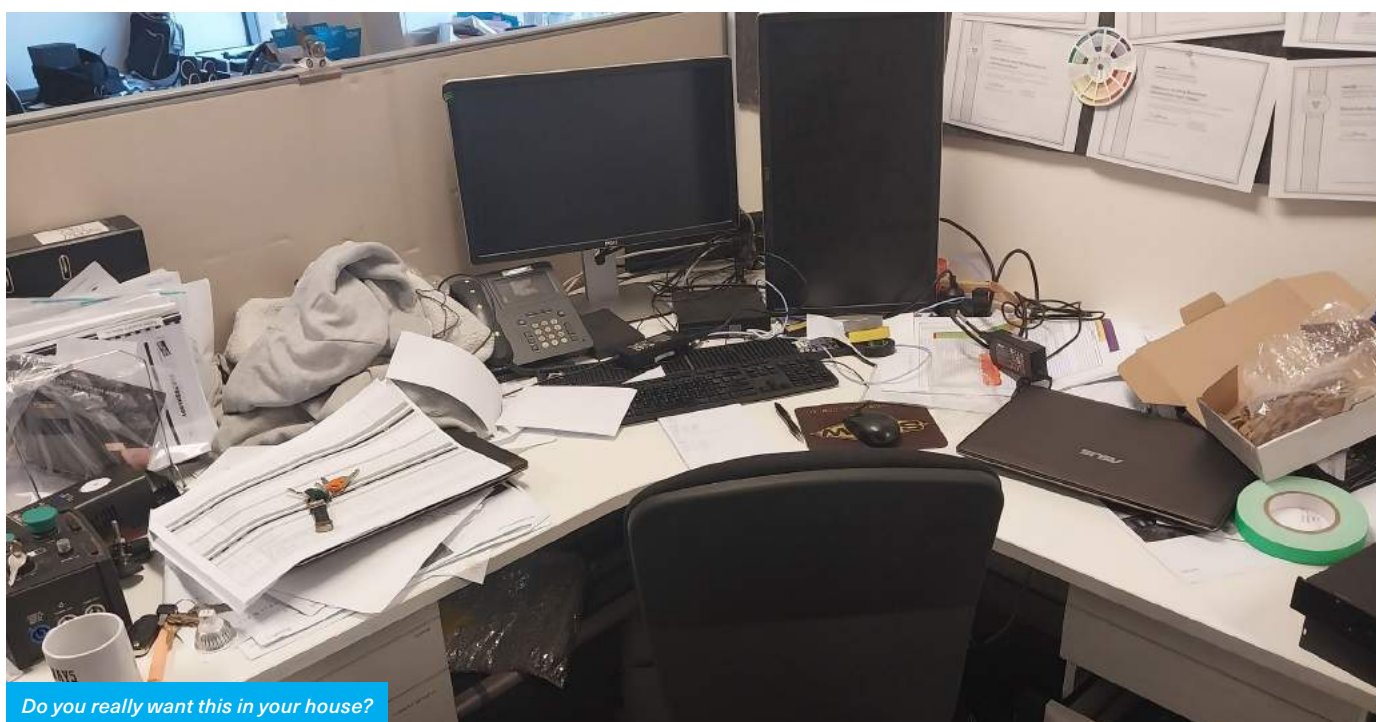
Moving forward, technology and event types will dictate what can and can't be done in an at-home setting. Hybrid and streaming only events show the most promise where many major elements such as graphics, camera direction and even show calling can take place from home.

We may even have a future where cameras, sound and lights can be operated from home. Maybe techs just need to go in the day before to preset, tune and focus everything and buttons can be pressed at home. Much like a driverless truck, it's not so much a case of if it will be possible, it's more of a case of if it can be trusted.

What we aim to do in the Entertainment and Live Events industry is bring people together. With that being said, do you think more people working from home will drive our industry forwards or backwards? Would working from home improve your quality of life or further complicate things?



What specialist hardware do you need to work from home?



Do you really want this in your house?

Digital Forecast Trouble Shooter

X_TS MINI

Digital Forecast are a South Korean manufacturer of high-definition video distribution, conversion, switching, and processing equipment. Their heritage comes from broadcast, but they also supply customers in government, education, and corporate install for video distribution. I hadn't come across the brand before, and was introduced to them by Australia and New Zealand distributor AV Group Technologies, who I've had a longstanding working relationship with.



I was looking for a video signal testing unit that would give me some information on how good an incoming SDI signal was, as opposed to just using a monitor to check if it was coming through at all. I wanted some measurement of signal strength and jitter, and some warning if the signal was close to falling over. I found that the X_TS mini does all of this and more.

