

CX

LIGHTING | AUDIO | VIDEO | STAGING | INTEGRATION

CX STREAMING SERVICE DIRECTORY

YOUR COMPREHENSIVE GUIDE INSIDE!

INDUSTRY PROFILES: LYNDEN GARE, JESS MCCLOUGHAN & JORDANA DAVIS

THE IP ISSUE

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NEWS

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Unlocked in Perth

Australia's first full Virtual Production for TV commercial

Meyer Sound Powers Extensive Upgrade at Adelaide Convention Centre

REGULARS

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Jenny Barrett covers NZ

Toni McAllister's Women in AV

Dunc's World by Duncan Fry

ROAD TEST

LSC Lighting Systems PowerPoint

Chauvet Professional Ovation H-55WW

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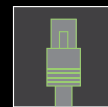
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Industry Donates Time, Expertise and Gear for Ekka

Brisbane's iconic Ekka show was cancelled this year due to COVID-19 but, in a bid to lift spirits, the fireworks show went ahead thanks to the donation of fireworks, audio visual, lighting and programming by Skylighter Fireworks, NW Group, Chameleon Touring Systems, and JLX Productions Pty Ltd.

The Fullscreen Fireworks Show, presented by 7NEWS Brisbane, was designed for the audience to stay home and watch on the telly. Over fifty crew worked on the event; another example of our industry donating their time, expertise and gear to a worthy cause even though they have been hardest hit by COVID-19.

NW Group's involvement in the event came about when Ray Moss, General Manager for NW Group in Queensland, was having a catch up with Tony Laffan who heads up the entertainment department at Ekka.

"Tony mentioned Max Brunner from Skylighter Fireworks had offered to donate a pyro show on the eve of what would have been Ekka 2020, given the event had to cancel due to COVID restrictions, and in passing that 7 News Brisbane were in negotiation to take the show live to air," explained Ray. "Ekka has been a loyal NW client for around 16 years, so the decision was really a no-brainer for us to be involved."

Skylighter, like the rest of the entertainment industry, is in full shutdown due to COVID gathering restrictions. It also suffered the mass cancellations during the devastating 2019 bushfires. Max saw this as an opportunity to give back to the community and to bring his team together to work on the project.

"Mental health and well-being within our industry are so important and something as simple as having a gig to do in times like this cannot be underestimated," added Ray. "Once I drilled into how they were looking to incorporate and deliver the technical backbone, we soon realised they needed some assistance and happily offered our services."

Within 24 hours, what started as a single firework display in the middle of the arena had grown considerably. Given the profile it was fast attracting, it needed to be done properly, so NW Group not only volunteered to provide audio playback, mastering and time-code distribution, but also began planning to add a lighting element.



Josh Finlayson, Luke Symons and Cam Walker made up the audio team with NW Group, providing multi-track playback from a dual redundant QLab system keying via MIDI from a Yamaha QL1 console. NW distributed SMPTE time code to lighting and FSK to pyro, as well as the audio track to Ch7 who did a full OB of the 6 pm news bulletin from the site.

NW also provided vision monitors and distribution to the operators, taking program splits from the Ch7 OB truck, and provided show comms across operations fully interfaced back to the Ch7 studio and producer, along with two-way radios to keep the onsite team connected.

"Given the obvious benefits to wellbeing of having as many people involved as possible, I called Tim Allder at Chameleon Touring Brisbane and Jason Raft from JLX Productions to see if they would like to be involved and both immediately said yes," said Ray. "Their contribution and response was amazing. Having all worked together on so many great projects in the past, everyone jumped back into work mode from our COVID slumber. It was awesome to see our talented teams in full flight, which feels like forever since they had the opportunity."

The theme of the show was centred on the heart shape flares in the middle that Max had designed to tie in with a feeling of love for the Ekka community, and the Ch7 theme of 'Love You Queensland'. Jason ran with this, adding lighting FX to give added dimension to the heart as well as set the canvas pre-show.

Chameleon prepped the lighting to minimise time onsite with four rolling trusses fully pre-rigged with fixtures and distro to be completely plug and play.

Lighting gear was eight Claypaky Stormy CC, 20 Sharpy Beams, 12 Sharpy Washes, 14 Pixelline 4s, 12 Martin MAC Quantum Washes, 12 Claypaky Scenius Profiles, 24 ShowPRO IP Hex Pars, 40 Martin MAC 101s

and 14 ShowPRO LED Duets. Control was MA Lighting grandMA2.

The whole site was activated, with 85 modules over eight launch sites used including rooftops, light towers and the arenas. Over 2000 kgs of fireworks delivered approximately 20,000 individual effects. The fireworks used normally are 50mm, but because the team had the entire RNA showgrounds, they could go up to 150mm. This allowed the fireworks to reach upwards of 270m, giving views all around the city. Specialty shells were used including hearts, smiley faces, butterfly patterns, and more.

The show was built specifically for a broadcast audience, so a full simulation was created first. This allowed Jason and his team at JLX to not only see the show but also time the burst of the fireworks to the change of lighting sequences in real-time. The simulation also allowed the Ch7 broadcast directors to change cameras for important moments like the 80m x 70m red heart in the middle of the arena. Allowing this type of collaboration took the display to the next level, with subtle moments of lights and pyro changing at the same time, with broadcast picking up every moment.

NW group Crew: Luke Symons, Josh Finlayson, Cam Walker, Ray Moss.

Skylighter Fireworks Crew: Max Brunner, Nick Kozij, Darren Rooney, Harrison Smith and team.

Chameleon Crew: Tim Allder, Ethen Harvey, Troy Spence.

JLX Crew: Jason Raft, Zak Harrison, Shanon Barclay, Jakob Kaiser, Jasmine Kennedy, James Kenny, Ryan Sweet, Hunter Shearn (NW).

C&M Productions Crew: (C&M Productions came on board last minute to build the Ch7 news host stage) Michael Moss, Thomas Neurendorff, Lachlan Goilding.

Barco Partners with Dicker Data for Wireless Conferencing Solution

Barco has announced its partnership with Dicker Data, an Australian-owned and operated, ASX-listed technology hardware, software and cloud distributor, to expand its reach across the country.

Barco is known for its end-consumer targeted partnerships, and Dicker Data, with its over 41 years of experience, will play an important role in Barco's channel expansion and product strategy. While Barco has shared partnerships with AV and IT distributors over the last few years, it is entering into the Unified Communication and Collaboration space with the launch of the innovative solution ClickShare Conference.

Barco's ClickShare Conference simplifies the physical meeting room experience by enabling users to wirelessly connect their device to any video conferencing platform with capabilities to instantly share content. The product removes the need for cabled solutions to share content in a hybrid meeting environment.

According to Claudio Cardile, Managing Director, Barco Australia and New Zealand, "In current times, with a major focus on conferencing solutions, with ClickShare

Conference, Barco will now aim to be a key player in the UC&C space and, as Australia's largest locally owned distributor, Dicker Data is well placed to help Barco achieve competitive advantage across the technology supply chain. By gaining access to new market opportunities through Dicker Data's vendor portfolio, to meet reseller partner's evolving needs, we'll be able to strengthen our channel network."

"The new partnership reflects our concerted efforts and focuses on reinforcing the channel partners' ecosystem and our ability to distribute products across multiple touchpoints in the country. We intend to enable as many organisations as possible, across Australia, to optimise their meeting room productivity and ensure a smooth, seamless collaborative experience for better business outcomes," he said.

Andrew Upshon, Head of AV at Dicker Data said, "We are pleased to be partnering with Barco to further develop this new wireless conferencing category. The video collaboration market is continuing to grow, and Barco announced the industry's first wireless conferencing solution at the beginning of this

year to enhance both in-room and remote collaboration experience. Their new range of products deliver real world benefits in the meeting room and the ability to use a variety of different video platforms in the same meeting space. We are thrilled to offer our extensive partner network Barco's BYOM Conferencing solutions with their ClickShare Conference CX range and Logitech Video conferencing products together."

In addition to being a globally recognised leader in the video collaboration market, Barco also has a strategic partnership with Logitech for room devices. As a Logitech room device distributor for Australia, Dicker Data is well positioned to capitalise on BYOM solutions. The synergies between the two products further solidify Dicker Data as the leading destination for Professional AV solutions.



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WHEN LATENCY IS NOT ACCEPTABLE
 Low latency is used to reduce the time delay between the input of video signal to the controller and the corresponding output.

Camera Computer Video Processor

NovaPro UHD Jr 4K 2 frame Latency
 MCTRL4K 4K <1ms Latency
 MCTRL660 PRO 1080p <1ms Latency

A8s / A10s Plus 1 frame Latency

NovaStar's Low Latency Solution

Product name	Latency	Loading ability
NovaPro UHD Jr	2 frame latency	4096x2160@60Hz
MCTRL4K	<1ms latency	4096x2160@60Hz
MCTRL660 Pro	<1ms latency	1920x1200@60Hz

EXPERIENCE THE BEST

by Louise Stickland
Photos: Brendan Cecich

UNLOCKED IN PERTH

Smiles and high spirits abounded at the HBF Stadium in Perth, Australia at the country's first large scale live music event since March!

UNLOCKED, staged mid-July, was possible due to the WA state lockdown entering Phase 5 on the 27th of June. Zaccaria Concerts' brainchild 'Castaway' and VenuesWest seized the opportunity to present a sizzling array of Western Australian electronic / DnB talent including Crooked Colours, ShockOne with Reija Lee, Slumberjack, and Tina Says.

The venue was sold out to an enthusiastic audience of just under 3000 people, reduced to 50% of its normal capacity and run under new safe operating procedures (SOP) regulations.

Lighting and LED screens were supplied by Perth-based rental and production specialists Showscreens, headed by brothers Ryan and Bryce Varley, who dipped into their 150 plus stock of Robe moving lights choosing BMFL Spots, MegaPointes and Spiiders to be the core of the lighting rig.

They needed powerful luminaires to make high-impact impressions and be versatile enough to offer each artist a distinctive and different production style and look for the evening as well as looking super-cool on camera, as the show was live-streamed to reach a wider audience.

The event encapsulated a moment in time of the pandemic and was hugely well received by music fans and all associated elements of the live event industry that has been starved of live action for the past five months!

Showscreens is a regular technical provider for Zaccaria Concerts. Ryan, Bryce and the team had "an open brief for the production design" of this highly significant show.

With Robe as the main moving light of choice for their normally busy schedule – which includes providing lighting, video, staging and rigging for everything from corporate events to festivals, music shows and concert tours – these three types of fixtures were a natural choice for this event.

A total of 20 Robe BMFL Spots, 24 Spiider LED wash beams and 20 MegaPointes, together with strobes and 4-lites were rigged on the three overhead trusses and the stage deck.

BMFL Spots on the front truss provided key light and specials while Spiiders were a solid and effective choice for full stage washes and additional effects, and more BMFLs, MegaPointes and Spiiders on the mid and upstage trusses added to the layering of lights.

On the floor, Spiiders were used for cross stage key light, shooting in from the downstage corners, with MegaPointes and BMFLs deployed along the back below the LED screen for classic beam looks and WOW-factor blast-throughs.

All the lighting fixtures were programmed via a GrandMA2 full size with a GrandMA2 Light for backup and the console was operated by Rio Hall-Jones (ShockOne & Crooked Colours), Kale Tatam (Slumberjack) and Mason Farley (Tina Says), all regular LDs and operators for Showscreens. They were additionally also able to visualise their shows in the warehouse in the days before the show.

"With all those Robes on the production rig we knew everyone would have plenty of choice for their creativity and imagination to fly," commented Bryce, adding that everyone was totally thrilled to be working on a real live show again!

Ryan added that as a company they "love" their Robe kit for its reliability and were very happy to see their MegaPointes – the most recent addition to the Showscreens fleet – working hard and looking great with their impressive output complementing the BMFLs.

Lighting and video – comprising a single upstage 8 metre wide by 4.5 metre high screen made up of Yestech 4.8 mm Black LED, run by video tech Brad Hodgkiss was loaded in the day before, to the absolute delight of all the crew who relished the feel of their hands on

roadcases and the kit once again.

They were all "absolutely ecstatic" and "nothing but smiling faces" declared Ryan. "While we have focussed on keeping a totally positive atmosphere throughout this period, being at this gig was a very special experience."

The artists were also similarly excited to be performing live onstage and in front of an audience!

Ryan, Bryce and their team – they have managed to retain all staff so far throughout the crisis – have also used the lockdown time constructively to update their Occupational Safety and Health policies, moving from a paper-based system to a mobile app that is used to initiate and record all the pre-start inspections, toolbox meetings and hazard reports in one place.

UNLOCKED was the first proper opportunity to implement this new approach which involved a toolbox meeting conducted by safety officer Michael Monaco talking through parameters like social distancing and sanitising whilst working. The HBF Stadium's own HSO sat in on the toolbox meeting and offered positive feedback.

The company has also utilised the spare time during lockdown to thoroughly maintain and service all their kit – including refinements like polishing lenses that are done less frequently when the operation is full speed. The kit being in perfect condition for the show also made the load in and rigging periods run very efficiently.

"We counted ourselves as very lucky," states Ryan. "We received loads of well wishes from all over the industry, and it was generally a fantastic feeling and atmosphere!"

Showscreens will often collaborate with eastern Australian based companies like MPH Australia (newly merged with Creative Productions as Creative Productions Australia) to service touring work and offer nationwide continuity to their diverse client base.

UNLOCKED's sound was supplied by Audio Technik.

Brompton Technology processing helps TDC deliver Australia's first full Virtual Production for TV commercial

Technical Direction Company was approached by production company Exit Films to work together on creating a full Virtual Production for an NRMA Insurance TV commercial. This was the first time a virtual LED background was used in Australia to replace a traditional green screen on set. TDC knew that to be able to fully deliver the vision of award-winning director Marc Forster they had to use equipment offering superior performance and reliability, so chose the winning combination of Brompton Technology's Tessera LED processors driving ROE Visual LED panels.

The commercial, which focused on road safety during the holidays, followed an eight-year-old girl and her magical CGI toy bunny working together to save her Dad from distracted driving. The team's main challenge was to convincingly portray the fast movement of the car, which is generally a difficult environment to film, whilst telling an emotional story that relied heavily on close-up shots.

"Knowing how much Forster disliked the fake screen look, we wanted to give as much realism as possible to the production by bringing a cutting-edge LED screen technique for moving picture purposes," explains Alex Rendell, Technical Project Manager at TDC. "In that way, instead of actors having to imagine the surroundings, they could actually be in them."

The TDC team collaborated closely with the DP Ginny Loane to build what became Australia's first 180-degree LED cyclorama, featuring ROE Carbon 3 3.75mm LED panels. The LED wall served both as the moving

backdrop and the main lighting source for the car interior and actors, removing the need for extensive on-location shooting and offering realistic ambient lighting effects and controlled, accurate reflections everywhere – even in the actors' eyes.

Working with post-production company Framestore, the team considered aspects including LED pitch, moiré issues and panel diffusion, colour accuracy, as well as frame synchronisation and high-resolution playback. After analysing all planned camera angles, the team shot the 180-degree background plates with a multi-camera rig, as well as a prosumer VR camera. It was then all seamlessly stitched together before the shoot to play properly scaled on the LED screen backdrop.

"Having the footage shot at the chosen time and location ensured that the same scene could easily be re-created over and over again, with moving reflections and light outside the car windows perfectly in sync with the action inside of the car," continues Rendell. "Additionally, having the video content displayed on an LED screen created a realistic environment for the talent to act in and interact with, resulting in authentic performances."

Brompton's Tessera SX40 4K LED processor ensured the LED screen looked flawless and the pre-filmed content was perfectly translated onto it, with accurate scaling and colour.

"The main thing that the Brompton processor helped with during the project was the ease of positioning and scaling of both screens within



the 4K camera footage," adds Rendell. "This enabled full flexibility of the car orientation relative to the screen and camera angles during the shoot."

Using an LED wall as a digital backdrop replacement for traditional green screen has multiple advantages, according to Adam Fiddler, Technical Operations Manager at TDC: "By re-creating the world on the digital scene, it allows cinematographers and actors to be in touch with the space they are filming in. By using the technology in this way, filmmakers are able to frame the particular part of the set or background they want to see in the camera and also reproduce lighting looks and reflections in real time. That would take weeks to do in post-production. By using this method of production, film companies are able to save time and money in lengthy post-production work and capture more engaging content on set.

According to the TDC team, deploying an LED screen as a replacement for traditional green screens is becoming an increasingly viable option, as it opens up new creative possibilities to teams that are working on tight budgets, or even as an alternative for crews limited by lockdown by constructing a transformative, immersive environment.

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Emmy Award Winner Peter Canning, CEO and Head Designer at High Res

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BROMPTON LED PROCESSING - MAKING VIRTUAL PRODUCTION A REALITY

The P.A. People delivers systems for the historic Rathmines Theatre in regional NSW

The P.A. People is delighted to have delivered the installation of new audio, AV, comms and theatre systems in the refurbished Rathmines Theatre on behalf of Lake Macquarie City Council. "The historic nature of the project is something that interested our team, given our experience with heritage and culturally significant venues over the years," said Chris Dodds, Managing Director for The P.A. People. "The end result is a credit to all involved and the new systems will support the Council's plan for a wide range of uses."

Rathmines Theatre, previously known as the Rathmines Community Hall, is located on the former RAAF Station Rathmines. The building was constructed in the 1940s and was used as a Picture Theatre and Gymnasium; it was vital in providing a recreational outlet for hundreds of men who spent time at the RAAF Station. In the 1960s, Council took over the management of the former RAAF Station and used the building as a community hall.

Lake Macquarie Mayor Cr Fraser said the project has given the historic building a new lease of life. "The refreshed facility will help to reinvigorate the cultural scene in western Lake Macquarie and will deliver significant economic benefits to the area," she said. "This state-of-the-art facility offers a place for performers to take centre stage and share their talents with the community. It is also home to the Heritage Centre, a place where our community can visit to learn about the history of Rathmines and Lake Macquarie City."

From its early history and more recent community use, the Theatre has not had significant investment in refurbishment until the current project. To enable the broad range of uses the Council intended, the technical brief involved providing the capability to perform theatre productions, presentations, functions and community activity. Ross Ford, project manager for The P.A. People said; "We believe an excellent systems and technical function outcome has been achieved which will allow varying groups to produce and enjoy a range of programs with the equipment provided." Venue functionality has been provided in terms of comms capability for 'Green Room' cast member instruction, a comprehensive talk-back system to allow production staff to direct cast members on stage, 'bells' for audience recall to the Theatre, and user-friendly system capability for user groups with varying levels of knowledge.

Audio is provided in two modes; Basic mode is controlled from a touch panel side-of-stage and this is duplicated in the bio box (main control) location. This gives the user control of three radio mics, video control, and lighting



control. Advanced mode includes a Yamaha sound desk with up to 32 inputs, varying patch points throughout the venue, and four radio mics. Four paging zones allow paging and routing of audio via the main hall, back-of-house/Green Room, veranda and terrace area, and ticketing box.

Lighting is also in two modes which link in with the dual audio modes. Basic mode uses pre-sets for lectern and overhead, all controlled from a touch-panel. Advanced mode includes 12 moving lights and four profile lights to provide varied lighting design. New lighting bars have been installed with 36 patchable outlets.

Projection systems in Basic and Advanced modes and full curtaining includes a full back curtain, side legs, a proscenium arch system and a front curtain with manual draw rope.

Brett Steele, Manager of Installed Systems for The P.A. People said the venue presented some particular challenges relevant to its historical nature, where original features needed to be preserved. "Great care was to be exercised with placement and method of equipment installation. The Theatre's location meant only temporary power was available during construction and the site was a distance from materials and access to services." Both Brett and Ross agreed; "Our task was made easier through an excellent customer relationship with Lake Macquarie City Council and the fact that a local AV contractor was engaged with the process who would have continuing involvement with the venue post-completion."

As the Performing Arts Officer for Lake Macquarie City Council, part of Melanie Stanton's role includes curating the arts program. "Council has interest in lifting the Theatre's profile in events, weddings, conferencing and other activities" said Melanie. "The Venue will also cater for Council-led uses including its Lifelong Learning & Engagement program, with events such as classic film nights and writing workshops spanning youth to retirees. The Heritage Centre is part of the building, and it is hoped that this, along with the Venue's lakeside location, will become a broader regional attraction in keeping with the Rathmines Master Plan." Council's Manager Arts, Culture and Tourism, Jacqui

Hemsley said the redeveloped venue provides a great opportunity for the arts community and an ideal tourism destination. "Rathmines Theatre will offer unique programs and exhibitions unlike anything Lake Macquarie has experienced before," Ms Hemsley said. "This revived venue provides a space for performance artists to be inspired and connect with their audience, attracting visitors from across the region to our city to experience something memorable."