First up, jitter measurement. SDI (Serial Digital Interface) is video in binary 1s and 0s travelling down a cable referenced to a standard clock frequency. Over distance and time, that signal can get degraded; that's jitter. The more jitter you have, the more 'confused' a receiving device gets as to if it's receiving a 1 or a 0, and what order (or time) it's receiving them. Confusion leads to signal interruption, artefacts, noise, and more.

That actual numbers the X_TS mini displays in its measurement of jitter don't mean that much to me practically on the ground. Honestly, I looked at the guide in the manual as to what

range is 'good' signal, which range is 'normal' and which range is 'bad', and printed a label for my X_TS mini accordingly. That way both myself and anyone I hand the unit to know immediately what's going on with a signal.

The X_TS mini can also generate a variety of test patterns. On gigs, we use this feature all the time to test cables, running the test pattern into one end of the cable and the other end back into the X_TS mini. You get an instant confirmation if the cable is high-quality, a bit attenuated, or damaged. The test pattern generator is also useful to check the integrity of any piece of gear on a gig or install; connect a cable, and you have a source. Considering the X_TS mini is tiny (just 138.5 x 87.9 x 22.0 mm and 325g) and can be battery powered, that's incredibly useful.

Obviously, the reverse is also true; if you've run a feed from something, simply connect the X_TS mini to the end of the cable, and the monitor and meters will verify both the signal

and its quality. The X_TS mini both generates and receives a wide variety of standard resolutions of both HDMI and SDI. The 5" monitor can display full screen video, or a PiP of the incoming signal plus data and metering.

Measurement, test pattern generation, and a screen, mean this unit already replaces what I used to use two or three items for, but it can also do HDMI/SDI cross-conversion, and monitor and display metering for up to eight channels of audio. There's a larger version, (just 'X_TS') that does even more.

The X_TS mini is the same size as the unit that I used to use for test pattern generation only, but does so much more. With the provided battery you can take it anywhere. I've got a small Pelican case for it, and I just pack it in there with its battery and take it to gigs. It can also be fitted to a camera hotshoe with a quick-release plate.

Author Bio

Melbourne's Alex Hasker is the Managing Director of Lex Audio Visual. With Alex coming from a background in electronics and live sound, Lex was a PA company prior to 2000, trading under the name of Melbourne PA Hire. Alex then pivoted the company to be an AV specialist that's heavily involved in broadcast, and now provides audio visual equipment and crew for hybrid events, broadcast and webcast production, conferences, and more, while also providing pre-production planning and technical consultation.



Conclusion

The Digital Forecast X_TS mini is a small, handy thing to have that is well worth the money. It's a real AV Swiss Army Knife, with screen, testing, plus diagnostics. There are more expensive options out there that cost four to five times more, and if you're an average user who isn't trying to qualify equipment, just test it in the field, it's worth having in your toolkit.

Product Info: dfcast.co.kr

Distributor Australia & New Zealand: avgroup.com.au

Trouble Shooter X_TS Mini

The Specs

SDI/HDMI Cross Converter & Measurement

Features

- SDI to HDMI, HDMI to SDI cross-conversion
 - SDI In/Output : SD/HD/3G - all standard formats supported
 - HDMI In/Output : SD/HD/Full HD - all standard formats supported
 - Test pattern generation and measurement at the same time
 - Eye pattern diagram for SDI signal (720p, 1080i, 1080p)
 - Test Pattern Generator : 8 types provided - Static/Pathological/Moving Box, etc.
 - SDI signal integrity check (Loss, TSR, CRC, Line number)
 - HDMI signal integrity check (Loss, Resolution, HDCP)
 - Audio level monitoring (up to 8 channels)
 - Audio monitoring headphone output
 - 5" Touch Screen LCD (800 x 480)
 - (option) Battery Plate provided: compatible with Sony NP-F/Cannon LP-E6
- Supports HDMI v1.3**
- Supports VGA, Comp
 - Supports multi-rate SDI formats
 - SMPTE 125M: NTSC (480i 59.94), PAL (576i 50)
 - SMPTE 296M: 720p (60/59.94/50)
 - SMPTE-274M: 1080i (60/59.94/50)
 - SMPTE-292M: 1080p (30/29.97/25/24/23.98)
 - SMPTE-424M: 1080p (60/59.94/50) 3G



HI, MY NAME IS...

Being the new kid on the block.



The awkward giggle, the too soft or too firm handshake, the clumsy corona-shuffle, the strained conversation as you test the waters - all these joys are part of meeting new people. How elegantly you do this may influence how far that relationship goes.