Audio

- QSC KW-122 Arrays and QSC KS112 subwoofers
- Yamaha TF5 console with Yamaha TIO1608-D stage box
- Yamaha MTX5-D processor
- Sennheiser EW 100G4 Hand Held and Lapel radio mics
- Shure SM57, SM58 and MX418/C mics

Comms

- Jands EZICOM intercom Master Station and Beltpacks

Lighting

- Zero FLX-S24 lighting console
- LSC GVW12/10A Dimmer and Patch
- ShowPRO R3 moving head LED wash lights
- ShowPRO Pharos LED Profiles
- Jands JLX Lite lighting bars

Projection

- Epson EB-L1495UNL Laser projector
- Screen Technics 180" 16:9 Motorised screen
- Kramer VS-62HA switcher
- Kramer TP-580R & TP-580T HD Base Transport

Control

- Crestron CP3 processor
- Crestron TSW-760-B-S Touch Screens
- Ruckus ICX7150-24 Network Switches

Miscellaneous


- Stage Management Paging System
- Stage Drapes and Tracks

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IP Controller

KLARK TEKNIK

New VuePix Digital Visual Platform for Glow Church

Glow Church, a fresh and vibrant Christ-centred church, has invested in a new digital visual platform for their campus located on the Gold Coast.

At the end of last year, the Glow media team approached the VuePix team to specify a flexible LED platform which would be used during their worship at the campus, while providing a perfect visual backdrop for their services broadcast online.

"The client was looking for a flexible screen, which would allow for various configurations, depending on it being used for the on-campus worship services or for online streaming," explains Nathan Wright, VuePix Product Manager. "It was crucial for our client that the LED display would look perfect both for the camera while delivering a high standard of production for the patrons visiting the church."

The main screen installed on the stage as a semi-permanent display is 6.5m wide and 3.5m tall with 3.9mm resolution. The

advanced hanging system allows for LED panels to be set up in various configurations. The VuePix team worked together with Onesol Contracting to integrate the screen seamlessly within the church's current AV system.

Additional VuePix N series LED panels are being used on the stage, providing the whole set with more depth. All the content is optimised and controlled by NovaStar MCTRL 4K Video Processor.

"The reliability of the VuePix screens have been impressive. We change the stage design at least three times per year and the flexibility of the panels has helped us achieve a relevant and creative backdrop that we heavily depend on," says Jory Enright, the Production Manager of Glow Church Gold Coast. "The most impressive thing I have found is the customer support from Nathan and the ULA Group team, who provide free NovaStar training and fast support when I have questions or need a second opinion. We are so impressed that we want to add more screens from VuePix in the future."



- Due to the current global pandemic, the Glow Church Gold Coast campus has been closed for visitors for several months now, making the screens even more important for the Glow media team, helping them to deliver high standard productions and simulate a vibrant church environment for their virtual campus, streaming themed messages of hope to the entire community.

New Stunning Digital Wallpaper Screen for Club Central Hurstville

THE VuePix Infiled team partnered with integrators CAV integrators to deliver an ultra-high resolution screen for Club Central Hurstville, NSW. The new sleek digital wall has been installed in the club's lounge and gaming area, delivering superior image quality for all patrons and guests.

CAV specialises in providing bespoke solutions to clubs, hotels, venues, educational institutions, private corporations, councils and government departments, installing the most advanced AV technology to help them operate their businesses. Club Central Hurstville is one of their many long-term clients, so when it came to upgrade their facility and audio-visual equipment, they trusted CAV to choose the very best technology to fit the purpose.

"The initial brief from the client was that they wanted the largest and brightest screen for the area, which could be serviced from the front," explains Steve Hansen, General Manager of CAV. "This made choosing the product easy, as VuePix's Digital Wallpaper display was the perfect for the application. It provides the Club's patrons with an immersive, seamless digital display experience and we have received great feedback from the Club."

flagship ultra-thin, ultra-high resolution digital LED display. With an ultra-thin edge thickness of less than 30mm and an intuitive slim line mounting system, it can be fitted into any space and attached to any surface without creating any obstruction.

The new digital platform fitted in the club is 4.8m wide and 2.7m high with a resolution of 1.8mm. The whole screen was installed in

minimal time, thanks to the slim-line floating mounting brackets, resulting in a flat seamless finish. Featuring front service LED modules, which will allow for efficient and hassle-free maintenance and minimal screen downtime. The content for the screen is controlled and optimized by Novastar Ultra HD Junior Processor.

"We always enjoy working with the team at CAV, delivering exceptional projects to their customers," says Nathan Wright, VuePix Infiled Product Manager. "The Digital Wallpaper was the perfect fit for this application, the first of the 1.8mm series installed in New South Wales. The CAV team were able to install the screen in under two days with no issues at all and an excellent outcome for everyone!"



The Digital Wallpaper is VuePix Infiled's



KVM Australia turns 21

by Kurk Brandstater, KVM Australia

Established in April 1999 as a specialist importer and distributor of KVM (Keyboard Video Mouse) Technology, including but not limited to KVM switches, KVM Extension Technology and Digital Signage solutions, we are proud to have been part of this very specialised niche technology market as it has gone ahead in leaps and bounds. From the traditional 2 port VGA / PS2 KVM switch of yesteryear to products today that extend, switch, and manage KVM signals not just to reduce clutter, but also provide real cost and process/production benefits for companies that implement the technology.

Our expertise in KVM technologies combined with high level access to these world class manufacturers enables us to provide Australian integrators and installers

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The growth of IP based products and the convergence of AV and IT products over the past few years has seen many products that were once only considered for use as a KVM extender now becoming common place in AV integration and installations.

Unlike many vendors and manufacturers that make hundreds, if not thousands of products of which only one is a KVM range, all our vendors are specialist KVM manufacturers. Likewise, KVM Australia don't sell computers or monitors, we simply do KVM. Its who we are.

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KVM Australia continues to provide this level of support to our integrators and resellers throughout the COVID-19 pandemic. We wish to thank all our customers and suppliers for their support over the past 21 years, and look forward to continuing our journey.

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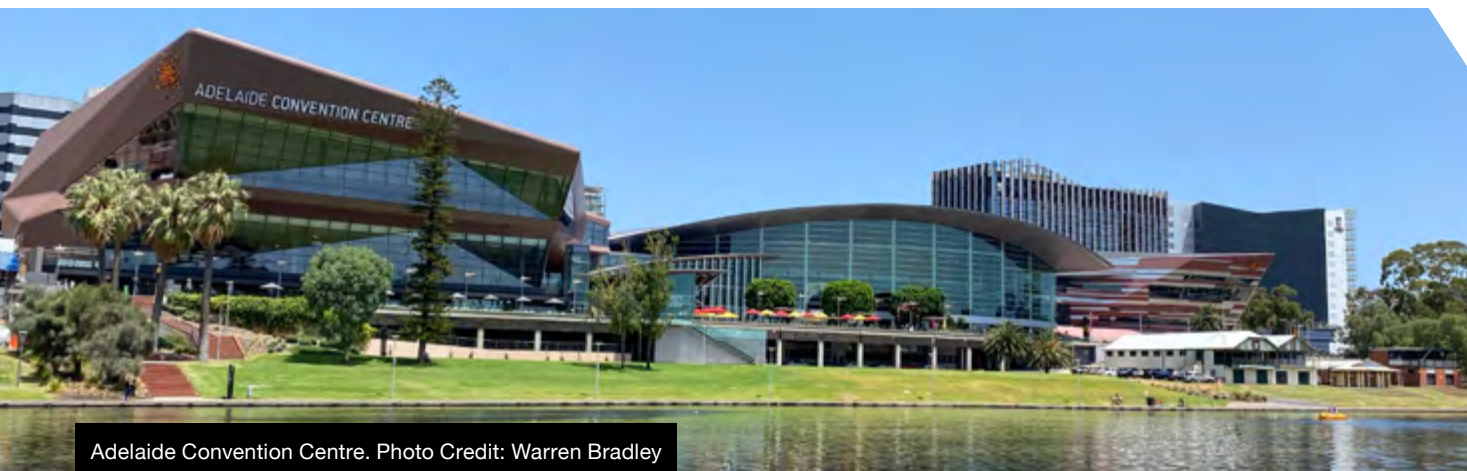
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Adelaide Convention Centre. Photo Credit: Warren Bradley

MEYER SOUND POWERS EXTENSIVE UPGRADE AT ADELAIDE CONVENTION CENTRE



Widely recognised as one of the world's most flexible and technologically advanced meeting facilities, the Adelaide Convention Centre (ACC) in South Australia recently completed a AU\$397 million redevelopment which included a major overhaul of the venue's audio systems. The loudspeakers and associated processing were augmented or completely replaced with new Meyer Sound systems in seven halls, including the addition of LYON line arrays for the ACC's largest configurable space. When combined with existing inventories, this latest round of investments brings the total Meyer Sound loudspeaker count up to 270, making ACC the largest single-site user of Meyer Sound systems in Australia.

In addition to the 20 LYON line array loudspeakers and accompanying eight 1100-LFC low-frequency control elements, the latest additions also include 65 ULTRA-X40 compact loudspeakers and 10 900-LFC elements. For networkable drive and optimisation, the project included the integration of five each of GALAXY 816 and

GALAXY 408 Network Platforms and, for comprehensive monitoring via the network, two RMServers.

"We're committed to delivering a premium experience across all client touchpoints," comments Simon Burgess, general manager, Adelaide Convention Centre. "Our ongoing investment in the latest technology,

specifically our sound systems, has enabled us to continue to elevate the quality of our production as well as create greater efficiencies for our team."

Matthew Stanton, the venue's technology services manager, adds, "We've been using Meyer Sound systems for nearly a quarter century. We've found their systems to be both reliable and versatile, which makes them a perfect fit for our venue. The latest upgrades have enabled us to further expand the flexible, self-powered ecosystem we've been building in recent years."

The new LYON arrays reside in the ACC's central building, where they can be flown in different configurations and orientations to cover the facility's largest single open space, a combination of three separable halls (F, G and H) covering 5,600 square meters. The LYON-W wide coverage versions were chosen to allow flexibility for setting stages in either wide or narrow room orientations.

"With the new LYON system, we can fly the arrays for large or small room configurations in any orientation, select the preset for it in GALAXY's Compass control software, and we're ready to go," says Stanton. "We're delighted to now be able to offer premium concert-level sound across our venue which enables us to accommodate, for example, a top Australian act for banquet entertainment without needing to rely on any outside rentals. We found that the system's linear response provides audio that is full and musical yet not intrusive."

The new complement of 65 ULTRA-X40



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(L-R) Scott Bigg, Technology Innovation and Planning Manager, Adelaide Convention Centre; Andrew Gayler, Managing Director, AJ Sound; Greg Collins, Regional Manager, Audio Brands Australia; Owen Ironside, Technical Sales & Business Development Manager – Meyer Sound, Audio Brands Australia; Matthew Stanton, Technology Services Manager, Adelaide Convention Centre



“The new box is lighter and easier to handle with more output. What it delivers for its size and weight is truly impressive.”



loudspeakers will be spread widely around the venue, serving in both permanently mounted and portable capacities either as mains in small to mid-size rooms, or as fill or delay systems in the largest halls.

“While our existing Meyer Sound UPA-1Cs had proven reliable over the decades, our upgrade to the ULTRA-X40 has provided additional functionality. The new box is lighter and easier to handle with more output. What it delivers for its size and weight is truly impressive,” notes Stanton.

Four of the ULTRA-X40 loudspeakers were flown as delays in ACC’s 3,000 capacity Plenary Hall, opened in 2017, where they provide high frequency boost to seating areas that were shaded from the main LEOPARD arrays by video screens, ensuring seamless coverage across the auditorium.

Another innovative Meyer Sound solution provides controlled coverage in the glass-enclosed Gilbert Suite, where distributed overhead sound is supplied by discreet MM-4XP miniature self-powered loudspeakers, augmented by directional podium sound from two UP-4slim loudspeakers and deep bass from two MM-10XP miniature subwoofers. The ACC also retains its inventory of 32 M’elodie line array loudspeakers and 12 500-HP subwoofers, allowing flexible deployment as temporary main systems indoors or out, or as supplementary side fill systems for the LYON arrays in the largest hall configurations.

Audio Brands Australia, Meyer Sound’s distributor, played a key coordinating role with the factory in California during the design and optimisation phases, with Technical Sales and Business Development Manager Owen Ironside serving as lead liaison alongside



company Director Don McConnell. The PA tender was awarded to the local Adelaide dealer, AJ Sound.

“As the largest single-site installation of Meyer Sound products in Australia, the Adelaide Convention Centre serves as a showcase of Meyer Sound’s advanced technologies,” comments Owen Ironside. “ACC management’s continuing emphasis on the highest quality audio for every room and every event underscores their commitment to ensuring the best overall experience for every client.”

Situated at the heart of Adelaide’s Riverbank Precinct, the Adelaide Convention Centre comprises three distinct yet seamlessly integrated buildings totalling more than 20,000 square meters of multi-purpose space.



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ADJ Encore Profile Pro WW and Color

The Encore Profile Pro WW ellipsoidal features a high powered 260W Warm White >97CRI 3,200K LED engine producing 10,000+ total lumens. The Encore Profile Pro Color Ellipsoidal features a 250W RGBWAL (Red, Green, Blue, White, Amber, Lime) LED engine with >90CRI. Both units include 14°, 19°, 26°, 36°, and 50° interchangeable lens options (sold separately), 4 blade manual framing shutters, manual focus, support B size metal HT transparency gobos, DMX controlled electronic strobe, and variable dimming curves and dimming modes, adjustable refresh frequency for flicker free operation for TV and Film, locking 5-pin XLR In/Out and Locking Power In/Out, 4 button LCD control display panel, an integrated rigging yoke, quiet fan cooling, and a multi-voltage universal auto switching power supply (AC100-240v).

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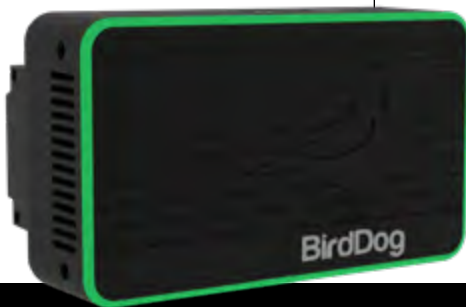


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BirdDog Flex are the smallest NDI encoders and decoders on the planet. The Flex range consists of the 4K NDI Encoder, 4K NDI Decoder and 4K Backpack, with key features including cool touch thermals for operation in the hottest environments, adaptive bit rate, full PTZ camera control via optional control cable for non-native NDI cameras, and Dante I/O. Halo Tally is built into the Flex family, with zero configuration required with any NDI enabled software-based production system. The Flex 4K BACKPACK is the ultimate upgrade for a camera top monitor recorder. Featuring an NP style battery connection, and 15w power output. It allows the user to encode NDI, power a monitor, and record all at the same time.

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ATEN UC3022 CAMLIVE PRO

The ATEN UC3022 CAMLIVE PRO is designed to easily capture and mix two connected 4K cameras for 1080P live streaming. It combines video capture, encoding, mixing, and 2-channel video source switching from HDMI cameras and a professional-level audio device. Integrated with the ATEN OnAir Lite App, users are able to wirelessly control the video stream, change effects, and save up to 8 scene presets for quick switching. It also allows real-time editing, so users can create unique, tailored streams.

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Elation Professional has added a full-colour-spectrum soft light to its KL series (Key Light) of broadcast-quality LED luminaires, the KL Panel. Optimised for the colour temperature-adjustable requirements of film and television, it is an ideal key and fill light source for any situation requiring outstanding performance and colour quality. Using a highly efficient 295W RGBW + Lime + Cyan LED Array, the KL Panel produces beautifully soft white or full colour washes up to 24,000 field lumens at a 100° half-peak angle.

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Epson EB-805F

The EB-805F is a 3LCD ultra short throw laser projector designed for digital signage applications. It features a bright 5,000 lumens output in equal colour and white brightness and Full HD 1080p resolution. It offers a virtually maintenance-free 20,000-hour laser light source with no lamps and can be rotated to provide a 130-inch portrait or landscape display. Premium features include HDBaseT connectivity and Content Playback for easier installation and quickly adaptable communication management.

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or (02) 8899 3666
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or (09) 366 6855

L-Acoustics M1 suite

L-Acoustics has introduced the M1 suite, a comprehensive set of measurement and monitoring tools. From data acquisition through system tuning to live monitoring, M1 harnesses the power of the manufacturer's Milan-certified P1 processor and amplified controller hardware to deliver a streamlined system calibration process as well as real-time performance monitoring. The M1 suite is an industry first, pairing system measurement and control software to work natively as one seamless solution. Providing an original, reliable, and more efficient method for calibration, M1 allows users to expand their capabilities and optimise their time.

Australia: Jands www.jands.com.au or 02 9582 0909
New Zealand: Jands NZ jands.nz or 021 674 601



Korg Soundlink MW-2408/1608

The Korg Soundlinks mixers are a true hybrid design developed with mixer design legends Greg Mackie and Peter Watts. The 24 x 8 x 2 or 16 x 8 x 2 models feature practical structure and ingenious features that make mixing unpredictable live performances easy even for novices. The Peter Watts-designed HiVolt mic preamps have the most headroom of any comparably-priced analog or digital mixer. The unique 'Musician's Phones Monitor Section' enables a fast, one-knob boost of a musician's mix without having to change Aux or Main mix. They're the only mixers in their class with Mute Groups and include useful touches such as a feedback control system, all-XLR speaker outputs, 31-band Spectrum Analyzer, and 20 of Korg's 32-bit digital effects, with 10 useable at once with recallable parameters.

Australia: CMI Music and Audio cmi.com.au or (03) 9315 2244. New Zealand:
South Pacific Music Distributors www.southpacificmusic.co.nz or (09) 443 1233



Highlite Infinity Furion B401 Beam

The latest addition to the Infinity Furion family, the Infinity Furion B401 Beam is a 230w discharge 4° beam moving head. The most striking feature of the B401 is its "colour bump wheel"; having no fixed positions for the 14 dichroic colours allows the B401 to "bump" between any colour instantly. Besides being able to bump between colours, the amount of white visible in the beam between colours can also be determined. Beam altering effects include 17 metal gobos, frost, a 5 facet linear prism and a 16 facet circular prism, with both prisms able to overlay, and split colours. Control is via on board wireless DMX, Art-Net/sACN/RDM or Neutrik 5pin DMX connectors.

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www.clearlight.com.au (03) 9553 1688
New Zealand: Kenderdine Electrical
kelpls.co.nz or (09) 302 4100



Lightware MX2M Modular Matrix Switcher

As a natural progression from the MX and MX2 product families, the MX2M offers a great selection of hot-swappable input and output boards including HDMI 2.0, optical fiber, DisplayPort 1.2, Dante and analog audio connectivity that allows users to mix and match the type of connections, in the numbers they need, to help achieve any project goal and to fit any budget. The MX2M can handle uncompressed video up to 4K UHD 60Hz 4:4:4 over various connections, supports HDR10 and Dolby Vision with zero frame latency. Whether it is video, audio, Ethernet or control signals needing to be managed, the MX2M modular matrix switcher offers a universal solution.

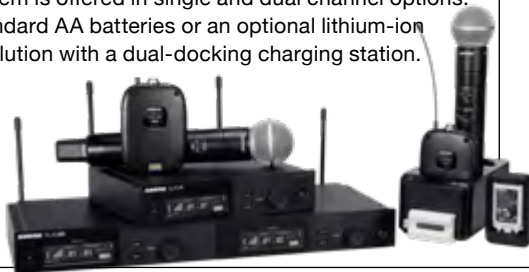
Australia and New Zealand: Lightware Australia
lightware.com or +61 (02) 9476 8850

GEAR

Shure SLX-D

Shure's SLX-D Digital Wireless System is the newest addition to Shure's digital wireless portfolio. Replacing Shure's popular SLX system, SLX-D comes complete with new mechanical designs, exceptional audio quality, more reliable RF performance and simplified setup. The multi-faceted SLX-D Digital Wireless System provides end users with greater channel count than SLX, smart rechargeable options, and simplified ease-of-use for moments that matter most – in the classroom, Houses of Worship, corporate facilities, the hospitality sector, local governments, and more. The new system is offered in single and dual channel options. Transmitters run on standard AA batteries or an optional lithium-ion rechargeable battery solution with a dual-docking charging station.

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



GLP JDC Line

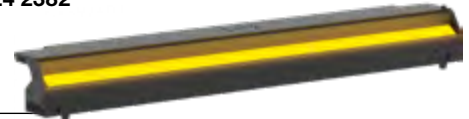
GLP's JDC Line features hyper bright white LED and RGB pixel mapping capabilities. The pixel



segments of the JDC line measure 25mm in width and are positioned to ensure that there are no black-out areas between the pixels. Each pixel segment can be split into upper and lower parts offering additional flexibility in creative options. The second part of the fixture is the powerful strobe tube, also offering segmentation of 25mm. Using the alignment bracket, multiple devices can be easily connected together, while the rigging bracket allows the installation of rigging clamps on the top, bottom, and back of the product

Australia and New Zealand: showtools.com.au
 or +61 (0) 2 9824 2382

PROLIGHTS EclCyclorama 100



The EclCyclorama 100 is a soft-edge, linear cyclorama and floodlight, designed with a low-profile form factor to meet applications at both front and end of the stage. The fixture is equipped with a custom and calibrated RGB + Warm White LED source, which is capable of delivering a linear and high quality white reproduction of the entire spectrum with high CRI, TLCI and TM30. The optical system has been designed to offer a very wide asymmetric beam angle, making the EclCyclorama range a flexible solution suitable for both applications where fixtures are connected to each other, or separated by a considerable distance.

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Presented by Green Hippo

Creative Conversations: Lynden Gare

Hayden James

Like so many who have forged a successful career on the technology side of live entertainment, Lynden Gare's interest was first fired in childhood. For Lynden, the trigger came in the form of some shiny new kit while at primary school in Melbourne.

"The hall had a major upgrade and installed a 640x480 VGA projector, 16 Par56 cans, and a 24-channel 0-10V analogue Strand lighting console," he remembers fondly. "It was a great space that really fostered creativity and experimentation, and I'm so pleased to have been able to learn in it."

His interest persisted at high school, where an "astute principal" decided that Lynden's time would be better spent in the school theatre than in history lessons. "Then a family friend introduced me to the lighting supervisor at Channel 9, and through work experience and school holiday work, I got my foot in the door at the leading television studio of the time," he says.

Fast forward to adulthood, and Lynden had become a busy freelance lighting director and programmer. It was amid this frenetic period of varied projects that Lynden first set

out to expand his skill set to include media servers. "I was thrown in the deep end with Hippotizer V2 on a variety show for Channel Nine - a live audience of 16,000 and TV audience of 2-3 million," he recalls. "I made a programming mistake when I was checking my programming right before doors and managed to put colour bars to line across the 26 metre rear wall of Martin LC Panels. Naturally, from that point on, I wanted to learn more about media servers!"

He soon mastered Hippotizer V2, but circumstances dictated that it would be some time before the software was to become a permanent part of Lynden's professional toolkit. "It wasn't until Hippotizer V4 came to maturity in 2016 that it came to our attention again as the leading option for our work-flow," he says.

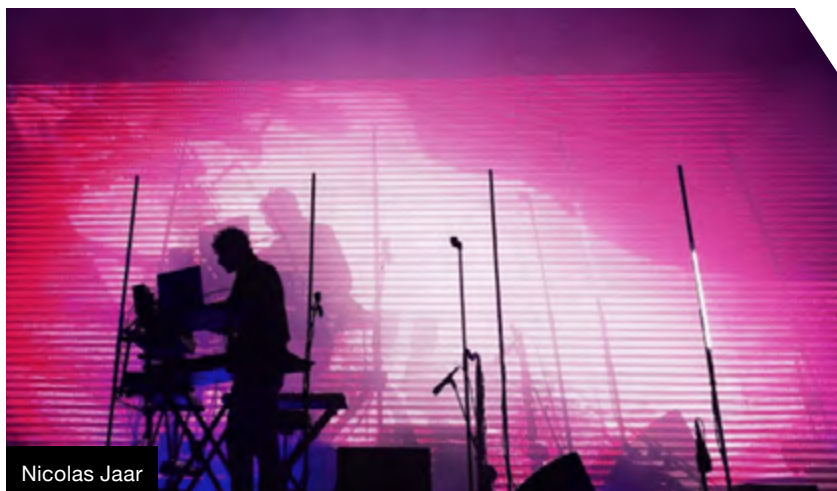
But long before Hippotizer V4, increasing

demand for Lynden's skills had led him into a situation that will be familiar to all good freelancers. Juggling rising demand, he found his reluctance to turn work down was unbalancing his work-life balance. On the plus side, it planted the seeds that would lead to the formation of his now successful company, Colourblind, in 2010.

"It was mainly a fear of missing out on opportunities if I ever turned a gig down," he says. "I imagined a bunch of freelancers sharing resources to make life easier - employing someone to take care of the administration of all of our jobs and reducing burn-out. I floated the idea to some like-minded people I'd worked with and Colourblind was born."

Today, Colourblind provides lighting, screens and integrated video programming services to clients in Australia and worldwide. The company has provided real-time video playback solutions for television sets including Carols by Candlelight, The Logie Awards, and the Australian Open broadcast, and to concert tours where Hippotizer's proven reliability and flexibility during production periods has served artists such as Flume, Rūfūs Du Sol, Hayden James and DMAs.

"Our projects still include a lot of television



Nicolas Jaar



TV Week Logie Awards



Lynden Gare



TV Week Logie Awards

lighting and screens work – which is where two of our team really cut our teeth,” says Lynden. “And increasingly we’re designing and managing bespoke builds with video integration for musical performances, be it one-off specials or international tours.”

As that work has grown, Lynden and the Colourblind team have fixed on Hippotizer as their go-to media server solution. Expanding on its appeal, he says, “While other software is highly dependent on a timeline-based workflow, with all media assets needing to be delivered in exactly the correct codec prior to programming, we found our clients required more flexibility. They might want to bring a USB with an H.264 graphic they used years ago for us to implement in their show last-minute, or perhaps go off-script while live to air, requiring us to run a sequence of assets out of order. The Hippotizer engine is built for this flexibility.”

He continues, “We love the built-in media encoder included in the engine. Often in broadcast the Hippo network includes a NAS drive for our on-site video graphics team to deliver assets to. The encode and sync process greatly improves our workflow speed, meaning happy producers!”

And just as flexibility is core to the Hippotizer

engine, so creativity is at the heart of the Hippotizer’s advanced tool set. “Powerful components like the Pixel Mapping engine, and Colour Blocks (within VideoMapper) are favourites at Colourblind,” says Lynden. “Video ends up on all kinds of surfaces, not just LED screens and projection. We generally run a lean team at FOH once a tour is under way, so enabling control of the media server via the lighting console is our preferred mode of operating. Hippotizer makes this very straightforward.”

With Hippotizer at his command, Lynden has come to relish the most challenging of projects. “I love a broadcast awards show,” he says, “because there’s no room for error whatsoever. At the 2019 Asian Academy Awards in Singapore, we delivered a graphics package including real-time text renders via Notch, enabling last-minute changes without the need to re-render.

“However, the most fun project was the Nicolas Jaar world tour of 2017, where I was given four Marshall POV cameras, and a couple of 30k projectors and told by design firm, Children of the Light, to ‘get creative’! We embraced video feedback, and projected animations through smoke in brilliant new ways.”

As an advanced Hippotizer user over the past four years, Lynden is a member of Green Hippo’s Key User Support Programme (KUSP) – a worldwide network of knowledge-sharing ‘super-users’ – and has developed close links with the Green Hippo support team. “Being part of the KUSP group means I’m frequently in touch with the product specialists at Green Hippo, and I’m often in their ear about a tweak to a feature that would help us, or answering some questions about how we managed to use their software in an unintended way!

“Often, before a large project, we will speak on the phone with the US team in the morning, and continue with the UK team in the afternoon. The support team are incredibly dedicated and thorough – we’ve even had new features delivered overnight for us to use.”

Looking to future developments in media server technology, Lynden says, “I think the workflow between graphic designer and media server will be greatly improved, making it easier to get templates to designers so they can better understand how their work will translate to the 3D space.”

Find out more about Colourblind’s work here: <https://www.colourblind.com.au/projects/>



During Event - Innovations



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VIRTUAL FIELDAYS DELIVERS IMMERSIVE EXHIBITION

Agri-sector can teach us a thing or two.

by Jenny Barrett

As audio-visual and tech companies ‘pivot’ to supply streaming services for ‘virtual’ and ‘hybrid’ conferences, let’s not forget perhaps the most important part of any conference, the income generating, sponsor-supporting exhibition. New Zealand’s agri-sector tackled this head on and nailed it within just one hundred and eight days of the ban on mass gatherings.

Mid-June usually sees 130,000 visitors from across New Zealand, and many from Australia, descend on Mystery Creek Events Centre in the Waikato to network, to learn and perhaps most importantly for the agri-sector, to spend. Fieldays 2019 generated \$549M sales revenue for New Zealand businesses and an injection of \$249M towards the national GDP. In the space of three months, repeatedly chanting the mantra “nothing ventured, nothing gained”, and operating on “a wing and a prayer”, the New Zealand National Fieldays Society delivered a tradeshow for over 250 virtual

exhibitors and over 90,000 virtual attendees from over 75 countries.

Peter Nation, CEO of the New Zealand National Fieldays Society (NZNFS) and his team sprang into action on 16th March upon hearing that mass gatherings were to be curtailed seventy-six days before the biggest week in the rural sector’s year. They knew they had a solid platform to deliver the content – the panel discussions, the celebrity chefs, inspiring stories of young farmers and the wider sector and of course, the ubiquitous Innovation awards ceremony. “We were

lucky that we had Fieldays TV sitting on the shelf, so to speak, as we had been planning on implementing it at a future event,” recalls Peter. The real issue was how to deliver the essence of Fieldays for both exhibitors and visitors, “We had a clear steer. We needed to continue to be a portal for New Zealand agricultural product, as well as keeping our own Fieldays brand alive.”

The Fieldays team, having pre-empted the call to fully lockdown, were already working remotely and spent the next few days hammering out a plan to put to the Board, “When I say plan, I mean a wing and a prayer,” chuckles Peter. As with the entertainment technology sector, crises are not new to the primary industry, “We had M.Bovis a few years back, droughts, the GFC. These are all things farmers and communities have had to endure and ride through. Uncertainty has paved the way for innovation in times where there was no other choice.”

Fieldays already had an existing relationship with Satellite Media, an Auckland based company who design, build and operate digital marketing and communication programs, having previously used them to develop their digital ticketing system back in 2009/10,

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*typically Audio/Lighting/Staging



WORKPLACE

Other*	27%
Production Supply	19%
Corporate	15%
Conventions & Exhibitions	13%
Theatre	13%
Education	8%
Worship	5%

*typically Audio/Lighting/Staging



EMPLOYMENT TYPE

Permanent	67%
Freelance	11%
Other*	9%
Perm/Casual	7%
Casual	7%

*typically self employed



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Innovations Award



"I'd been there before on the first day of the Fielddays, pushing the green light and opening the doors to the new ticketing system. I knew we could work with Satellite. I had complete faith in them."

Taryn Storey, Marketing and Communications Manager at NZNFS, describes the planning phase, "It was a highly charged environment with lots going on at a high level and lots of moving pieces as we ran through proposals with internal and external stakeholders. There was no precedent, no rule book and we all had to be exceptionally agile." Peter adds, "Credit to the Board too. I don't think they had a clue how we were going to do it, but they gave us the green light and put their faith in us."

The level of diversity required of the platform soon became apparent. "Our clients come to Fielddays for an array of reasons, to grow brand awareness, for retail, to promote a service, to launch new product and to get feedback. Usually we offer them a site, charge them ground rent and they liaise with other companies to fit out their stand but now we were going to have to provide not only the site but the virtual equivalent of a marquee or a partition."

The solution was a tiered system, from a basic online directory listing, to an array of additional functions, and the option to deliver content via Fielddays TV. This ranged from product releases to educational formats. Many exhibitors appreciated the opportunity to extend their presence beyond their product and service, unfettered by venue size. Exhibitors were searchable and displayed online on an interactive map replicating the site at Mystery Creek.

A large percentage of exhibitors also required an e-commerce platform. Whilst initially investigating the development of a bespoke platform, the team ultimately entered into a successful partnership with 'Trade Me', New Zealand's domestic equivalent of eBay.

Taryn and her team had to shift mindsets, "It was difficult to grasp the altered physicality of the event. We had to call our clients and use all this new jargon. Instead of marquees and signage, we were talking about the cloud and digital marketing." Of the online exhibitors,

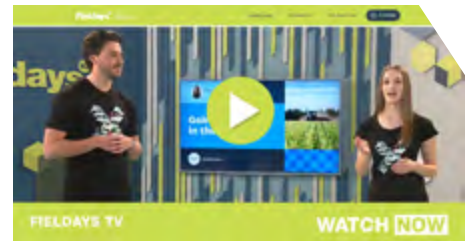
ninety-six percent were previously booked into the physical event and another four percent came on board as new exhibitors, "Some were early adopters and fine with the switch, others used it as a vehicle to push their company into the digital age. We were under no illusions that it was going to work for everyone, and some did ask us if we had lost the plot, whilst others were concerned that this was the end of the physical exhibit – which it most definitely is not."

Whilst the marketing team were liaising with the exhibitors, Peter was calling up favours, "I went to everyone we knew to help pull together the content for the live TV, and almost without exception they turned up at the studio, even though for many it was their first time broadcasting live. We were so privileged - celebrity chefs did their thing just for the cost of their ingredients, experts and industry leaders signed up to join our panels for nothing." The team extended the timeframe of the event from the traditional four days to two weeks to give people time to review the large amount of content, taking advantage of the ability to be able to archive the digital resources.

Peter and Taryn even scored Prince Charles who had attended the event in 1970, "That was a real coup as royals just don't address countries outside of Christmas, but Prince Charles embraced the opportunity to talk about his passions - sustainability, farming and food production."

The event was free but visitors had to register for demographic data collation purposes, although there might be a re-think about this going forward, "We have an obligation to our exhibitors to minimise any barriers to entry, and that was seen as off-putting to some people," Taryn explains.

The result was a resounding success. Attendees surpassed ninety thousand. There were vastly more attendees than usual from the South Island, for whom the cost of travel and time away from their business can be prohibitive. Perhaps most significantly, over seventy-five countries virtually visited, including a significant presence from the USA. The Fielddays and 'brand New Zealand' successfully achieved a global presence even



with closed borders. Technically too, it all went smoothly, with only one drop out during the entire event due to adverse weather in Wellington.

Whilst freely admitting that the event in no way replicated the social side of the Fielddays, Peter thinks they did OK, "Some of our visitors have been coming for fifty years just to meet up with friends and family from across the country. We can't replace that but anecdotally we've heard of people coming together to experience the event. Well, the quiz anyway," he laughs. "We were fortunate that could happen because we were out of lockdown by the time the event began."

Going forward Fielddays will continue to use the new exhibitor eco-system and Fielddays TV to enhance the physical event. Taryn explains "Both the virtual and physical have their own attributes. We are working through what next year will look like at the moment, whether we use the virtual before to build engagement and enquiries, during or after. We are talking to those that attended and those that didn't."

For Peter and Taryn, the key to pulling together your virtual exhibitor space is to understand what your customer wants, both the businesses and visitors, "Talk to them otherwise your platform could be completely misaligned." And whilst arguing over who is the biggest risk taker, both Peter and Taryn agreed that you shouldn't overthink the strategy, "We could have put up so many roadblocks and talked ourselves out of it but ultimately we thought we are in for a penny, in for a pound. Whilst it involved a lot of hard yakka, it has kept us going as an event venue and as an event owner, and we managed to support our wider industry when they needed us."

Peter and Taryn are happy to share their journey with anyone else in the events business, "We are all in this together. We've learnt a lot of things from other industries in the past and hopefully we can do our bit to help every sector through this crisis."

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Jordana Davis. COO webcastcloud

by Toni McAllister

With virtual events and streaming being hot topics right now, I took the opportunity to speak to Jordana Davis, COO of webcastcloud, about her journey into IT, challenges she has faced and the current landscape of the industry.

With a background in Finance, what sparked your interest in working in IT?

At university, I was trying to study and work at the same time. My days were always so jam packed. I remember thinking, how easy would it be if someone could just record the lectures for me. I could then juggle everything so much better. After uni I worked in Finance and then in Sales across a number of different video technologies - video conferencing, digital signage, and specifically a new-to-market lecture capture video platform, which I became so passionate about. I was gobsmacked about how it could change the way we were educated. Since then, I've had over 15 years delivering video streaming technologies to universities, government, and other market verticals.

How great that it was an idea you had imagined from the outset. You obviously understood the need for it and it must have helped you to understand your market.

We started webcastcloud in 2015. It was initially built for associations and event organisers who wanted to get more out of their event videos. We believed we could deliver a more purpose-built application delivering year-round engagement before, during, and after the event.

webcastcloud is essentially a white labelled video channel. It has allowed companies to create their own branded TED talks or Netflix style channels and also provide multiple ways to monetise video through subscriptions, pay-per-view, and event packages. Essentially, somewhere they can have their own content library and do a lot more than just stream video. We've also looked at ways to integrate with different CRMs and Association Management Software to provide a seamless and secure experience for users. We developed our own product and brought that to market. It's all-Australian built and supported with all our own infrastructure in Sydney, which is quite rare in this market.

What does your team look like?

We're an SME working globally. We have a solid team of in-house support and development, with global contractors and channel partners who we use for our events in Australian and overseas.

Have you found that business has spiked in the last six months?

It's been hectic. It started getting busy for us probably as early as February. We started seeing a lot of enquiries coming out of Singapore. And from there we knew it was going to come quickly into Australia. I did a webinar with Meeting & Events Australia and from then I've had to open my diary from 5 am every day for about the last four months. We've spent months educating our customers, conference organisers, AV companies and associations on how they can keep their business operating, giving advice, different ways to deliver events online or add value back into membership and associations. We're helping a lot of customers - whether it's to get them through the short term, or a longer-term vision for them.

So for you it's more than just a platform, you're investing time in clients and understanding their business and how they can use this opportunity with virtual events to transform their business.

Yeah, absolutely. Changing their outlook to help them see and understand the different ways they can deliver their content. It doesn't always have to be an in-person event, it might be moving to more of a subscription video model and delivering smaller versions of content year-round, rather than just going for that big bang event with 5,000 people. Our platform and our technology is very flexible, whether it is a singular event or an entire video strategy. We're showing our customers ways to move forward.

So with the current climate you haven't really had to pivot in terms of your product?



Our customers are transitioning and we're guiding them on the changes required. For us, the key difference is the team that run the events are in our office or they're working from home with a fully simulated live event - they're not on-site for a physical event. We have definitely added functionality to help events run more effectively in a virtual capacity, although we have a very solid platform that has allowed us to help our customers move quickly to a reliable streaming service.

Let's go back to your transition into IT. Were there any challenges that you faced?

I studied IT at school. It came naturally and I wondered why I didn't pursue it earlier. I found once I started working in IT, I just got it and I really enjoyed it. I transitioned very quickly out of sales and went into more pre-sales and technical consulting, guiding on deploying and configuring video platforms within a corporate, university, or government network. My role now is mostly focused on product development and strategy.

Early on one of the challenges was being the only female in a very male dominated meeting. I loved seeing how meetings would evolve. There'd be a room full of AV managers or IT directors and the technical questions were always directed towards the male counterpart with me. Mid-meeting you would see the shift; the technical questions started getting directed to me as they realised I was actually the one with the answers. That surprised look in their face when they made that realisation was great! I loved seeing that shift in the room. I like big challenges; I see them as an opportunity.

Has there been something that you've done in particular that's helped you thrive in what is a male dominated industry?

Taking it upon myself to know my product end-to-end and become a specialist in any technologies I have worked with. I didn't

want to bluff my way through any questions. As a woman I want to be confident in the information I'm delivering. I think knowing your product inside and out, having the passion to educate yourself, and get to that skill level is really important.

You were saying that you have seen a shift in attitude. Do you think you've changed or do you think there has been a change in the people working in the industry?

I'm sure there are still some perceptions out there that maybe the female in the meeting isn't necessarily the technical lead. But I do find that there a lot of other women in meetings that I go to now. So I think times have changed. I don't think we're entirely where we should be yet. Hopefully we will see more women coming into those IT director and AV manager roles.

How can we help this?

Promoting our journeys and talking about our successes and our failures. Networking as best we can, sharing and communicating. I think women have always had to make a sacrifice in one way or another. But I think as we move forward there's going to be flexibility not just for women, but for men too, in the way that we work. I think people will be a lot more open around their work life balance and how they want to make it work for them. I think that COVID may have some positive impacts for us in that way.

Let's talk future trends.

Companies like Amazon are bringing out new products on a daily basis that are really easy to tap into and can be integrated into other technology. The personalisation that we see in different platforms is so much more readily available to deliver in products. Organisations need to continually keep on top of that, new trends and new ways that we can bring innovations and ideas to market and evolve our products. When it comes to events, video is going to become more prominent. I think we're going to see an increase in engagement features, hybrid and virtual events will start to introduce a lot of gamification. I believe events and streaming are going to evolve quite quickly, features and functionality are going to become key, supporting and elevating events that are running on site or hybrid.

Tell us a bit more about the personalisation side of things.

It's really about building up knowledge and information about your viewers and what their interests are, building on behaviour patterns that you can then base your recommendations on. We are not just looking at a title and description of video anymore, we can actually look into the video, at what people are saying and what is actually within that video. Video is becoming more personalised, based on more than just basic metadata. The opportunities are endless.

With budgets being tighter now more than ever, what advice do you give people in terms of the need to invest in a streaming service rather than doing it themselves?

Zoom is a great DIY tool. I think it has its place. Those cost-effective solutions really are amazing for education and even daily team meetings and corporate communications. When we start talking events though, they have their fit and their limitations. They work for bringing people into a room, but they might not necessarily work for the online experience for your viewers, for your brand, for the way that you want to monetise your video, for the way that you want to secure and report and analyse that data. It really depends on what you're trying to achieve. If you're promoting a virtual event, and then attendees find out later they just bought a Zoom meeting and they've paid \$600, even though the speakers might be great, there's still going to be that element of dissatisfaction, "oh, it's just a Zoom meeting".

How will this technology sit in live events post COVID?

Even if there's a cure 6-12 months down the track, I think there's still going to be that reluctance to travel, be in big groups and have the scale of events that we're all used to. It will still take us time to re-adapt. So, in the events industry hybrid is not going to go away. It's like education. A lot of it is done online. It will be the same with events, with corporate communications. There's always going to be that online streaming experience that they can have the option to go to, and maybe just have a smaller on-site audience.

Have you learned anything about yourself or the wider IT community throughout all of this?