New job, new people, new expectations

Perhaps you have moved to a new area and want to get in with the locals. Or just make a few new friends so that you can feel more at home where you already are. Maybe you've joined a community group or a sporting team (these are remarkably similar in function). Once you've negotiated the first impressions, how do you integrate more deeply into a new social setting? How do you manage transforming the crucial first meet into a lasting bond?

And that doozy that so many of us go through: meeting the in-laws for the first time. Remember, they have generations of in-jokes, jealousies and petty feuds already well established. You are the interloper, an intruder on their familial turf.

As you get bombarded with questions from every side, determined to put on a good show for your beloved, you have to stay cool but think quick. It's worth having a variety of short anecdotes in the quiver to make yourself look good. Remember there are fine lines to offense, so read the room before unleashing your bawdiest tales.

At the very least, you should pay homage to the family's elders. Smile and laugh at their jokes, no matter how lame. Unless, of course, everyone else is laughing at, rather than with, them. Then, it's totally your call whether to join the pile-on or stand in solidarity with the old dear. Results may vary.

Having a painful family member is unavoidable. If it's a blood connection, you're stuck with them. If you married in like above, that discomfort is part of the price. Either way, it's up to you to find the best approach to deal with this imbalance.

First day jitters

New jobs are always nerve-wracking. Day one on a fresh gig can be as daunting as the first day at school, and your parent likely won't be there to wipe the snot from your nose. As

you get shown around the premises, being introduced to the team whose names you will initially struggle to remember, it can feel very much like you are on show. Because, for this short period, you are. Smiling, watching your manners and generally being humble will get you a long way towards acceptance. Best leave your spikier sides sheathed until you've established yourself. Your presence and performance over the long run will be the ultimate arbiter in how well you integrate there, but it helps to get off to a good start.

After you have settled into your workstation, write down a quick list of those colleague's names and anything about the workplace or company that you want to know more about. In the first few weeks, try asking each one of those people about just one of those topics. Softly, softly but showing a genuine interest in the other person, their role or zone, will help you to blend into the team quickly.

Postcode unknown

Moving into a new area is a challenge not limited to sweaty removalists and endless boxes. Quite apart from geographical unfamiliarity, the culture of an area can be unique and challenging to understand, let alone assimilate with. Especially so if you've moved to a distant region or even more ambitiously, another country.

You can't pick your neighbours. They are tricky to avoid when you aren't seeing eye-to-eye. Many an otherwise idyllic home situation has been ruined by malodourous relations with the next-doors.

They might be noisy, offensive or otherwise get on your nerves. Due diligence could have uncovered this before you signed up to move there, but sometimes dumb luck can see an unruly neighbour move in after you've set roots. Or be extremely quiet until the day you arrive, when they unleash their favourite decibel generators and start testing the boundaries of civility.

If you do get lucky with adjoining residents and want to deepen the bond, contact those that you get along with to organise a street party or local event. It's a little more involved than 'popping in for a cup of sugar' but infinitely more rewarding over time. When things go wrong and you need a hand more quickly than external services can provide, this investment of your time pays itself off.

hashtag:besties

It's the social media era but all those likes and followers are empty compared to a good bond with a real life human. A strategy worth trying is making meatspace contact with otherwise online only friends. If there is someone on your platform / server / hangout that you like the vibe of, and you've identified that they live in a similar area, send them a polite DM to see if they'd be interested in catching up in person.

Note, don't be offended if they firstly say no. The keyboard gives great strength to the socially awkward, the autists and introverts who have a difficult time talking with people in person, whether new or familiar. They may not be ready to make that jump.

They will already have studied this deeper and longer than someone more socially adept and should have a good understanding of what already works for them. Give them the room to open up at their own pace.

The similes of congruence

Integrating into new settings is comparable to integrating electronic equipment. In both, you must work out which aspects are compatible and which not. You'll need a basic understanding of the language and protocols to deploy v1.0 of your pairing. As you test it for strengths and weaknesses, you can learn what works and what doesn't before iterating a better version.

Like a work install, grow your personal network one step at a time. Fitting in is not always easy, but neither is life.

entech 10 - 24 October 2023

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Surfers Paradise Hotel

I'm Going Where the Sun Keeps Shining

After the breakup with my first fiancé (she didn't want my guitar in the relationship), and the subsequent breakup of a rebound relationship (she didn't want me in the relationship), I packed a suitcase, and with Harry Nilson's 'Everybody's Talking' echoing in my head I said farewell to my guitar and amplifier, boarded a Greyhound bus and headed for the sunshine state of Queensland.