There's a lot more people trying to get into the streaming space. And to be honest, I think there's enough business for everyone. I think

we're going to see more upskilling. We've got partners who are now doing their own thing, and we're supportive of that, they bring us in as and when they need to. The more that we all develop and expand, the more that we're going to have that stabilisation in the economy and in the market, it will help people stay in jobs. We don't want to see anyone going out of business. To see the impact this has had on the events industry is devastating. We consider ourselves extremely lucky to be in the position we're in. I think everyone's having a lot more compassion and being open to support where they can.

Have you got a superpower?

I'm really good at envisaging complex workflows from end to end, and how that translates from technology to an end user solution or a business outcome. I'm good at mapping all that together, putting everything into one workflow.

Any advice you'd give women wanting to make a start in AV or IT?

Back yourself, do everything you can to upskill. I think there's so many opportunities, from online education to vendor and manufacturer training out there. Don't hesitate to ask questions, that's where you're going to learn, from that real-life experience. And trust your women's intuition.

And in reverse any advice you'd give to men to support women coming into the industry?

Mentorship. I think this needs to be across the board for everyone. If there's any way that you can mentor young and upcoming women to try and keep them in the industry, then give them that opportunity.

Any parting words of wisdom that you'd like to share?

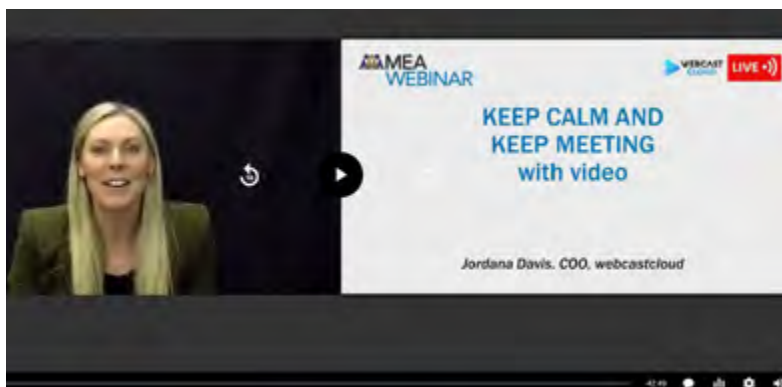
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THE GIBSON

by Andy Stewart



In the middle of this crazy year that is 2020, here's a funny tale to put a smile on your dial. Its subject matter might be a bit left-of-field for CX, but it's still relevant because the tale is living proof that the music industry remains a place where awesome things come to those with a generous musical spirit.

As I dive headlong into writing this article, I am still in the dark about half the facts of this story. I feel like a Four Corners investigative journalist on the hunt for a cache of stolen vintage guitars. Although there are no tin-pot dictators involved in this particular tale, nor any corruption or murders (that I know of), what I have gleaned thus far seems worthy of a Netflix doco. I must give them a call...

Model No. WTF

Earlier today I didn't even know for sure whether this story was about a guitar, a second-hand trailer, or hand-me-down kid's clothes. But after a tip-off from a source early this morning, one piece of the puzzle has fallen into place.

What I've learned is that a mate of mine – let's call him 'Individual X' here to preserve his identity (his real name is Colin Matthews) – unexpectedly got a knock on his front door the other day, which isn't something that happens all too often during lockdown. When he opened it, there stood 'Individual Y', whose true identity I am still yet to determine, because Individual X won't say who it was (and Individual Y was also masked, so it may have been Batman, for all I know.)

Individual Y was there to hand Individual X a multi-tool for a guitar he did not own – a Gibson SG. Being a Fender guy, Individual X accepted the wrench-set graciously, whilst politely attempting to hide his confusion surrounding the unexpected visit and somewhat eccentric gift. But then the real reason for the visit became clear...

Backtracking

But first, let me offer some back-story to this tale of intrigue.

Colin Matthews was playing his Fender Strat USA model through his Fender Deluxe Reverb amp here at The Mill the other night, as he has done many times before. But on this particular occasion, with just the two of us working on a lead break for Kutcha Edwards's new song 'We Sing' (that I talked about last issue), I wasn't digging Col's sound at all.

His rig's overall tone was far too glossy, clean and single-coiled for my liking, and besides, another one of Col's guitar parts in the track already featured this exact setup. Doubling up on a guitar tone is never a good idea for a production, I find, particularly if you want them to stand apart. It can subconsciously confuse the ear when two musically disparate parts appear to sound the same. Moreover, it's much easier to mix when the second part is played on a different setup – preferably a different guitar and amp.

But we didn't have that luxury. Even though I had quite a few alternative guitar options in the studio that night, including a bunch of Gibson Les Pauls and SGs that had been generously loaned to me by a mate, Shane Simpson, Col couldn't use them any of them. Why? Because he is left-handed, and all the options were righties! Actually, Col's amazing on lead guitar even when he plays a right-handed instrument upside down, but on this occasion he didn't seem keen on that option for some reason. So we decided to change the one thing that wasn't left-handed – the amp.

We tried a few options, eventually narrowing our choice down to my diminutive, old Goldentone. This 60s valve amp must be only a handful of watts at best, I'd say. It's not a suitcase amp (as they're collectively known), but about the same size. It has only one tone and volume knob, and when it's 'cranked' you can still talk over it comfortably. The thing has no fidelity whatsoever: it's distorted, honky as hell and the definition of a one-trick pony.

But it worked. Take 1 of Col's lead guitar performance was gold, and although we did a few more to see what else he could muster, we eventually went with the first take.

Back To The Doorstep

But getting back to the scene at Col's front door...

Somehow, as a result of that lead guitar session, Individual Y has turned up on Col's front doorstep with a multi-tool for a Gibson SG that Col does not own. "It was very odd to say the least," Col mused over the phone earlier today, "Until the reason was finally revealed!"

In the boot of Individual Y's car was a guitar case.

"Check this out," Individual Y said (presumably with a smirk under his mask).

Col opened the case, describing the event like the famous briefcase scene from Pulp Fiction. He was confused, amazed and flustered in that order.

"A left-handed SG! Cool! Who's is it?"

"It's yours if you want it..."

Needless to say, Col was speechless.

The Lifetime Achievement Award

Whoever Individual Y is, they're now the stuff of legend. As someone else remarked today, it's like the story of Jimmy Page being gifted his Les Paul or Nathan Cavaleri his Strat. This mysterious individual has recognised Colin's talent, and in an extraordinary act of generosity, provided Col with another musical instrument through which he can demonstrate



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

Andy Stewart

his refined touch.

I know he deserves it, I'm sure he'll cherish it forever, but more importantly, he will never forget this day for what it actually represents (though he would never admit it): recognition of his great skill, musical generosity and humility. I'm ecstatic for him.

Col is one of those guys with a rare talent who can come up with stuff every time he plays a take, either live or in the studio. He is not famous, nor has he the slightest inclination to be so, and yet when anyone hears something featuring Col's guitar playing, they invariably say: "Who is that on guitar?"

Col has the ability to make you think: "Wow, that just sounds like a record! Gotta use that!" He's not alone here, of course; lots of musicians can pull that stunt. But the difference with Col is that he does it repeatedly with a deft touch, and yet differently every time, to the point where choosing takes becomes the main problem. But when Col performs, as

a producer, I know that one way or another, I'll be spoilt for choice.

Only a tiny group of guitarists have an affinity with guitar quite like Col, and none that I've met combine his level of skill with a generous serving of humility and modesty. The main problem Col has always faced hasn't been his skill level, but rather his ability to finance owning a guitar collection, which he – more than many others who house such collections – deserves. This is frustrating for me as well because I can't loan him any of mine!

Giving Back

The best part of this amazing story is that Col insists that he doesn't deserve it, even though in all my years in the studio, he has never once asked for a dime, said anything but positive things about the projects I've been working on, or done anything but improve the sound of the songs he's played on.

And when he plays that SG, it's sure to be incredible. Of that there is no doubt.

Col remains astonished that someone could think so highly of him and his playing that they would, with no strings attached (actually, I think there are six), give him something so awesome as this. He remarked on the phone earlier that it's "The greatest gift anyone has ever given me! I just can't believe it!" That is precisely why he deserves it.

One of the most crucial aspects of any good music production, whether you're involved as the producer, an engineer or a musician, is bringing a generosity of spirit to the table. I have seen it over and over already during this production, and by a long margin, it has made the greatest contribution. This particular moment has also made it the most memorable.

For my part in all of this, I'm just glad that I was honest about my preference for humbuckers over single-coil pickups. Word got out!



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Jess McCloughan doing a gig. Photo credit: Daniel Shaw

JESS MCCLOUGHAN

by Toni Venditti

Jess McCloughan is a fun, bubbly Sydney based Audio Engineer, RF Tech and Project Manager who is passionate about her work and helping others to achieve their goals.

You'll know if Jess is on the job if you see some rope lighting around her work area in mic land! Jess is strongly career-focused, but understands the importance of having a sustainable work/life balance which includes prioritising family and friends, and making sure she commits to attending personal events. Whether she is on tour or at home, if she has some free time she enjoys exploring nearby waterfalls, a day out at the beach, having a glass of red with friends, and snorkelling is always a favourite pastime.

Jess first discovered a love of audio in high school as part of a local youth group. From the age of 14 Jess started to volunteer in a variety of production areas for the youth group including running monitors with an 11-12 piece church band on stage, as well as teching various other events. The gear they used, and the experienced techs who assisted, helped develop a solid foundation of knowledge for Jess. They had a good sized PA for the 500+ seat basement venue and used a Soundcraft SM12 for monitors and a Soundcraft MH4 for FOH.

The experience gained there opened the door to the possibility of pursuing this as a career for Jess. There were a couple of local engineers who would volunteer to come in to mix the shows and help the kids learn more about audio and lighting. Julius Grafton was one of those volunteers and was there on the night Jess had her first experience as the FOH tech. He was so impressed with what he saw, he wrote an article about her for CX in 2006. Jess was keen and wanted to learn more, so she went on to do the Cert III in Live Production, Theatre and Events (Technical Operations) at Julius Events College, at the tender age of 15!

The experience she built at youth group laid the foundations for a career in sound and put her in a solid position to join her school's sound and lighting team. When school finished, Jess moved into the AV field starting in an admin role, with the promise of technical work in between. Two years later Jess moved on from this and eventually found a great culture fit at Haycom which gave her enough work to kick-start her freelance



Jess McCloughan. Photo credit: Susannah Johnson

career. Her biggest event to date was as an assistant production manager - Audio for Jack Morton Worldwide at the Gold Coast 2018 Commonwealth Games.

Jess has some great advice for beginners, saying that to achieve your goal of becoming a sound engineer full time a great place to start is being open to learning, ask lots of questions and never stop networking. Having your own toolkit is essential saying "this sets you apart and shows you are prepared for the job. During my earlier years, my tool kit consisted of a drill, spanners and screwdrivers. These days I find myself doing more and more roles around RF and Mic management and this has changed my kit quite a bit. I have a WinRadio and a few other RF handy items, and the newest addition is that I've made up my own theatre kit". In the near future Jess is hoping to add RF Venue's RF Explorer Pro Audio Edition to her kit. Jess says the different kits she has are important so she doesn't have to waste time wandering around looking for the right tool for the job. Jess jokingly says that perhaps her most requested item when she gets a job is to "bring my rope lighting, I'm famous for my mic land setups".

As a tech in the industry she says she's been received pretty well by artists and other crew and has built a solid reputation that

is trustworthy, knowledgeable and reliable. But it hasn't come without its struggles. One experience was so out of the ordinary, it sent Jess into a bad space for a while but with positive support and help, Jess has fully recovered.

Jess says she has been passed over for leadership roles saying "I have been annoyed on a few occasions for being dismissed in leadership roles just because I am a female, but you learn how to respond and navigate those situations a lot better as you get older. I think that's a cultural mindset that needs to change rather than it being personal discrimination".

The Tech Sisters

Jess has a positive outlook on life and as with all things, she doesn't like to dwell on some of the more negative aspects and situations that can happen when working in the industry. Jess says she would rather focus her energy on creating positive outcomes from negative experiences.

Toward the end of 2018 Jess started to develop ideas on what it would take to create a stronger and more resilient events industry for crew like herself, where people felt supported and encouraged rather than feeling trapped and alone. This would later lead her to create The Tech Sisters in January 2019

with the mission being to develop a place where others like her could feel supported and empowered to develop their career in any department of the industry, but also to be supported mentally and personally which was very important to her. Since the beginning, the Tech Sisters have collaborated with organisations like CrewCare and Support Act to create a stronger, resilient and more inclusive industry.

While Jess has always been quite authentic in her approach to her career, she had, and still has, connections with amazing mentors she can call on. She now mentors and helps others along with her team from the Tech Sisters community.

The Tech Sisters is committed to always having a supportive network culture to lift up members and empower them when they aren't feeling 100%. The Tech Sisters has grown into a place that offers encouragement and resources to empower and equip the members to expand their career as much as they want to. Their vision statement says it all: "Our vision is to give every Tech Sister working in the events industry around the world the opportunity to feel encouraged, empowered and equipped through support, training, and networking. Creating regular discussions towards RUOK, latest equipment, software, sharing general tips as well as

offering career opportunities along the way. We are focused on helping everyone at every stage move towards their goals on a personal and career level".

The Tech Sisters can be found on:

Facebook

www.facebook.com/thetechsisters/

Instagram

www.instagram.com/thetechsisters/?hl=en

Linked In

www.linkedin.com/company/the-tech-sisters

Website

www.thetechsisters.com

To become a member, join the Facebook Group today.

Jess would like you to know that this is a rewarding and fulfilling career choice. If you're interested in getting into this she says, "No matter what your background is or your grades are at school, you can do anything you put your mind to. With hard work, great networking and remembering to look after your mental health, you will do great things in this industry".

To contact Jess directly she can be reached at Jess@thetechsisters.com

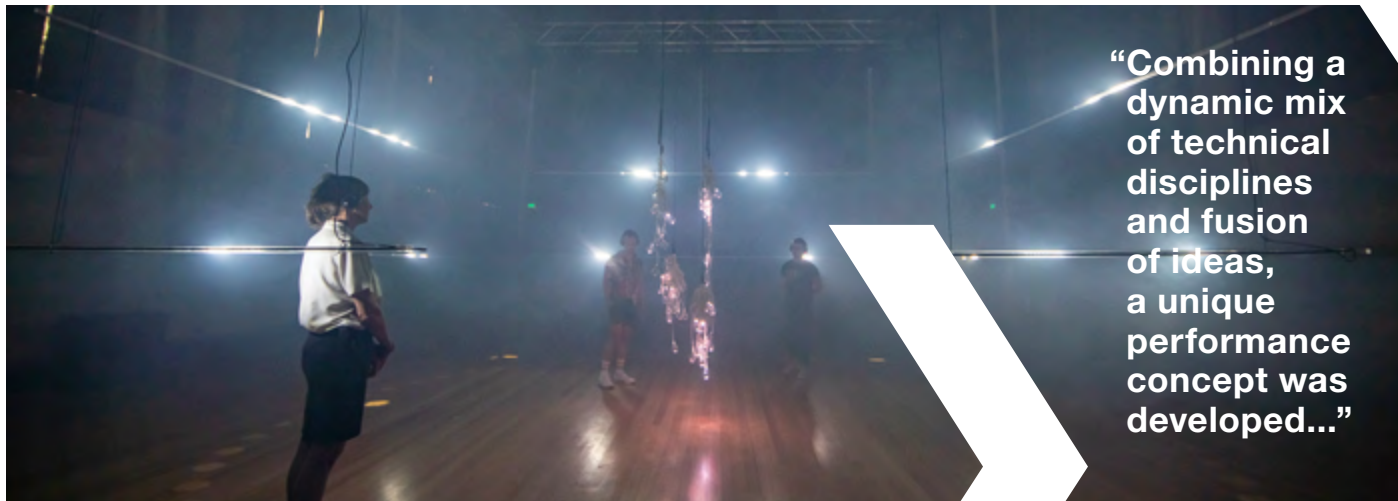
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Who Lived in a Vinegar Bottle

by Louise Stickland



Auckland, New Zealand-based lighting designer Rachel Marlow of Filament Eleven 11 created an edgy and exciting ambience with ‘Who Lived in a Vinegar Bottle’, an immersive lighting and audio installation work staged over four days in Auckland Town Hall Concert Chamber.

This was part of the ‘Auckland Live Fringe Town’ aspect of the city’s annual Fringe Festival event, a proudly independent and hugely popular open-access arts festival which took place earlier in the year, just before the Coronavirus pandemic shut down the industry for an indefinite period.

Rachel used the venue’s lighting equipment which includes Robe MMX Spots, WashBeams and T1 Profiles to help realise the piece, which was commissioned by Auckland Live programmer, Anders Falstie-Jensen.

Collaborating with Rachel was Bradley Gledhill who assisted in the design, rigging, lighting programming and timecoding; Thomas Press who produced the special 20-minute soundtrack; and dramaturg Benjamin Henson with whom both Rachel and Brad have worked on previous invigorating projects.

Rachel and Brad pitched their initial ideas to Auckland Live midway through 2019, which was followed by lots of discussions and some early renders created in Capture. Being able to pre-vis the show helped enormously with gaining the commission as it offered the client

a clear notion of how it would look.

Combining a dynamic mix of technical disciplines and fusion of ideas, a unique performance concept was developed to unfold Elizabeth Clark’s traditional story – a favourite from Rachel’s childhood – in a new and engaging medium.

Lighting wise, this included the notion of creating an art installation using what are essentially rock ‘n’ roll moving lights, plus a few custom elements, and this was one of the key provocations.

The performance area was beneath a box truss in the centre of the room. The four MMX Spots and eight MMX WashBeams were rigged on this, with the single T1 Profile (generously on loan from JANDS NZ, and Auckland Live subsequently purchased a new batch of 5 x T1 fixtures) was positioned right in the centre of the box.

Framing the piece with a narrative storyline structure was fundamental to Rachel’s vision of relating the tale ‘The Old Woman Who Lived in a Vinegar Bottle’ which encompasses many contemporary and relevant themes like

complacency, dissatisfaction, entitlement, and taking life and people for granted!

Another galvanising factor was the room which usually hosts seated musical and theatrical performances but had to work spatially for ‘Who Lived in a Vinegar Bottle’. As it turned out people – audiences were limited to 20 per show – stood all around the space and moved as the journey evolved and propelled them through the experience - sound, lighting and imaginations working together to evoke a series of thrilling individual experiences.

The T1 Profile was selected for the centre luminaire because Rachel needed a powerful light source with framing shutters to keep it in a tight space, and a fixture with a wide range of looks, colours and effects for that central role.

Well familiar with the MMX range as a general lighting tool for her theatre and music work, Rachel knew exactly how to make the fixtures work for this piece. Brad also knows the Robe fixtures very well, which assisted in programming the finer details.

T1 and MMX effects included rapid shutter cut chases that gave the impression of movement and fluidity around the space as the light mimicked the audio image during certain parts.

Having these Robes available “definitely helped facilitate the ideas I wanted to achieve,” commented Rachel. “The T1 is a fabulous light to control and it especially had a lot of impact during the louder and more intense moments towards the end.”



Moving lights used in a concert context are usually highly visible, however in this scenario, their role was intimate and understated, to draw people into the action rather than impress them when standing back and looking from afar.

At the heart of the installation suspended from the truss were three 'pixel clusters', each comprising multiple lightbulb shaped housings with a single LED tangled together by a spaghetti-knot of transparent cords.

A bespoke item made by Rachel, they caught

and refracted the light beautifully adding depth and dimension to the space, as well as providing a focal point for the eye.

Custom LED strips with Perspex covering hung on catenaries from the truss about a metre off the floor were also specially made by Rachel and Brad and these echoed the shape of the room and the square of the trussing.

Two projectors rigged on the trussing and pointing vertically downwards were used to project very subtle abstract moving images

onto the floorspace immediately below the box.

All the lights were programmed on one of the venue's grandMA2 consoles and ran to timecode for the four evenings that the show ran.

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COLOSSAL

by Louise Stickland

COLOSSAL is a lively, dynamic, and inventive street theatre and performing arts company based in Wellington, New Zealand, founded by three highly creative individuals, brothers Zane and Degge Jarvie and Imogen Stone, with backgrounds in circus, architecture, and design.

Over the last three years, COLOSSAL has started working light in various different forms into their pieces which have become popular at light festivals, a path that's highlighted their passion for detail and innovation combined with fun and audience connection that lies at the heart of all their performance concepts.

For the 2019 HighLight Carnival of Lights in Lower Hutt, the company purchased eight Astera Titan Tubes specifically to provide a solution for their invigorating "Metronomes" installation. Since then, they have found numerous ways to integrate the highly practical and portable Asters into other ideas and activities.

Developed for a large scale audience, "Metronomes" was based on the themes of space and time, and juggling these in a massive physical work, for which they needed lights to be rigged to the end of eight four metre metal tube metronomes. These were counterbalanced via pivoting axles and

mounted in square steel bases – ballasted and secured – that, once manipulated manually, swung back and forth juggling the two dimensions and establishing a sense of rhythm.

When it came to finding an appropriate light source, they wanted "something bright with beautiful colours and, obviously, anything with cables was completely out," explained Zane.

The light source had to be light and strong enough to be attached to the end of the metal poles with their weight balanced correctly through the axle, allowing the motion to create an inertia as Zane and Degge triggered the swinging manually, juggling them into different patterns.

Degge had first encountered Asters while researching for a video project, and he approached Astera's Australian and New Zealand distributor ULA Group for more details and a demo after which they made the investment.

"They were a perfect solution," says Zane, "completely wireless, reliable, with a long and controllable battery life and lightweight enough to be used as the moving parts we wanted."

The Astera App allowed colours and patterns to change and shift fluidly with the pace and rhythm of the motions for a more exciting and fully choreographed show adjustable live and in real-time to respond to the juggling of the swinging metronomes.

Each single juggling performance lasted eight minutes and these took place back-to-back during a three-hour window each night of the festival, which was a big hit with the public.

Zane's favourite feature of the Titan Tubes is "just how adaptable and how quick and easy they are to use," and he was also impressed by the "outstanding" customer service received from ULA Group.

Since this initial project, they have used them for several other works, most recently during their Covid-19 lockdown for lighting their streaming studio whilst performing a series of interactive live shows.

With the lockdown and social distancing now lifted in New Zealand – applauded as one of the most effective coronavirus responses worldwide – COLOSSAL is now working on new shows and content.

www.ulagroup.com

IP man, it's the future.

by John O'Brien

Near the end of the last century, another trog was trying to convince me to get on the internet: "It's cool, you can send files and messages anywhere in the world." I was dismissive: "Big deal - I can already do that with phones and the post."

I backflipped not long after, swapped faxes for emails and enrolled in an IT course to learn software development. Fast forward to now and a substantial amount of our modern 21st

century life hinges on Internet connectivity. Underpinning much of that is the humble Internet Protocol.

Internet Protocol - WWWWH?

What is IP? Essentially, it is the wrapper framework that allows communication between computing devices (hosts). It is the protocol that sets the convention for how packets of data (datagrams or streams) can cross between networks. Via its routing function, these data packets can find their way from host to host with ease.

This is a part of the Internet Protocol Suite, which defines how all this data gets wrapped up correctly and sent to the right destination. A bit like the convention with postal services and letters but more strictly standardised internationally.



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5 PATENTS



STANDALONE 2110 (AES67)

- Antenna distribution via SMPTE 2110-30 (AES67) IP network
- Multiple fiber-connected switch cascades for long distances
- Analogue 4-wires and GPIOs via optional NSA-002A throwdown box
- Integrated web browser for configuration
- 12 partylines and unlimited point-to-point connections
- 100 beltacks, 100 antennas



The diagram illustrates a network architecture for the Riedel Standalone 2110 (AES67). It shows three AES67 PoE switches connected in a chain. The first switch is connected to a mixing console and two antennas. The second switch is connected to another mixing console and two antennas. The third switch is connected to a third mixing console and two antennas. The switches are connected via Fiber and CAT-5 cables. A NSA-002A 4-wire interface is also shown connected to the network.



www.riedel.net

“Big deal - I can already do that with phones and the post.”



Layer by Layer

Like a well wrapped parcel, this suite has several layers: link, internet, transport and application. IP is the main player in the crucial second layer that enables internetworking between networks and devices within them. The next layer up, transport, is where all the fun stuff happens.

Here, bits (raw ingredients) are assembled into bytes (mouthfuls) and packaged (lunchboxes) for delivery. This is most commonly done using either TCP or UDP. The main difference between these two approaches is that TCP maintains a connection between hosts whereas UDP is connectionless.

This makes UDP good for both short messages and long streams. Not requiring the overheads of establishing and maintaining a link to the other end makes it fast. It is used by many key parts of the Internet, such as DNS, SNMP and DHCP. It's also particularly good for real time multimedia. Live streams, multicast VC, online gaming and VoIP are where it shines.

For most other inter-machine communications, UDP's 'spray and pray' approach won't work. TCP is a protocol that sits both above and alongside IP. By establishing and maintaining a connection it keeps the data accurate and in sequence. Its inbuilt error checking adds another level of data reliability but there is an overhead in managing this and it does come with vulnerabilities that allow nasties such as DOS attacks.

AV over IP

This is all very dry and boring but how does it affect you?

Internet aside, IP now has a direct role in gig-tech. We've all watched the technology used in the events industry migrate from analog to digital. Transmission standards (both open and proprietary) have developed alongside the gear, allowing the once unthinkable such as high definition live streamed digitised video. This all needs a common language to let everything talk and work together, hence most AV platforms encompass some kind of IP standards.

There are many ways to transmit this rich media over digital means. We work with multiple excellent closed loop Tx / Rx solutions already in the market. HDBaseT, SDI and the like are standards behind some great equipment. This is good for a closed proprietary environment but can lack easy integration with existing data networks or AV equipment from competing universes, leaving you locked into a manufacturer protected cosmos. Physical limitations of the cable length or hardware matrix slots are other downsides.

Alternatively, infinitely scalable AV transmission is possible on open IP based networks and devices. Need more connections - add a router or switch. Need to add device XYZ from manufacturer ABC and, assuming some standard IP connectivity, whack it on the network, assign it an IP address and start talking.

As with all choices, there are pros and cons here. IT managers are rightly concerned by the security and performance of the IP networks that they are responsible for. Keeping AV isolated from IT is one way to manage this but is increasingly a more expensive and less flexible solution than integrating it.

What's your address?

Banks, utilities, government services and businesses all rely on being able to communicate electronically with one another; each device and node interdependent on being able to identify and locate each other. Without a commonly accepted standard convention to do this by, the task would be near impossible. This is done with IP addresses.

Every host has a unique IP address. On internal networks, a router or DHCP server will allocate this but you can make it static if desired. A common default is 192.168.1.1, a 32-bit address comprised of four 8-bit numbers separated by dots (.). On external networks (such as the Internet), this public address will be different and assigned by your telco.

Until recently, these addresses used the IPv4 standard. This was all good until most of the 4.3 billion public addresses started to get used up. The new standard, IPv6, uses 128 bits in its structure and consists of 8 hexadecimal values separated by colons (:). An example looks like 2001:0000:3238:DFE1:0063:0000:0000:FEFB in raw form but can be truncated to something like this: 2001:0:3238:DFE1:63::FEFB.

IPv6 has been hanging around since 1998 but is only slowly being widely adopted. With 340 trillion trillion addresses available, it's unlikely that we'll run out of those soon. The billions of devices promised by the Internet of Things (IoT) will struggle to dent that number.

IoT

There is plenty of hoopla about how IoT will connect everything and simplify our life. Whether this is a techno pipe dream or not is hard to tell but as Moore's Law pushes powerful computing devices ever smaller and our endless gadget fetish enables ever more connected devices, it looks here to stay.

The utility services and their evolving smart grids mentioned above are but one small part of this revolution. Security (individual, commercial and societal), manufacturing, building and vehicular automation, fleet management, freight and inventory tracking and a whole bunch of devices that don't even exist yet will join the deeply enmeshed realm of information sharing via IP.

5G will get here soon enough, Huawei or not. Its inherent low latency and high data rates are a boon for IoT devices. Let's watch this space evolve.

Security & Privacy

The rewards of convenience come with risk: all these devices are always connected to the

cloud, all their data compiled on a server farm somewhere over the rainbow. Each little bit of data is rich for being mined but richer for being monetised. Commercially, this can lead to better business productivity decisions. But leave the door open wide enough and hackers or competitors will walk right in.

IP based technologies are always being tested for breach points by curious individuals and nebulous forces, so online security is a very real thing for everyone, businesses and people alike. It is still a weak point with many IoT implementations.

Personally, your online presence and profile is more likely potential fodder for commercial interests than dark actors. Quite possibly, a server somewhere out there knows what your fridge thinks, when your washing is done and when Tiddles has soiled the litter tray.

Orwellians might be more concerned by your phone, endlessly geo-locating and making you the product rather than the consumer. Just keep your bank details safe and try to avoid getting phished for scams and malware.

IP freely now

Before I converted to the digital world, I thought computers and their connectivity was some boring plod thing that the D&D set tinkered with - maybe cool in concept but pretty dull in reality.

Adding IP as a layer to connect these geeks together has enabled a whole new way of living, working and playing for all of us, even reformed Luddites like me!

Without Internet Protocol, we'd still be:

- sending smudgy faxes and posting printed material around the world,
- dragging fat, heavy multicores from show to show,
- having to actually look in the fridge to see if we need more milk ...

Ping away IP...

Glossary

IP: Internet Protocol

UDP: User Datagram Protocol

TCP: Transmission Control Protocol

DNS: Domain Name Server

SNMP: Simple Network Mail Protocol

DHCP: Dynamic Host Control Protocol

VC: Video Conference

VoIP: Video Over Internet Protocol

DOS: Denial of Service

D&D: Dungeons & Dragons



“Quite possibly, a server somewhere out there knows what your fridge thinks, when your washing is done and when Tiddles has soiled the litter tray.”

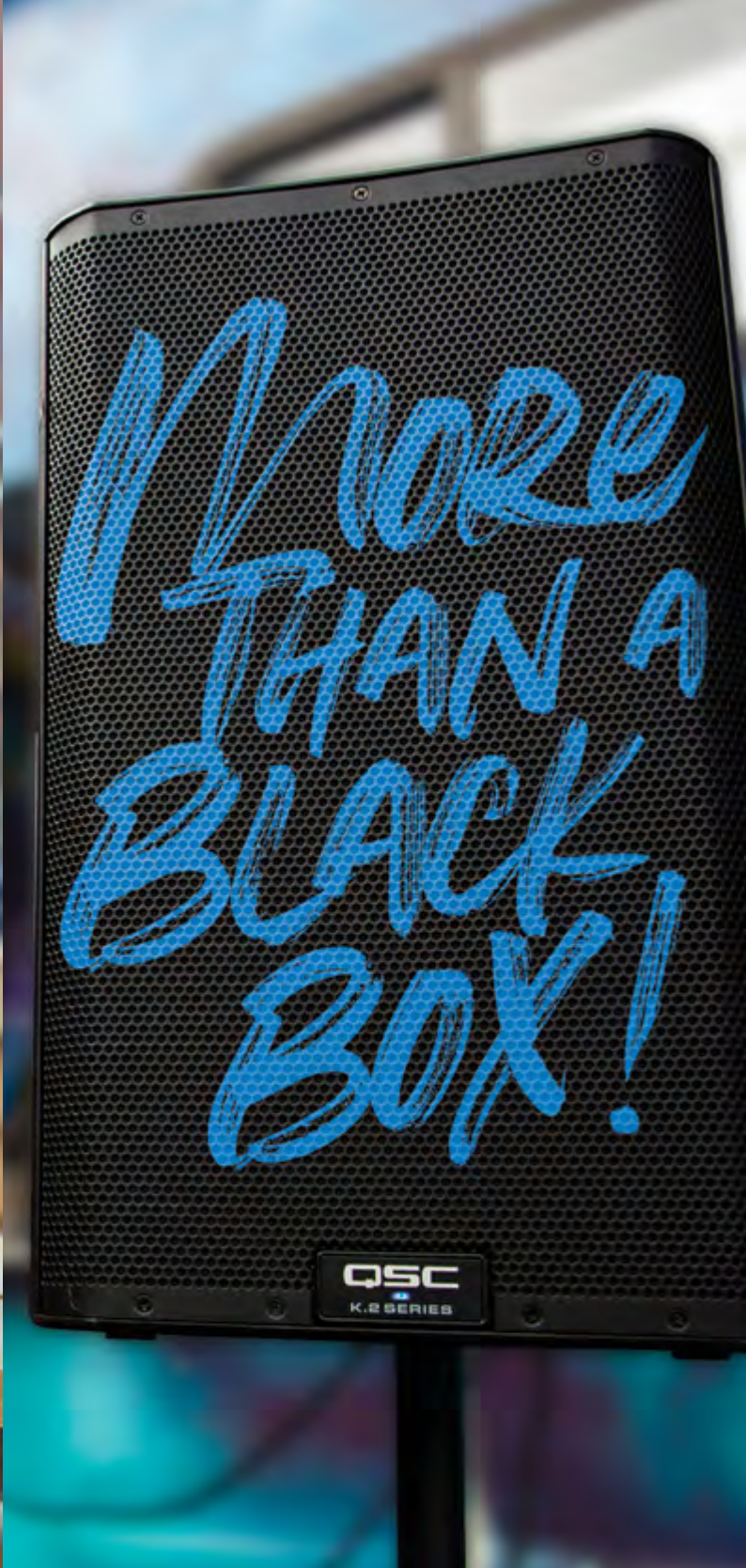


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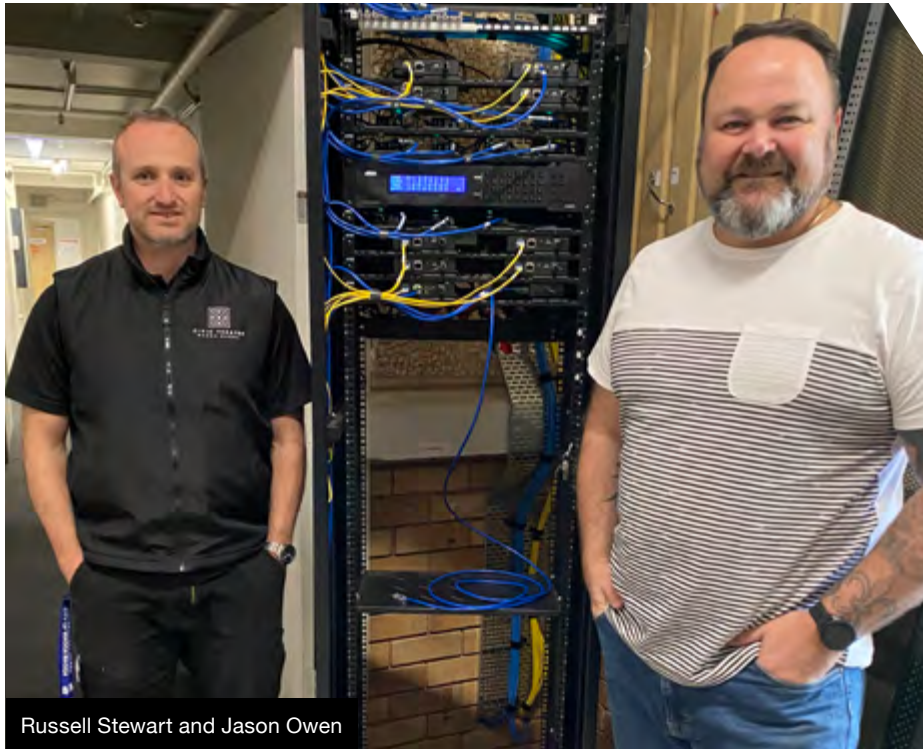


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Russell Stewart and Jason Owen



Wagga Wagga Civic Theatre finds AV Flexibility with D2N and ATEN

Wagga Wagga Civic Theatre is home to a 491-seat auditorium with orchestra pit, opening out onto two foyers across two levels. With an eye to bringing in a bigger variety of functions, conferences, and non-traditional events, the Theatre has recently upgraded its AV infrastructure with a powerful and flexible video distribution system provided and installed by D2N – Technology Solutions.

“This is an upgrade of our entire video system,” explains Russell Stewart, Technical Coordinator at the Wagga Wagga Civic Theatre. “We’ve replaced our performance relay cameras, all monitors both front and back of house, put in a central video switcher with every component connected, integrated our marketing computer, and added control over Wi-Fi that we can access from tablet and mobile.”

At the heart of the new system is an ATEN VM51616H video matrix router. With 16 ins and 16 outs, the feeds from the new JVC PTZ and Victorem infrared 2K SDI cameras that capture the action on stage can be routed throughout the building, so performers backstage and audience members in the

foyer can all keep tabs on the action. The VM51616H features a front panel LCD screen that can preview all port connections, and a local video output which can be configured to display 1, 2, 4 or all 16 inputs. Russell has ingeniously looped this output back to an input so the stage manager can view the four most important inputs as a multiview. D2N integrated an ASUS touch screen monitor into the rack for local control, FOH staff have control via keyboard and mouse, and presets can be triggered via iPad and mobile.

The JVC KY-PZ100 PTZ runs JVC’s IP communications engine, and is connected via Wi-Fi to the Theatre’s network. As such, it can be controlled from a web browser, and have up to 100 presets triggered from the AV

network’s control system. Cabling around the building is supported by ATEN VE883K2 single mode fibre HDMI extenders and ATEN VE811 Cat 5e HDMI extenders, which connect four new 43” 4K Philips displays and a 27” LG 4K display back to the switcher.

While the foyer monitors normally display marketing material fed from a dedicated PC, the new AV infrastructure means performance relay or inputs from a hirer can be routed at the press of screen. This opens up the possibility of multi-room conference events at the Theatre, utilising the foyer spaces as well as the stage and auditorium.

“We have AV input and output patch points throughout FOH and on stage,” illustrates Russell. “If we have a hirer come in with their own cameras, playback, vision mixers, and monitors, they can plug in and route anywhere there’s patch points. We are now set-up for multi-room conferencing.”

The new system was installed while the Theatre was shut due to the pandemic, giving D2N the full run of the building without restrictions. “I worked with D2N every day of the job,” relates Russell. “They are a great team and easy to get along with. We talked through the install as it progressed, and got into all the details of how the new system would benefit our operations. Despite all of us dealing with the restrictions of iso, I think D2N enjoyed the autonomy of having the building to themselves and not disrupting anyone else!”

NETWORK SWITCHES

The Backbone Of Your Show Network

by Simon Byrne

With the convergence of lighting, sound and vision onto Internet Protocol (IP) networks, network switches are the critical pieces of hardware that bring those networks together. Let's take some time to go through their features, and what is important for us as event professionals.

Network switches direct IP traffic from devices on a Local Area Network (LAN), to other devices on that same LAN. They do not route traffic to other networks; you need a router for that. As an aside, you often see small switches incorporated into routers and they should not be confused, as a router and switch do different jobs.

Stand-alone switches have some processing and brains. Their role is to direct the traffic in the most efficient way. They do this by initially learning what is connected on each port, and directing the traffic appropriately.

Every network interface within devices has its own totally unique hardware address called a MAC address (Media Access Control). The first half of a MAC address is a manufacturer code, and the second half is a unique number from that manufacturer. They look something like 00:0a:95:9d:68:16. The switch associates the MAC address of the connected devices on each of its ports with the assigned IP addresses of the connected devices. It now knows where the traffic is to go.

Data is sent in packets and every packet has an IP address. When a switch receives a packet, it looks at the IP address and sends it out on the appropriate physical port where the recipient for that address is connected. A switch only sends packets to their addressed destinations.

Speed

The Ethernet standard defines the speed of a device. In 2020, using twisted wire 1 Gbit is standard, but a lot of legacy and cheaper

devices still run at 100 Mbit, so your switch needs to accommodate both speeds. Most switches auto sense the speed of the client device and should configure themselves accordingly.

If a switch has eight ports running at 1 Gbit, that means there is potentially 8 Gbits of combined traffic. This combined traffic is called the backplane speed. The backplane speed is especially important to us because it could be a bottleneck in our show network. In show environments, we are moving lots of real-time vision and audio across the network, which is data intensive and time critical. We also use Multicast which fundamentally means more traffic (more on this later). Therefore, you should always use switches with backplane speed that is at least the port speeds combined. Cheaper switches often have lesser backplane speed.

Managed or Unmanaged?

Network switches can be unmanaged, or managed.

Unmanaged switches are devices where the configuration is basic, and fully automatic. For show environments with real-time traffic, they really are not suitable because they are pretty dumb.

Managed switches are far more sophisticated in their capability but they require configuration and of course they cost more.

Managed switches have many more features. Let's take a look.

VLANs

VLANs, or Virtual Local Area Networks allow you to split up a physical switch into independent subnetworks which can group together collections of devices on their separate physical local area networks.

For example, you may have a subnetwork for lighting (VLAN 1), one for security cameras (VLAN 2), one for audio (VLAN 3) and one for show vision (VLAN 4). Even though the devices are physically connected to the same switch, it is impossible for the traffic to cross between the VLANs because they are isolated. For example, there is no way that the data streams from the security camera VLAN2 could collide with the streams from the show vision on VLAN 4 (unless you insert a router). VLANs keep their respective traffic isolated from each other. This is very powerful because with large networks you can have unintended consequences and segmenting them into smaller groups helps, especially with Multicast.

Multicast

Say you have a Dante Audio stagebox with 48 inputs on a network. That is 48 streams of audio. Say those streams go to front of house, foldback, a broadcast truck, and a multitrack recorder. That is four lots of 48 streams making a total of 192.

A Dante stream is about 6 Mbits, so 96 of them is just over 1.1 Gbits that our stagebox needs to deliver reliably. We already have a problem because our Ethernet network interfaces are only capable of 1 Gbit, so 1.1 Gbits is not going to work and packets will be dropped.

Multicast in a switch solves this by taking just one copy of the streams and announces to the entire network "hey, I've got these 48 streams from the stage box, who wants a copy?" Everything on the network will remain quiet except the front of house, foldback, broadcast truck and multitrack recorder who say "yep, I'll take that". The switch duplicates the incoming streams and sends them out only to the devices that have requested them. Now our traffic is only 288 Mbit on any port, leaving capacity for other network traffic on all interfaces. This is the power of Multicast and it

Don't lose sight of the fact that the switch is probably the most critical component in your local network.

requires a process called IGMP snooping.