First port of call was the Coolangatta Sands Hotel where, coincidentally, the public bar was named the Port 'O' Call. Here, I spent my first night in a tiny, inexpensive room, which included a full buffet breakfast. Scanning through the Gold Coast Bulletin at breakfast I circled a construction site job and also accommodation at Mermaid Beach on the

Gold Coast. And from a phone booth across the road, I secured the construction position and then made a second call arranging to inspect the accommodation.

The accommodation at Mermaid Beach was a room, which came with all the house amenities. It was just down the road from the beach and a short walk to my new job as a builder's labourer. So, in the space of one morning I had secured a job and virtual beachside accommodation. But this was 1974, when the property market came crashing down, and my employer, who was building waterfront houses on spec, went belly-up. Suddenly, with the rent due, I was out of a job only a couple of weeks after starting.

In the search for new employment, I realised the absurdity of leaving my vehicle in Sydney. I was also missing my guitar and dogged with the guilt of abandoning my 8-hours a day of practice. So I hitchhiked back to my parent's place in Sydney, loaded the guitar and amplifier into my HQ Holden and drove back to Mermaid Beach. Within a week I was swinging a shovel for the Gold Coast City Council, and I soon had enough money to rent my own apartment.

The young and free-spirited youth of the times had a notorious reputation for turning rented apartments into doss houses typified with loud parties, drug taking and trashing the premises. As a consequence, most property owners would only accept couples as tenants. Fortunately, my former fiancé, who was now in acceptance of a ménage à trios, which included my guitar as the third party in the relationship, was visiting from Sydney. So we posed as a married couple to secure the lease, and under the cover of night I smuggled my guitar and amp into my new apartment.

A Californian tourist named Chuck, who had a residency playing at a local restaurant, also gave guitar lessons, and he became my third teacher. Chuck taught guitar in the style of Eric Clapton, whom he idolised. Apart from learning the basic lead patterns and acquiring bleeding and callused fingers from bending notes and exercising Clapton's classic index finger tremolo, I never came close to emulating his style. Chuck ultimately became the target of immigration officials who were closing in on foreigners illegally working on tourist visas, and he had to move on. Before leaving he



The Patch, formerly The Cabbage Patch

handed me over to one of his friends, another Californian who became my fourth guitar teacher.

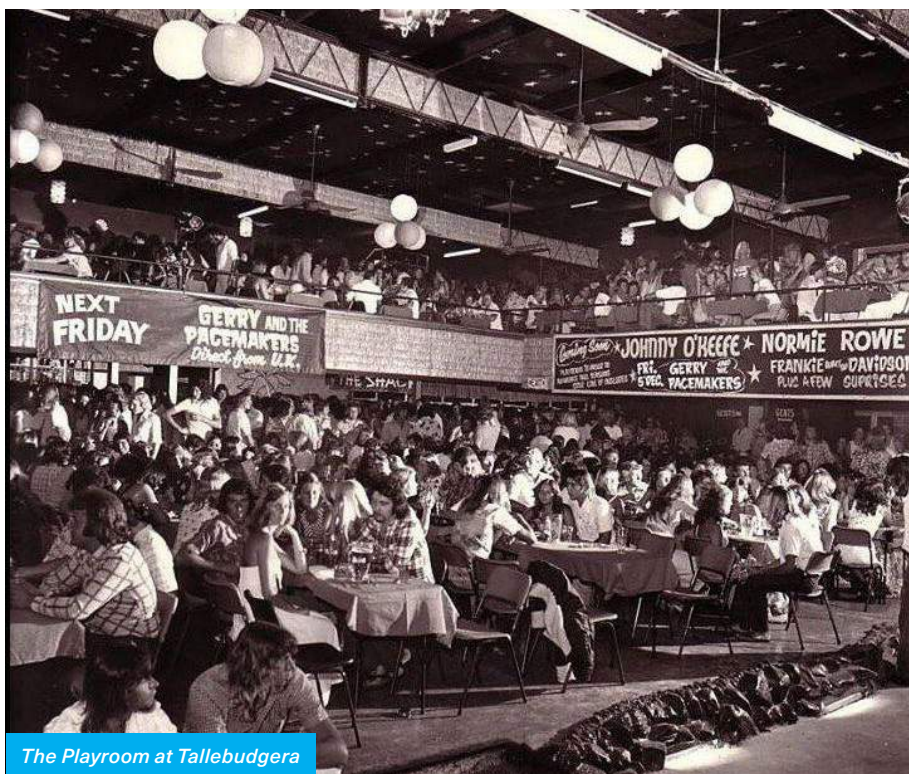
Surfers Paradise had a good but limited music scene in the mid-70s. The main live band venues were the Paradise Room at the Surfers Paradise Hotel, The El Rancho Steakhouse, The Mousetrap, and my favourite haunt, the Chances R Bar at the Chevron Paradise where you could see bands like Ted Mulry Gang or Hush. Twenty kilometres south of Surfers was the famous Playroom at Tallebudgera, which featured big billing acts like Johnny O'Keefe, Billy Thorpe, and Johnny Devlin, along with show bands like The Troupadores; and this is the venue where I saw my first Elvis impersonator, who brought the 500-seat house down some three years prior to the King's demise in 1977. The Playroom also had a shuttle bus, which offered a free return ride to the venue from Surfers Paradise.