IGMP snooping “snoops into” or queries the incoming data packets to see if it is a Multicast. This IGMP querier then sends a broadcast to say “who wants this?” The replies come back and then the switch then only sends it to those who want it. For this reason, there should only be one IGMP querier on a network. The implementation of IGMP does vary between manufacturers. For this reason, you should only use the one brand of switch on a show network that uses VLANs and Multicast. Using the same brand ensures that the switches know of each other and handles the IGMP snooping properly.

By the way, I have never had a switch with Multicast configured out of the box and when a switch is reset, you lose those settings. Also, the IGMP query interval needs to be set low, say five seconds. This is the frequency that the IGMP querier checks which ports will take a Multicast. If it is set at thirty seconds, it can take that long before a path is made.

Quality of Service

Quality of Service (QoS) is an important feature of switches which prioritises traffic so that more important traffic can pass first. The result is a performance improvement for critical network traffic such as Dante audio over the other traffic that is less time critical.

Once again, the QoS feature usually needs to be configured for it to work properly.

Rapid Spanning Tree Protocol

Say you connect one port of a switch to another port on the same switch. That loop will quickly create a broadcast storm that will degrade the performance of the entire network.

This is a tricky problem. Luckily we have the Rapid Spanning Tree Protocol (RSTP) to deal with this. RSTP can be really helpful too because you can run two links between two switches (preferably the same brand) as a

primary and backup. RSTP will shut one of those links down, but should the remaining link be broken, the second one is immediately reactivated. Be aware though, this process won't be seamless. For seamless failover and more throughput, you want Link Aggregation.

Link Aggregation

The Link Aggregation Control Protocol (LACP) allows you to spread the traffic load across two links between two switches. Some other devices such as network storage devices also support link aggregation. The benefits are that you can potentially get twice the speed between the devices, but more importantly in my view, if you lose one of the links, the network will continue to work seamlessly, albeit slower.

Power Over Ethernet

Oh I love Power over Ethernet (PoE). PoE delivers a DC voltage over the pairs along with the data in the single Ethernet cable. It means you do not have to power devices using a separate power supply and run less cable.

PoE is a nominally 48 volt DC supply voltage that is delivered using a similar concept to the phantom power on XLR that powers condenser microphones. There are three standards for POE: IEEE 802.3af, 802.3at and 802.3bt which equate to supplying 15.4 watts, 30 watts and 60 watts respectively.

The DC voltage is delivered on at least two pairs of conductors in the Ethernet cable by applying a common voltage to each pair. Because twisted-pair Ethernet uses differential signalling, combined with the decent signal voltages of around five volts, the PoE does not interfere with data transmission.

All switches have a PoE budget. For example, an eight port switch may only be capable of delivering 150 watts of POE in total, so you cannot run three 60 watt devices such as PTZ cameras without running short.

Energy Efficient Ethernet

You don't want it. Basically Energy Efficient Ethernet is a low power mode that shuts down portions of the switch that are currently not being used. The problem is that you don't have the full capability of the switch when you need it. Turn it off.

Switch configuration can be a tricky business. I own managed switches from Cisco, Ubiquiti, Linksys, TP-Link and Netgear. They all have different menu systems and label their features slightly differently. That makes it hard to reliably change settings because random changes will produce random effects. The good news is that we live in the world of YouTube and if you search “set up IGMP snooping in Cisco SG350”, there is bound to be a networking professional who will take you through the steps. You could of course, also hire a networking professional to assist.

Talking from bitter experience, you shouldn't cut costs with a switch. The more expensive brands have better hardware and engineering, also their user interface is usually better designed making it easier to understand the settings. Don't forget that there are some production industry switches made by brands such as Yamaha and Lumix which feature etherCON connectors and are optimised for show environments.

Don't lose sight of the fact that the switch is probably the most critical component in your local network. If the switch underperforms, or even worse fails, you are in real trouble. Therefore it is wise to invest in equipment that you can rely on; spending a bit extra makes sense. For show networks, I only consider the top tier brands and as I have explained, you should avoid mixing switch brands on a show network where you are using VLANs and Multicast.

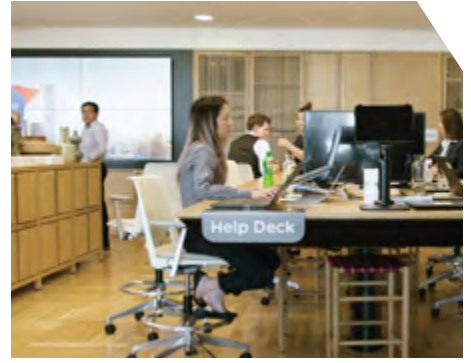
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AMX SVSi – AVoIP Pioneers

Presented by Harman

AMX's SVSi was one of the first AVoIP products to market, and HARMAN's huge international footprint means that it's one of the mostly widely adopted platforms in the industry. We take a look at two recent Australian SVSi installations, one corporate and one education...

Lendlease Sydney

Headquartered in Sydney, Lendlease is a leading international property and infrastructure group responsible for many monumental construction projects that have become cornerstones within their local communities, including the National September 11 Memorial & Museum in New York, the Olympic Athletes' Village in London, and the Sydney Opera House. With the goal of improving their activity-based working model, Lendlease hired leading AV specialist consultants Audio Systems Logic to design a building-wide networked AV solution. After careful consideration, Audio Systems Logic selected a HARMAN system comprised of state-of-the-art AMX SVSi solutions and JBL Professional speakers.

"Lendlease wanted to make sure the AV system in their new building would complement their activity-based workplace office design," said Aleksandra Deren, Consultant, Audio Systems Logic. "To help them achieve this goal, we proposed implementing a versatile networked AV solution that could support a wide range of presentation styles and activities. We selected HARMAN's AMX SVSi solutions to ensure the new system is flexible, reliable, and easy to use."

The Audio Systems Logic team determined

that an IP-based solution would give Lendlease the flexibility needed to achieve their vision. AMX SVSi solutions played a big role in enabling Audio Systems Logic to deliver a reliable network performance and intuitive AV operation throughout the entire building. To minimise the uplink bandwidth between individual floors, Fredon Technology installed AMX SVSi N1000 Series encoders and decoders on each floor. This ensured video could be delivered to thousands of destinations across a range of applications and networks.

"We have utilized SVSi in previous installations and were immediately impressed by how quickly it allows you to switch between different presentation formats, video conferencing and more," said Nick Orsatti, General Manager - NSW, Fredon Technology. "The Lendlease installation was a much bigger project in scope, but the intuitive design of the SVSi system helped us overcome the challenges associated with a much larger deployment."

The installation team outfitted the facility with a range of AMX Modero Touch Panels to give staff the ability to quickly and easily set up multimedia presentations. Modero Touch Panels deliver intuitive, gesture-based operation in a streamlined interface that is ideal for interactive meetings and to enhance

collaboration. The entire system is controlled using AMX NetLinx Controllers and managed and monitored via the AMX Resource Management Suite.

"As one of the world's largest property and construction companies, we focus on not just creating the best assets but also activating them," said Katrina Stewart, Workplace Delivery Manager, Lendlease. "We wanted to showcase to our clients a future-forward workspace that supports collaboration and video conferencing across multiple locations. With this overall goal in mind, Audio Systems Logic teamed up with Fredon Technology to create a unique workspace with a simple user experience tailored to our specific needs. We're glad to say that the entire Lendlease team is raving about how easy it is to use the AMX SVSi system. We're excited to see people moving away from booking formal meeting rooms in favour of using more of these open, collaborative spaces."

To offer pristine sound quality throughout the entire facility, Fredon Technology equipped the building with JBL Control 24C and 24CT Micro ceiling speakers. The speakers deliver extremely wide coverage and smooth frequency response to ensure that audio streamed over the network can be heard with clarity from anywhere in the building.

"It is a privilege to see our networked AV solutions helping leading companies like Lendlease implement customised, multifaceted solutions for their activity-based workplaces," said Ramesh Jayaraman, VP & GM, HARMAN Professional Solutions, APAC. "We thank Audio Systems Logic and Fredon Technology for their exceptional service and inspiring workplace innovation by transforming the perception of modern meeting spaces."

CQUniversity

With campuses across 25 locations in Australia, CQUniversity offers undergraduate, postgraduate, short courses and certificates in engineering, information technology, business and visual arts, among others. As a pioneer in the field of collaborative learning, many of CQUniversity's campuses are home to multi-pod collaborative classrooms. Integrated with video conferencing facilities that enable high-definition audio and video connectivity, the classrooms allow students to connect with lecturers across CQU's network of campuses. CQU engaged Videopro to develop the next-generation AV platform for these critical teaching spaces.

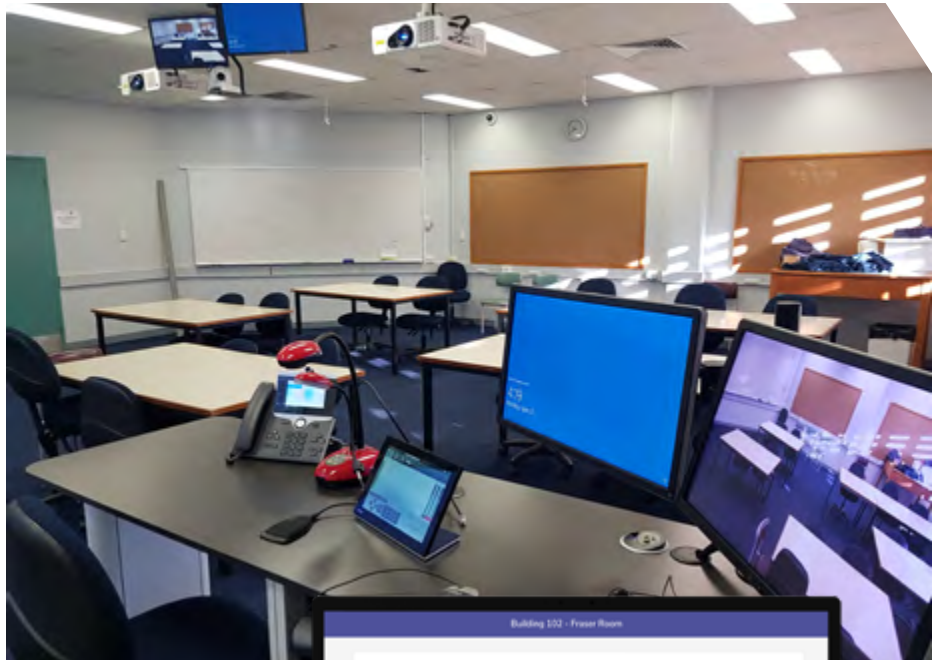
"The university's new collaborative learning environment required a robust, integrated, networked AV system for content distribution within the classroom. A primary requirement was that the solution be able to provide application-level visibility, monitoring, and traffic control to the IT team," said Scott Maunsell, Account Manager and Programmer,

Videopro. "We chose the AMX SVSi N1000 Series Conference Room Solution with the VLAN tagging feature. VLAN tagging allows for labelling packets of AV data with a specific VLAN number/ID, thereby allowing network administrators to regulate switches to allow or disallow traffic flow from one VLAN to other ports. This resulted in superior content distribution and enterprise-grade remote management of AV data from various VLANs across multiple campuses."

The AMX SVSi N1000 Series encoder/decoders were integrated with NX Controllers and Modero G5 Touch Panels. The N1000 Series provides highly flexible network customisation features. It allows video and audio to be packetised into a standard IP format to distribute content via standard network infrastructure. The AMX NX Integrated Controllers provide secure machine-to-machine communication and automation, while the ultra-low-profile Modero G5 Touch Panels provide a fully customised, ultra-simple user interface for the teachers using these complex spaces.

"It was essential for CQUniversity to bring content closer to students, and provide our IT team full visibility, execute remote configuration, track performance and troubleshoot issues remotely. We wanted a simple-to-deploy digital media distribution and switching solution that has the ability to direct any source stream to any display," said Phil Greig, Teaching Space Technology Coordinator, CQUniversity. "We've been able to make significant strides in advancing our efforts to establish a flexible, functional, feature-rich AV system, and are extremely satisfied with the support and commitment from Videopro and HARMAN Professional Solutions."

"We are privileged to be associated with the prestigious CQUniversity," said Ramesh Jayaraman, VP and GM HARMAN Professional Solutions, APAC. "The deployment called for a highly progressive solution. We would like to thank Videopro for their tireless efforts in creating impactful learning and teaching experiences through the effective use of AV technologies."



by Jason Allen

OPEN ACCESS COLLEGE - SECOND GENERATION AVoIP

Most Australians know about School of the Air; they started doing distance education via two-way radio for remote rural students back in 1958. I've always had a soft spot for them, as several members of my family (and myself for one subject in Year 12) benefited from their services. Back in 1991, they amalgamated with the SA Correspondence School, and today's Open Access College was created.

Having been innovators in remote learning and teaching for decades, it's unsurprising that their facilities have always been at the cutting edge of technology for videoconferencing and collaboration. They're so far ahead of the technology curve that

their first full AVoIP installation in their Marden Campus in Adelaide has come to its natural end-of-life. It doesn't feel like that long ago we were still talking about 'Convergence' and debating whether or not AV had really 'gone IP' yet. In fact, I'm pretty sure it was last year.

Integrators Sonic Technology installed the first generation of AVoIP conferencing and collaboration tools into Marden back in 2015. "I came from a video conferencing background where understanding IT networks had always been important," relates Darren Williams, Managing Director of Sonic Technology. "When Sonic Technology started, we were mainly employing IT people, not AV people. We were doing video conferencing and cloud implementation; that helped us get into AVoIP installations and support for clients like Open Access College."

Marden's Studio One is a space that can accommodate up to 100 students, but typically hosts smaller groups or remote sessions. Two main monitors and a confidence monitor can take feeds from two cameras in the room, a document camera, or multiple remote sources. The monitors can also easily be switched to show any source the presenter wants via an iPad.

Sonic Technology has now swapped out

Sometimes it all gets too much...

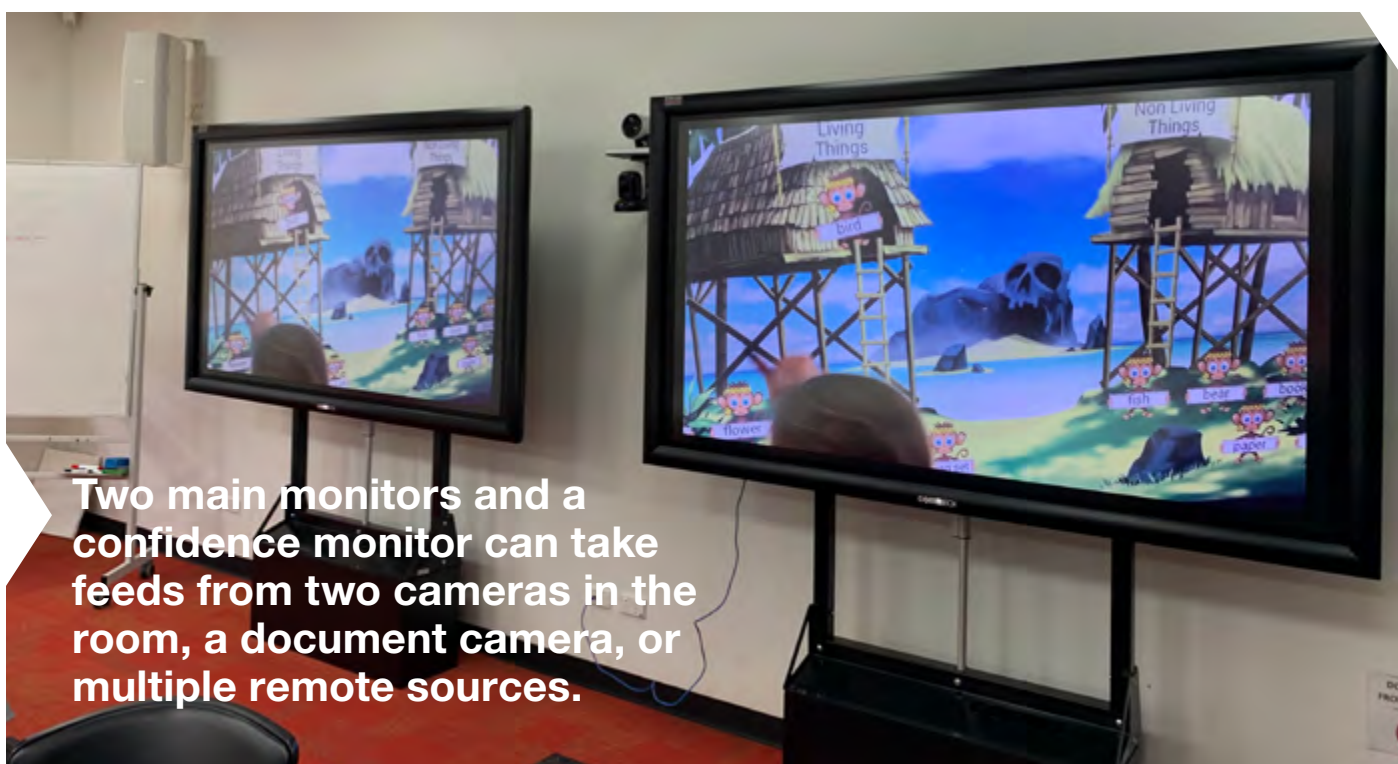


The *Support Act Wellbeing Helpline* is a free, confidential counselling service that is available to anyone working in Australian music who needs to talk to someone about any aspect of their wellbeing.



THE SUPPORT ACT WELLBEING HELPLINE IS MADE POSSIBLE WITH THE SUPPORT OF:





Two main monitors and a confidence monitor can take feeds from two cameras in the room, a document camera, or multiple remote sources.

the original encoders and decoders with Visionary Solutions E4100 and D4100s, which are PoE and support 4K. It says a lot about the maturity of a technology when you can substitute one product for another with only minimal disruption to the installation's functions.

"The teachers and other users didn't notice any changes when we upgraded the system," reveals Darren. "Everything still has the same look and feel. The video switching through the Visionary Solutions product is very fast; it's almost unnoticeable that it's a stream."

Along with the video upgrade, Sonic Technology took the opportunity to replace the audio DSP with a QSC Q-SYS Core 110f. "We're a QSYS house for control and DSP, and we believe that's best of breed in that space right now," asserts Darren. "We've

turned over control of the room to Q-SYS, which gives us push-button, user-proof control with exactly the same look and feel that it had before. Because the Visionary Solutions system can transport control and USB, touch control can come from any device in the room. Users have the ability to send any content to any screen, or VC to any screen. They can also change the configuration of how the content is displayed within the VC."

Making the job even smoother was Vision Lite, Visionary Solution's 4K matrix switching, video wall control, and configuration software. "Vision Lite made it very easy to configure the system," states Darren. "It has this great feature that lets you see a thumbnail of the content that's going to each E4100 and D4100. That made the process very time-friendly; you could just see what was going where. There's also a soft codec router,

which means you can ensure all your routes and Multicast streams are going to the right decoders before you code them into the control system. As a piece of software, Vision Lite runs a bit differently to others; you run it, open the IP address of the device you're working with in a browser and then you can do device discovery and see what's going where."

Studio One's existing 84" Commbox monitors, 50" confidence monitor, Cisco P60 cameras, Vaddio ceiling camera, room PCs, Cisco SX80 telepresence boxes, Dante devices, Audio Technica ceiling mic array, and Audio Technica wireless mics were all connected to the Q-SYS control platform and Visionary Solutions with a minimum of fuss. "We also added remote technical support access so we can run firmware upgrades and the like," adds Darren. "The hardest thing about

projects like this is in understanding network requirements and setup. That's the biggest trap for integrators today."

With 13 years at Open Access, Learning Technology Systems Manager Kenneth Burgoyne agrees. "I think the most important thing when you're running a network for AVoIP is understanding Multicast and what it means," he concurs. "Just having a list of instructions from the vendor on how to make it work isn't enough. You need to be able to troubleshoot and diagnose problems. In your design, you need to limit Multicast to certain parts of the network, and you need to know how to do that effectively."

Kenneth's network is running on HPE Aruba 2930F switches at the edge and 5406R switches at the core. "We have an AV VLAN, which we are currently looking at breaking

into smaller, more defined room or system VLANs," expounds Kenneth. "Some of our VLANs are for traffic control, some for device types, and some for security. It's about knowing where your network boundaries are and why, and what tools you have to build and enforce those boundaries."

With both Sonic Technology and Open Access College now old hands at AVoIP, what's the biggest challenge that their systems face? "I say that video is easy, but audio is hard," posits Kenneth. "It's hard in terms of controlling the space and where audio sources are. Most often you're working in a space that was originally designed for someone standing in it and presenting to an audience that is also in the room. Now we're trying to do something very different."

Studio One addresses this issue with acoustic

treatment and an array of 12 microphones in the ceiling to pick up questions from students when present in large numbers. "Audio DSP is advancing quickly and is much more powerful than it used to be," observes Kenneth.

"We've really appreciated Q-SYS software upgrades, which would have meant hardware replacements a few years ago. Our biggest audio challenge is having 40 people at one end of a video conference, 15 people at the other, and how they interact with each other. We need to have enough mics, avoid picking up the background, and then have enough Acoustic Echo Cancellation processing to deal with it all."

www.openaccess.edu.au
sonictechnology.com.au



LIGHTING CONTROL OVER IP

by VJ Suriya



Lighting control over IP is getting more and more common these days. Network cabling is pretty much a given with most new constructions, and Cat5 is available at just about any electrical wholesaler while DMX cable is more specialised. Based on available infrastructure, it makes a lot of sense to distribute your control over the local network using Ethernet protocols like Art-Net/sACN.

This becomes even more obvious when you are dealing with pixel lighting. A standard strip of 60LED/m tape can have 180 channels/m on RGB or 240 channels per metre if it is RGBW, so you can run through a whole universe of channels within 2.8m on RGB or just over 2m on RGBW.

The Pixel Octo is a simple, yet powerful controller option.

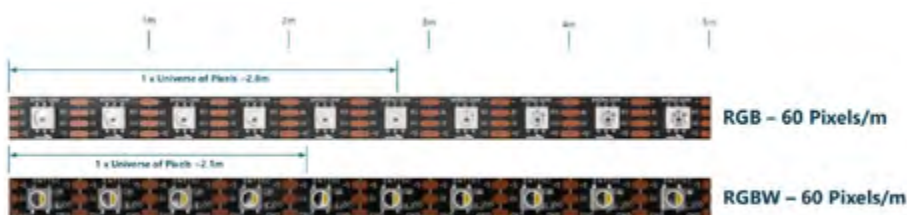
With the Octo you can control up to 8U of pixels from one compact unit. The data outputs are split up into 2 x 4U outputs, so you can handle even very long or dense pixel arrays.

Most importantly, the Octo receives data over IP, through 10/100 Ethernet ports. You'll also notice it has an IN and a THROUGH port, letting you daisy chain multiples of these over a large pixel array and also limiting the number of cable runs you need to allow for. When daisy-chained, each Octo is individually detectable on the network, and will receive its own IP address, which lets you configure these as you need to. The Octo's circuitry also lets you boost the network signal, so you can run up to 100m on Cat5 from switch to Octo, or from Octo-to-Octo!

You might be familiar with the Octo in this form factor, released last year. But ENTTEC engineers at our Victoria HQ have been hard at work during the lockdown...then brief period of freedom...then lockdown again... to come out with a new, sleek, and more compact design!

The Octo still retains the DIN rail clip on the back, letting you easily clip to a section of DIN rail near your pixels or in your own custom enclosure. The case is shrunk way down, letting you conceal it more easily on your pixel installation.

The Octo is currently available, with a new revised design version available very soon! For more details reach out to your local ENTTEC distributor or us directly at enttec.com



Generally with pixels you want tens or hundreds of metres of pixels, not just a single 3m strip! So when you consider the amount of control channels involved with controlling pixels, DMX tends not to be very logical... one cable run per 3m of tape? No way.

It makes a lot more sense to control pixels over network, so you can transmit all the data you need to control a decent sized pixel installation, all through the one cable run. For this you'll need a network-based pixel controller!





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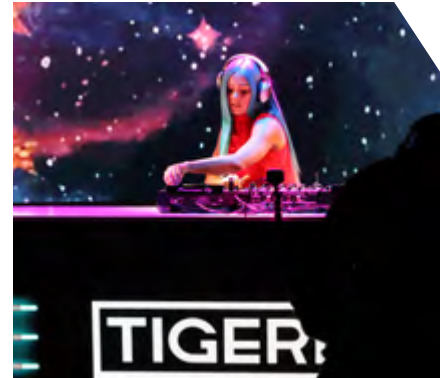
E | sales@av24-7.com

Locations:

9 Wurrook Circuit Caringbah, NSW

71 Balfour St Chippendale, NSW

3/52 Wirraway Drive, Port Melbourne, VIC



It's not enough to create. We have to connect. We take our time to understand you and your clients' needs, offering bespoke and tailored solutions that will deliver results. We are not your cookie-cutter company, we are the new generation of streaming and virtual event production. We are the creative, end-to-end solution for all of your hybrid and virtual event needs. Offering a number of services from pre- and post-production, live video streaming and content creation, to a custom virtual event hosting platform and total attendee management – our clients can be certain that every angle is covered whatever the event. We have three purpose-built production and virtual event studios in Sydney and Melbourne which all feature a range of premium equipment and audio visual technology, with the ability to reach audiences anywhere in the world thanks to our reliable high speed internet. Our expert team will work with you to create and deliver your event to any requirements, always working collaboratively to ensure every little detail meets the brief. With creativity, technical excellence and industry-leading knowledge at the heart of our ethos, you can be sure that by choosing AV 24/7 you'll be working with a reliable Virtual Event company that won't just take care of every aspect of your event, but always exceed your expectations, every time.

AV1 ControlRoom

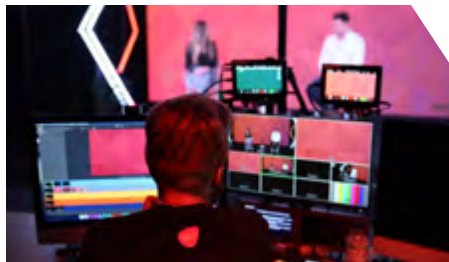
W | www.av1.com.au

P | 61 2 8310 0300

E | enquiries@av1.com.au

Locations:

Sydney, Melbourne, Gold Coast



AV1's ControlRoom studios are highly controlled, cost-effective presentation facilities where team, stakeholder or public information can be securely webcast globally. Host a virtual event, a team update, a professional development course, a board meeting, an awards night and more – all from the comfort and safety of our controlled studio spaces, or even from your home or office. Our ControlRooms are available now in Sydney, Melbourne and Gold Coast and our range of streaming packages cater to events of any type, size and budget.



Beyond Pro Sound & Lighting

W | www.beyondprosl.com.au

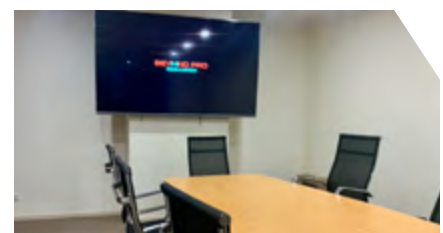
P | Heath Baldwin 02 4049 2262

E | heath@beyondprosl.com.au

Location:

Unit 3/11 Kinta Drive Beresfield NSW 2322

Beyond Pro Sound & Lighting have set up a streaming service with a multiple camera system, audio, lighting, vision, and special FX. Suitable for various events with different setups including DJs, bands and corporate meetings/boardroom. Friendly team ready to assist with your live-stream event.

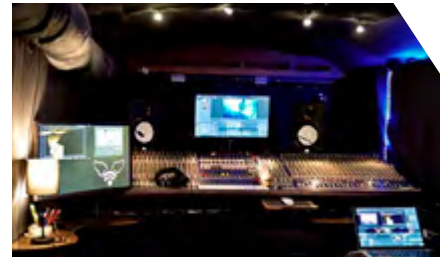


Blind Chihuahua

W | blindchihuahua.com

P | Chontelle Balbi 0407039479

E | chontelle@blindchihuahua.com



blindchihuahua.com is a livestream production company/platform with extensive skill in broadcast video and live audio mixing. Our six camera crew and broadcast video team (together with award winning engineer Paula Jones) mixing live audio in a hybrid dig/analogue OB truck enables us to multitrack and stream the show to the highest, fattest level. We can stream to Facebook, YouTube, your site, our site, wherever suits. Our paywall enables us to charge directly for pay per view live performance and On Demand viewing if required. Artists and management have the option to grab show highlights for content purposes or to create live albums. The Blind Chihuahua crew have been working with artists all our lives and love what we do. We've been streaming pre Covid. We get the shots and we don't suck. There are multiple pricing options dependent on scope of show, and in many instances no upfront costs.

CMGAV

W | www.cmgav.com.au

P | 1300 814 568

E | events@cmgav.com.au

Location: Wollongong, NSW



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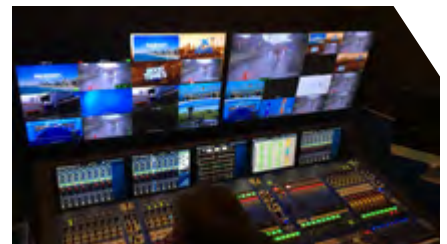
CPC Productions

W | www.cpcproductions.com

P | 07 3816 1009

E | melissav@cpcproductions.com

Location: Brisbane, QLD



CPC productions is a full-service production company with sound, lighting and AV solutions based in Brisbane, Australia. We provide live stream production services from a single camera livestream to multi camera production live stream with full Broadcast Quality vision mixing, Sound and HD recording using our 4K UHD OB1 Truck. We use Telestream Wirecast and have experience streaming across a variety of online platforms. For full truck specifications and details on previous events you can check out our website.

Crisis Transport & Logistics

W | www.ctl.com.au

P | +61 (0) 2 9700 1655 or 0419 616 072

E | Info@CTL.com.au



CTL specialise in freight logistics and is providing the support to deliver professional streaming kits to CEOs and their staff Australia-wide. We are giving streaming service providers the logistics link to move professional equipment to home or offices, ensuring their client's key personnel can present in the best possible remote studio environment. Our personal involvement in every delivery and collection has provided the safe transit and, more importantly, the level of privacy for liaising directly with their client's senior executives.



Encore Event Technologies

W | www.encore-anzpac.com

P | 1800 209 099

E | info@encore-anzpac.com



Partner with an award-winning event technology company for your next virtual or hybrid event. Encore offers a large range of specialised streaming and virtual event solutions from basic webinars to interactive virtual meetings and fully customisable webcasts. Encore also offers professional recording studios in Sydney and Melbourne, complete with green screen and full production support. We're the chosen production partner for some of the country's biggest brands and largest events. The Encore difference is a tailor-made solution for your specific needs, supported by a trusted event production and technical team to guide you every step of the way. Find out more about our solutions today.

EventSound

W | www.eventsound.com.au

P | 1300 669787

E | info@eventsound.com.au

Location:

6 Campbell Street, Artarmon, NSW. 2064



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Evolved Group

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P | 03 9024 4370

E | jane.delany@evolvedgroup.com



 Evolved Group

Evolved specialise in creative content production for screen, including opening videos, presentation decks, and fully edited video/motion graphics presentations for the moments that matter. We've been working with our clients this year to take their marketing, product, and investor events online with polish and energy. Based in Melbourne, we're a studio of over 20 fulltime designers and we work across Australia and the Asia-Pacific region.

GK Productions Australia

W | www.gkproductions.com.au

P | 0409 015 787

E | gareth@gkproductions.com

Location: Kingston, Tasmania, 7051

Multi-camera live streaming capabilities with associated complete turn-key production solutions including audio, lighting and staging systems. Production services and crew for one-off events, sales and installation of permanent integrated systems.



Harry the Hirer Productions

W | www.harrythehirer.com.au/digital-services

The Studio, Richmond, Victoria

P | 03 9425 8666 or 0425 781 154
E | marcusp@harrythehirer.com.au



The Studio is located close to the city, and is a large 250sqm studio space providing versatility to accommodate many types of streaming production. The studio focuses on a 2.08mm pitch LED screen, flanked with 'checkerboard' LED cabinets that allow for corporate logos, or fun graphic effects. With its modern industrial space, we find producers choose to use the building as quick and low cost set pieces. The Studio boasts a rigging grid supported by 24 remotely controlled hoists, making changes to set and LX quick and easy. There is a 200 megabit up/down fibre connection with dedicated 1000 megabit between all three of our studio spaces. Panasonic 4K cameras provide perfect images for pre-record, and live stream outputs, and HTH have a dedicated high-speed FTP server that allows file sharing live as it's being recorded, for remote editing facilities to begin post production while content continues to be captured.

The Loft, Richmond, Victoria

P | 03 9425 8666 or 0425 781 154 E | terryl@harrythehirer.com.au

The Loft is located in our Richmond warehouse space and offers an industrial art-style studio for smaller conferencing, live music and webcast solutions. It has a 2.8mm pitch expandable Black LED screen, along with green screen floor and wall surfaces to allow for multiple use within a single hire. A box truss grid is suspended from the 6m high ceiling to allow for quick re-sets of the space, or to add custom LX plots as required. Connected via a 200 megabit up / down dedicated fibre link, it also has access to our high speed FTP site allowing file sharing live as it's being recorded, for remote editing facilities to begin post production while content continues to be captured. Supported by our Panasonic 4K cameras, streaming is via a multitude of options to both public and dedicated white label platforms in-house.

Homebush Studio, Homebush, NSW

P | 02 9666 8699 or 0421 833 147 E | bent@harrythehirer.com.au

Our Sydney 'Homebush' Studio is a custom-built space supported by a Eurotruss structure, clad with acoustic panelling and finished with a black velveteen corporate drape look. It is a space of 100sqm with the performance area consuming the majority, and talent being framed by a 2.8mm pitch Black LED screen at one end. We have incorporated a 2.88mm pitch 'checker-board' LED panel to allow Melb / Syd broadcasts to have identical sets, however, our Black LED set is customisable to curve or flatten across the entire space as required. Roof height is 4.5m high, with large load capacity due to the Eurotruss frame. Consistent with our other studios, the Sydney Studio has a dedicated 200 megabit up / down link, with a gigabit fibre link between Melb and Syd for seamless conferencing. We also support remote HD and 4K presenters using BirdDog encoders into our VPN, giving image quality far superior to 'meeting' platforms. This studio is supported by Sony cameras, and streaming is via multiple software options including white label customised platforms. As with many businesses in our industry, our team is responsive and flexible in accommodating any and every requirement, whether technical, visual or operational. A green room is available onsite.

Are you concerned about your mate's mental health?

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

Support those around you and register for free mental health training



www.entertainmentassist.org.au

Supporting the mental health of Australian entertainment industry workers

¹Passion, Pride, Pitfalls Dec 2014



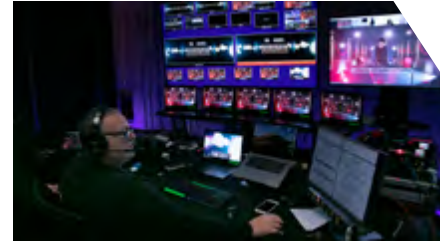
ICC Sydney

W | www.iccsydney.com.au

P | +61 2 9215 7100

E | avsales@iccsydney.com

Location: 14 Darling Dr, Sydney, NSW, 2000



ICC Sydney's purpose built hybrid event spaces include ultra-wide LED screen backdrops, Barco Event Master vision control, 4K capable camera system, full audio and lighting systems, stages suitable for a number of physically distanced presenters and set up within rooms with ample space to maintain audience distancing requirements. All supported by our highly experienced in-house AV team. These fully equipped hybrid event spaces allow you to stage your event safely with an in-room audience whilst live streaming to an unlimited number of remote attendees. We offer the flexibility of using your existing platform of choice or hosting your event on our virtual event platform.

Madzin Productions

W | www.madzin.com.au

P | 02 8209 3802

E | info@madzin.com.au

Locations: Sydney, Melbourne



We offer live streaming solutions to help you reach your audience across various media platforms, and for events including AGMs, product launches, live performances, radio broadcasts and anything in between. Madzin is a one stop shop, with access to equipment in-house including lighting, audio, cameras, LED screens, computer tech, staging and theming. We come to you or we have a studio space available.

Microhire

W | www.microhire.com.au

P | 0403 240 855

E | bryand@microhire.com.au

Location: 9/331 Ingles Street, Port Melbourne, VIC, 3207



If you're looking for a reliable, versatile and engaging virtual or hybrid event – at Microhire we've got the knowledge, team, experience and equipment to make it happen for you. Utilising our custom designed Melbourne Studio or Production and Equipment for events anywhere – video, staging, lighting and sound. The Microhire offering allows for online presenters to be hosted in our virtual "Green Room" where we can communicate with them outside of the presentation platform to cue them and provide live feedback before and after they go "Live". Our solution provides the highest in quality with up to 4K video, remote presentation control (to maintain the highest quality of transmission) as well as the ability to pre-record elements of your event to prevent against factors such as lighting, framing and internet bandwidth issues which can severely impact the delivery of an online event. Engagement with your audience is vital at this time and Microhire can assist with Q+A, Polling, professional titling as well as other animated features such as stingers, countdown timers and custom tickers to take your event to the next level.

Novatech Creative Event Technology

W | www.ncet.co

P | 08 8352 0331

E | agabriel@ncet.co



Novatech are one of Australia's leading production companies with a full service offering for events around the country. As a member of the global AV Alliance, we have a network of partners around Australia (and the world) with studio facilities in multiple locations. We have vast experience with virtual AGMs, hybrid and virtual events, live music streaming and virtual conferencing. Drawing on our significant inventory, we're able to build custom stage sets and studio sets as well as using virtual sets for online events.

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NW Group

W | www.nwgroup.com.au

P | 02 9061 7300

E | d.saward@nwgroup.com.au

Location:

55 Doody St, Alexandria, NSW, 2015



NW Group have partnered with The Venue Alexandria to create a flexible, multi-purpose studio space that can be used for filming or broadcasting virtual or hybrid events. Events can be presented live in the studio or presented remotely from anywhere in the world. We can make your event pop with a background of your choice, from digital backdrops to greenscreen, you name it, we can do it!

The studio can be used for interactive conferencing and presentations, to hosting online awards evenings and even recording live performances. The studio is equipped to provide customers with any of the digital services that they may require. Care packages are readily available for remote presenting, which come complete with premium lighting, microphone and webcam, to ensure your event is delivered to a professional standard and to stand out from the crowd. Contact NW Group for more information on technical features and venue facilities.

ON AIR

W | www.onairstudio.com.au

P | 02 9284 2888

E | onair@smcfc.com.au

Location:

66 Goulburn St, Sydney, NSW, 2000



ON AIR is state of the art studio located in the heart of Sydney's CBD, and is available to all businesses looking to communicate with their teams and customers. This COVID safe, dedicated space offers an all-inclusive solution complete with high end audio visual and virtual event capabilities, delivered by a team of experienced and highly skilled Live Stream and AV technicians.

ON AIR is a collaboration between long term industry partners Create Engage, Audio Visual Events (AVE) and SMC Conference & Function Centre (SMC). The ON AIR team has partnered on many events in the past, and during COVID-19 have successfully and safely delivered events for scores of our regular clients. To find out more, reach out to the ON AIR team today.

Platform AV

W | www.platformav.events

P | 0418 138 272

E | aaron@platformav.events

Location: Carrum Downs, VIC, 3201



From our custom built remote studio for the most complex multi-site events, to turnkey streaming racks for easy deployable streaming in concurrent room applications, Platform AV has the gear and over 20 years' experience in making your clients' messages heard with audio visual excellence. Our URSA Broadcast fibre camera chains coupled with great PTZ systems mean that whether it's a 12G SDI solution or a distributed NDI network with Dante, we have the solution for you. Integrating remote callers with Vmix call, Zoom, Teams or HD Skype TX boxes, we can get you connected.



Pure Gold Films

W | www.puregoldfilms.com.au

P | 07 3191 4052

E | info@puregoldfilms.com.au

Location: Brisbane, QLD



Pure Gold Films support businesses and communities through high quality video and live streaming content that creates engagement and impact for your audience. We understand there's a lot going on at your business, so we provide a service and team that is efficient, professional, and enjoyable to work with. We turn up on time and make your live stream as easy as possible by taking care of all the technical elements. Our capabilities include event and production management, professional video production and streaming using Sony pro cameras and switching equipment, with live streaming to virtually any website or social media platform.

Redlight Records

W | www.redlightrecords.com.au

P | 0427 771 210

E | team@redlightrecords.com.au

Servicing Australia-wide, Redlight delivers the highest quality industry standards of event capture using state of the art video and broadcast technology. We capture the passion and energy of each event then deliver it straight to the comfort of your living room.



Remote Interpretation

W | www.remote-interpretation.com

P | Sydney 02 9808 6466
Melbourne 0428 003 031
Brisbane 0407 256 641

E | info@congressrental.com.au



Our online platform adds simultaneous language interpretation streaming to any meeting or event online, hybrid and onsite. It can be used either standalone or integrated with any other video-conferencing platform (Zoom, Microsoft Teams, Blue Jeans etc) to provide conference level language interpretation to viewers anywhere in the world through our smartphone app. In addition to our platform, we can also provide the best interpreters and technicians to guarantee the quality of interpretation for your event.

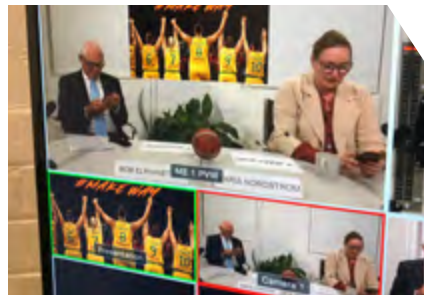
Sapphire Lighting and Audio

W | sapphirelightingandaudio.com.au

P | 0400 018 656

E | benn@sapphirelightingandaudio.com.au

Location: Maffra, VIC, 3860



Sapphire Lighting and Audio productions have been delivering high quality live streams since 2017. With a large array of events delivered across Gippsland and Melbourne, we focus on high quality content delivered in a compact portable package allowing you to stream from anywhere at anytime. We also implement internet bonding technology in our streams giving you several layers of redundancy where it is needed most. We have vast experience in delivering live music, corporate presentations/meetings and community events. From a single fixed camera, to a full broadcast solution, including full broadcast audio mix and multi camera presentation or concert, we have you covered.