None of these venues employed fledgling bands, but the Cabbage Patch at Coolangatta did cater to the more down-market bands. This was the venue for my first audition as a guitarist. As I sat waiting for my turn to take the stage with the resident band, I was approached by a guy who expressed a great deal of interest in my 1962 Fender Jazzmaster guitar. After a short chat he asked if he could borrow it for his audition, which was after mine.

Along with teaching me in the style of Clapton, Chuck also taught me Chuck Berry's 12-bar blues shuffle and some of his guitar licks. So for my audition I played Chuck Berry's Carol

in front of a small audience. I remember the rhythm guitarist craning his neck over to see what I was doing when I went into the lead break. Then, I loaned my guitar to the next hopeful, who subsequently got the gig. Lesson learned!

I didn't have a lot of confidence as a singer, so I took singing lessons from a teacher who was the former tutor of the Channel Nine Choir in Melbourne. He didn't have a piano, so he used a little Stylophone Pocket Synth, poking it with its wired pen to produce its obnoxious sound. He taught me the Belcanto method of singing, which is largely a breathing method that was developed to give opera singers sufficient breath to enable them to be heard in a 3,000-seat theatre without the use of a microphone.



The Playroom at Tallebudgera

So, every lesson I'd firstly have to pitch middle C without any musical reference, then take a deep breath and count until the breath was exhausted. In this deep breathing exercise, if my shoulders were seen to raise it was deemed a shallow breath and I'd have to start again. The technique was to fill the lungs from the bottom first and then start the count. The teacher would never tell me what the final count expectation was as he said it was so high that it discouraged students from persevering. He was also obsessive about pitch. For him, the big three were absolute pitch, pitch retention and relative pitch. I didn't have absolute pitch and he claimed that very few people had this attribute. I had reasonable relative pitch, meaning once I had a starter note I could accurately pitch other notes. But apparently I had good pitch retention, which is the ability to retain a pitch in the memory for an extended time; and this comes in very handy for a singer.

The cost of a carton of beer in 1974 was \$5, which was the same cost as my singing lessons, and I was faced with the dilemma of spending the last \$5 in my pocket each week on a singing lesson or a carton of beer. Eventually, the beer emerged as the winner.

Late in the year I received a letter from a mate, Paul, a guitarist whom I had played backyard parties with previously in Sydney. He was putting a band together and invited me to join. So, in the week before Christmas 1974 I quit my council job, handed in the keys to my Mermaid Beach apartment and drove back to Sydney. I remember picking up a hitch-hiker along the way who told me he was a school teacher on a tiny island just off the coast of Darwin, which was smashed by Cyclone Tracy a few days later on Christmas Day.

Paul and I rehearsed a few times, but he had unfortunately become a heroin user; and when he shot-up in front of me during a rehearsal I knew it wasn't going to work. We remained friends but never went on to play together.

Years later it all seemed like a dream the way things fell together after boarding a Greyhound bus on a whim and easily finding work and accommodation. Then meeting two great guitar teachers and a reputed singing teacher, along with living a carefree lifestyle metres from the beach and only five kilometres from the swinging 70s nightlife of Surfers Paradise.

Some 35 years later, enroute to Bundaberg with my family in 2010, we had to detour to the Gold Coast because of rising flood waters and road closures. I was shocked at how overcrowded, run-down and even intimidating it had become. We eventually were forced to stay overnight in an overpriced, cockroach-ridden Mermaid Beach motel, which was largely occupied by sleazy looking merchants roaming the premises glued to their cellphones. My guess was they weren't involved in the cosmetics industry. This wasn't the Shangri-La I had discovered in the 70s.



El Rancho Surfers Paradise



Stylophone



The Chevron Paradise



Coolangatta Sands Hotel

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