Scene Change

W | scenechange.com.au

P | Adelaide 08 8371 0596
Brisbane 07 3832 551
Hobart 03 6234 2266
Melbourne 03 9939 4434
Sydney 02 9906 8909

E | adelaide@scenechange.com.au
brisbane@scenechange.com.au
hobart@scenechange.com.au
melbourne@scenechange.com.au
sydney@scenechange.com.au



Scene Change has a national network of virtual event studios in central locations, with free parking available in most, proper gear brands, and stringent safety processes in place. Brisbane, Sydney, and Melbourne are all equipped with LED wall backdrops. Apart from corporate and association events, the studios are also great for school graduations and end-of-year events. With NSW banning all social events in government schools in a bid to stop the spread of coronavirus, Scene Change has launched a speciality school service in their national Virtual Event Studios. The studios allow key student and staff presenters to host a show that's a fitting tribute to the class of 2020's efforts through every challenge. "It's been really tough for schools this year, and it's important to try to lift everyone's spirits a bit," said Scene Change Sydney Director Vicken Hekimian. "Combining pre-produced content and live student performances makes it a much more involving experience than the everyday virtual school experience."

Spectrum Productions

W | www.spectrumproductions.com.au

P | 03 5176 6318 or 0419 567 310

E | brett@spectrumproductions.com.au

Location: Bank St, Traralgon, VIC, 3844



The Spectrum Productions purpose built audio visual studio located in Traralgon in Eastern Victoria has been operating for over 15 years. Over the last four years, the studio was used to produce the live television program "Live at Spectrum", which was produced and broadcast live to the internet. We're equipped with the latest Sony 4K cameras that can pre-record or stream live to our 20 input Blackmagic switching setup, including a live titling system. The setup is fully modular and can be used to facilitate a remote broadcast at your own venue with a bonded 4G/5G connection or existing NBN infrastructure. We boast a full post production facility with an array of experienced creatives who can produce your final product for a professional end product. Our strong team of long-term industry professionals can scale up to the requirements of your event. With many years of live streaming experience, we are well suited to ensure a successful event.

StreamGate

W | www.streamgate.co

P | 0414 439 386

E | dennis@streamgate.co

Location:
85 Rose Street, Annandale, NSW, 2038

StreamGate has been a live streaming service provider in Australia since 2008 (yes, we were streaming back when no one knew what the hell it was). We specialise in custom-built stream page streaming, pay-per-view, complete virtual meetings, multi-lingual streaming, and have a green screen studio located in Annandale. We do virtual multiple room conferences, internal staff updates, town halls and AGMs servicing multiple destinations simultaneously and social media channels such as Instagram, Facebook, Twitter, and YouTube.





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W | www.streamout.net.au

P | 0403 389 951

E | contact@streamout.net.au

Location: Canberra, ACT



Canberra-based full service streaming complete with onsite production and in the cloud. Vmix, Wirecast, Kiloview encoding and decoding, bonded encoding using LiveU Solos as well as highly resilient first mile with up to four independent paths into the internet with automatic failover. Manned broadcast cameras or BirdDog P200 PTZ cameras, full audio and lighting. Specialist with remote production. Proprietary content delivery network with edge locations in Sydney, Melbourne and Perth with the capacity for unlimited concurrent viewers. Very happy to assist other streamers as “your guy” in Canberra, or provide the streaming brains for other producers with their own local production.

Sydney Event Services

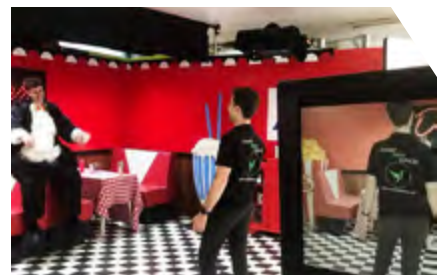
W | www.sydneyeventservices.com

P | (02) 8539 2889

E | sales@sydneyeventservices.com

Location:

16 Carrington Road Marrickville, NSW, 2204



We have six studios provided by Sydney Props Studios, perfect for any kind of stream or virtual event, located a five minute walk from either Tempe or Marrickville Station. Teaming up with Sydney Props Group, we can create any set or theme that you require for your stream. We are a one stop shop for all things streaming. We can create realistic sets, instead of your usual LED screen and moving light. With the Custom Elements shop in house also, there is no limit to what we can create. We stock a range of different brands for all your AV needs, we cover all things lighting, vision and audio. We have 6k cinema cameras ready to give you a stunning record.

Technical Events

W | www.technicalevents.com.au

P | 03 9372 6886

E | sales@technicalevents.com.au

Location: Southgate, VIC, 3006



Metropolis Events, on the banks of the Yarra River in Southgate, is our streaming studio, offering unrivalled views of the Melbourne CBD and second-to-none audio visual infrastructure. The studio is designed for flexibility and is suitable for, but not limited to, awards nights, conferences, webinars, product launches, hybrid events and live streaming with a fully integrated broadcast, recording and editing suite.

Veritas Events

W | www.veritas.com.au

P | +61 2 8908 5600

E | studio@veritas.com.au

Location: North Sydney, NSW, 2060



Veritas Events is a leading full-service events and production management agency. Based in Sydney, we provide creative solutions and delivery of virtual and face to face brand experiences locally and internationally with clients across all industry sectors. Under our Veritas Studio brand, our team brings together the right combination of AV technology, broadcast platform, studio (or other environment) and creative content into a carefully crafted and dynamic virtual event experience. We consider and manage the whole experience, not just the streaming bit! Our services include: full technical production management, Veritas Studio digital experiences - content creation and digital media, studio management, content management, virtual and event broadcast platform solutions, event communications, design and creative, event project management, registration and logistics.

Voyager Sound

W | www.voyagersound.com.au

P | 0408 171 937

E | voyagersound@hotmail.com

Location: Sydney, NSW



We combine your creative vision with technical production expertise to create unforgettable live-streams, events and experiences. This is where our technical and project management expertise merges with your creative vision, to turn that spark into a supernova. With in-house professional audio visual, lighting and production resources, we are a one stop shop for an end-to-end event service, tailored towards the needs of every client. Performance is a traditional area for our work. We have always supported our clients in their creative endeavours and continue to do so through the current challenges. By embracing new technology and techniques we carry your message, delivering it to your audience, wherever they may be.

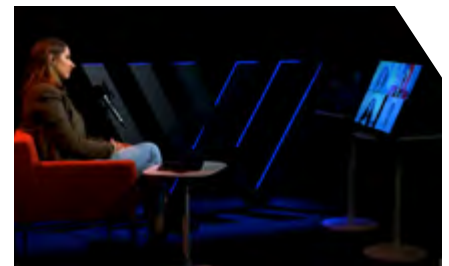
The Wheeler Centre

W | www.wheelercentre.com

P | 02 9094 7800

E | reception@wheelercentre.com

Location:
176 Little Lonsdale St, Melbourne VIC 3000



The Wheeler Centre has a number of different rooms and spaces for hire, with a wide range of tech and staging capabilities to suit any event. Our spaces are available for hire by individuals, as well as community and corporate groups. We have a suite of meeting rooms, conference rooms and our main auditorium, all available with flexible set-up to suit your needs. We also offer a range of digital event services, from a mix of live streamed in studio events, to fully remote events, with both the audience and presenters all tuning in from home. We can produce a slick, edited and mixed pre-record, or a fully live-streamed and interactive event experience.

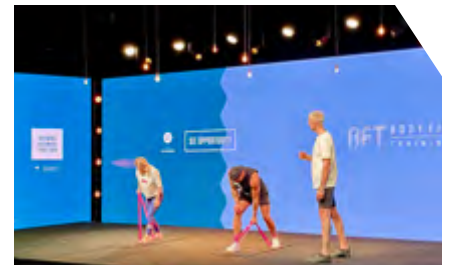
Woohah Productions

W | www.studio45.live

P | 1300 966 424

E | studio45@woohah.com.au

Location: 45 Macbeth Street, Braeside,
Melbourne VIC 3195



Studio45 is a 2000sqm facility offering state-of-the-art studio facilities with the latest audio, lighting and video technology. Boasting a 14m wide ROE Diamond 2mm digital LED screen, broadcast cameras, dedicated remote presenter systems and multi-WAN internet connection to support your next virtual event. The studio space is supported by a wealth of experience in live streaming, pay-per-view, on demand and live broadcast solutions delivering virtual event series, webinars, conferences and live music throughout the world. Our broadcast team can support your event with fully white-labelled solutions including branding, interactivity and virtual environments to engage with your audience on any device, worldwide.



The CX Streaming Service Directory ONLINE

If your business missed out on being included in this printed directory, you can still post your details to the online version, which is hosted at cxnetwork.com.au. To get your business listed, please send contact details including web, email and phone, a paragraph describing your service, and a couple of hi res images showcasing your work to jason@vcscreative.com

LSC Lighting Systems PowerPoint

Power Distribution System

The Specs

Twelve 10A, 16A
or six 25A output circuits

Individual RCD (30mA) protection for
each output circuit – protection for users

Individual Neutral Disconnect circuit
breaker for each output circuit

Master isolator switch that disconnects
Neutral from output circuits as well

Three neon indicators show
state of phase power

Three-phase operation

Single-phase operation possible



High Impact Lighting (HIL) recently added some PowerPoint distros to our inventory. Because we already use the APS and GenVI units from LSC, this completed our range and we can mix them up to get the best fit for every gig.

Boring but very important

Power distribution is not the most exciting thing we do but none of the fun things will work if they don't get reliable power.

At HIL, we put a strong emphasis on reliability. As a freelancer, I had a console crash during a very important gig and vowed right there to never let that happen with my gear. So, it's crucial to us that all our equipment just works. We don't want a gig falling over from economising on crucial components.

In my time at HIL and other production companies, I've never seen an LSC unit fail, so we will keep on using them.

Customisable

LSC offer plenty of different output options on the back of the PowerPoint. You can have the base model built with whatever outlets you want. I chose many years ago to have all our equipment wired with 4-way Wieland, so we went with this again. It fits all our gear without cross-patching, just one to one hook up and go.

Part of the customisation service is choosing breakers and we have some distros setup with all 10A and some are all 16A. The 10A configurations are for lighting and the 16A ones for LED screens. Inrush current is a big deal with these screens and it's good to have the overhead.

Build Quality

Function is always important but it's also good to have a tidy rack when the client walks past. LSC has got their mouldings and faces to the point where they are very consistent. The rest of the unit is robust and pretty much failsafe. Sometimes a breaker goes but they swap them out promptly and it's not very often this happens.

We use a mix of PowerPoint and APS distros in our touring racks. That gives us the flexibility and features that we need at a good price point. We'd love to use all GenVI, but the lower outlay on the PowerPoint makes it very attractive for jobs when we don't need any advanced features. They are modular, reliable and very cost effective for us.

Given what's going on around us right now, it's nice to be able to support a local product and company. LSC look after us with great service and we love their gear.

Product Info: www.lscighting.com/products/power-distribution/powerpoint

Distributor Australia and New Zealand: www.lscighting.com



by Ash Neuendorf

Ash has been lighting the stage since 2007. With his wife Chloe, they founded High Impact Lighting where they provide a comprehensive range of intelligent lighting, dimming and LED screens for hire and installation.



CHAUVET PROFESSIONAL OVATION H-55WW

House lights

by Andrew Gardner

Our church decided to take advantage of the recent lockdowns to do some upgrades around the venue. One that we'd been putting off for a long time was house lighting. The original fluoros lit the space well enough but they lacked any sort of control or dimming, and the light quality was pretty average.

Venue requirements

Along with our regular Sunday and mid-week services, the church hosts two large school programs during the week with lots of arts projects. We also run some small groups on weekdays. Lighting had to cater for all these scenarios. Our pastor and other senior members have a pretty keen eye for detail and they are all very happy with the outcome on these lights.

Our main room is about 20 by 25 metres. We've installed 27 Ovation units and find them super bright but also natural and warm.

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Chauvet Professional Ovation H-55WW – The Specs

Light Source: 1 LED (WW) 129.5 W, (1.45 A), 50,000 hours life expectancy
 Colour Temperature (at full): 3157 K
 CRI: 93
 Selectable PWM: 600 Hz, 1,200 Hz, 2,000 Hz, 4,000 Hz, 6,000 Hz, 25,000 Hz
 Dim Modes: 4
 Control Protocol: DMX, W-DMX, RDM
 DMX Channels: 1, 2 or 5
 Dimensions: 334 x 176 x 115 mm
 Weight: 3.4 kg

Andrew Gardner is the lead AV technician at Townsville’s Life Church and IT Manager for Townsville Christian College. He worked in the professional AV industry for a number of years and is always determined to do things the “right” way, after having the privilege to work with and learn from leading professionals.

We will soon be adding another five to cover some tricky areas. We originally intended to keep our fluros side-by-side with the Ovations, never expecting to use them as our daily house light driver. We were so happy with the results, we decided to rip out all the fluros and replace with new ceiling tiles, which makes everything look SO much cleaner - I was actually really surprised.

Control & Power

Making it all easy to use was a key thing for us. We installed a relay-based control panel on the wall for simple on/off but also have full control of each fixture through the NX Wing at front of house. Before we installed, I hooked each light to the console direct via DMX to address each one in the structure that I had planned. After syncing to the wireless point, they were ready to put in place.

One of the best things about these lights is how little power they draw. At this point, we have all 27 running off one 10A circuit without any problems! We haven’t been running them

long enough to see any changes in power bills but expect to do so, particularly in the heat of summer.

Fitment and accessories

The previous lights were installed in the ceiling grid so we wanted to do the same again but were not prepared for quite how elegant these look when in place. We went with flush mount and they came with heaps of mounting and other accessories. Ceiling tiles are 600 x 1200. We added extra bracing with sheets of ply and made the cut-outs when lined up with the tile. Then it was easy to pre-fit the lights and brackets to this assembly and put the whole thing back in one piece. It sure made our OHS guy happy.

Another awesome thing is the different lenses that come supplied. We mostly used the stock 65° lens but some of the lower sections of the roof work better with 40°. It was nice to have the options and saved a lot of time on the calculator doing lux conversions.

Support

The Ovations were originally suggested by Eli at Showtools. We couldn’t be happier with the product and support is excellent. They even pre-fitted 240V plugs so we could just hang and plug in. They go out of their way to do the little touches like this to keep us happy as a customer. It’s not the first time either.

Outcome

Everyone in our flock loves the quality of light from these fixtures. Their dimming curve is spectacularly smooth. I love it punchy & bright and they can sure do that. We just ran our first full service and had them at 45% for the whole function and everyone thought they were fantastic.

Product Info: www.chauvetprofessional.com/products/ovation-h-55ww/

Distributor Australia: www.showtools.com.au

Distributor New Zealand: www.mdrlighting.co.nz

SYMETRIX JUPITER 8

by Jonathan Harry and Stephen Pether

Jonathan Harry

We recently had a job to upgrade a school gym to be a more multipurpose venue. It was the Tolaga Bay Area School up on the east coast of the North Island, servicing a community of around 2,000, with the hall the only infrastructure of its type in the area. Tolaga Bay is a five hour drive for us, so anything we put in needed to be reliable!

The architect's design for the refresh has seen retractable bleachers installed in the venue for basketball. The stage is effectively on the other side, running down the shorter side of the room. This means we needed two sets of speakers; one to address the bleachers, one to address an audience. There was an audio system already installed, but I'm pretty sure Noah used it to summon the animals onto the Ark!

We were brought in when the refurbishment was nearly finished. There were strict guidelines that there was not to be any conduit, nor should any cables be visible, so it was a bit of a challenge! The most important

requirement for the end-users was that any sound system must be easy enough for anyone to use, and there be no accessible system controls for anyone to play with.

Our design divided the room in to two zones; 'stage mode' and 'basketball mode', with the ability to have both sets of speakers turned on if they desired. We included two new radio mics, and a Bluetooth receiver and input for playback. With such broad usage across different community events, including kapa haka or band performances, we included patch panels to connect an external mixing desk. A mandatory hearing loop was also part of the design.

For the DSP at the heart of the system, we chose a Symetrix Jupiter 8. This was our first time using the Symetrix platform. I first saw it at InfoComm two years ago, then at Integrate last year. I like the simplicity of its drag and drop interface. It's a hybrid of fixed and open architecture, with 85 fixed processing 'apps' for you to choose from. The idea is that you figure out which app suits your application, drop it in, and it does all the routing for you. We wanted a matrix mixer, and this was the simplest way for us to provide that.

We also installed two Symetrix ARC-K1e (push button rotary encoder) and one ARC-EX4e (four button) control panels. The control panels are smart, but not over-complicated. They cable back via Cat5 to the Jupiter, and we set them up to switch between the speaker setups, and control the mic, Bluetooth and overall system volume.

Using the Jupiter 8 was so easy, we'll be using the platform on every job where it's applicable from now on. The whole system was built in 1 ½ hours, with the whole project going out to 2 ½ if you include the testing. The Symetrix Jupiter platform is smart, simple, and clean.



“Using the Jupiter 8 was so easy, we’ll be using the platform on every job where it’s applicable from now on.”



“Jupiter is easy to deploy, and you don’t have to allocate a lot of labour for programming. It’s perfect for its purpose, and we will absolutely use it again.”



Symetrix Jupiter 8 – The Specs

- 85 Downloadable Apps
- Turn-key designs cover a wide range of applications
- Near zero programming time for rapid deployment
- Number of Inputs: eight, switchable balanced mic or line level
- Number of Outputs: eight
- Connectors: 3.81 mm terminal blocks.
- Sample Rate: 48 kHz.
- Latency: < 1.6 ms, input to output with all DSP inactive.
- Space Required: 1U (WDH: 48.02 cm x 19.05 cm x 4.37), depth is specified from front panel to back of connectors. Allow at least 7.6 cms additional clearance for rear panel connections. Additional depth may be required depending upon your specific wiring and connections.

Jonathan Harry and Stephen Pether both work at Intense Sound and Vision in Hawkes Bay, New Zealand.

Stephen Pether

I’ve worked with a lot of other brands of DSP, and Symetrix Jupiter is just really easy to use. It’s perfect for jobs like the Tolaga Bay hall.

The Jupiter platform’s use of ‘Apps’ is a very different approach than other manufacturers. I’d describe it as a “semi-open architecture platform”. When you design for it, you start with the concept of the system – is it multizone? or a mixer? or paging override? – and you populate from that as your starting point. For the Tolaga hall, we used the Zone Mixer app. We were only using one zone, but wanted the mix function to handle the inputs, microphones, and its multi-use requirements. After you’ve dropped in the app, the routing is done and you just turn on functions you

need, like the feedback exterminator, EQ, compressors, or limiters.

I did all of the configuration and control panel set-up off site, which was all a lot quicker than I’m used to, because it was so much simpler. When we got on site, we wired it up, turned it on, and it all worked perfectly. The wall panel controllers worked straight away with no issues. The wall panels are totally “community-use proof”; we ran 20 local people through some simple system training, and it took five minutes. Most of that time was spent on the radio mic’s mute function.

Tim Lambert from NZ Symetrix distributor PAVT really supported us through this job. He went beyond the call of duty and did all he could to help, from getting the equipment in quickly, to giving some programming pointers where needed. Without Tim’s help, we would have struggled to meet the client’s deadlines.

Symetrix’s Jupiter platform is just really good value. You don’t always need an open architecture DSP, and if you have a simple solution with a level of control that doesn’t need a separate control system, it’s perfect. Jupiter is easy to deploy, and you don’t have to allocate a lot of labour for programming. It’s perfect for its purpose, and we will absolutely use it again.

Product Info:
www.symetrix.co/products/jupiter

Distributor Australia and New Zealand:
www.pavt.com.au

MISSING IN ACTION IN THE CD ERA

by Duncan Fry



I was cleaning out the shed the other day when I quite literally stumbled across a collection of audio CDs that I hadn't seen for about ten years.

They were in two wooden CD racks that I had designed and made that could screw onto the wall, miniature versions of my IKEA 'Wall o' Vinyl!' but designed on the 5" CD standard, instead of the IKEA's 12" vinyl LP standard.

Well, that was it for shed cleaning for the rest of the day, as I spent a happy few hours 'down the rabbit hole' flicking through the CDs; some I had bought, some I'd been given, some I had burned myself, usually collections of heavily restored digitised versions of my boxes full of 45 rpm vinyl singles.

Packed at the end of one of the CD racks was a carefully folded and taped up chunky piece of thick cardboard. With trembling hands I peeled off the tape and opened it, because I suddenly remembered what was in there - half a dozen of the first products of the CD era to go missing in action! I'm talking of course, about the short-lived 3" CD singles, technically known as CD3. (I owe a debt of thanks to 'The Music Lover's Guide to Record Collecting' book by Dave Thompson for CD3 technical details.)

Never heard of them? Not surprising if you haven't, because they first arrived in 1987, and all but disappeared in the early 90's. They were originally conceived as a digital

replacement for the 7" vinyl single, and held up to 20 minutes of audio on them. Depending on the generosity of the record company (snigger snigger) you would get two or three, sometimes four songs on this even more compact Compact Disc

They worked OK on regular CD players that had a slide-out tray to put the CD on, because the trays all had a small circular recess that the mini CD would drop into so it could be centred and spin correctly. They weren't so successful on car CD players that only had a slot to poke the CD into. These little CDs were just a bit too small for the mechanism in the slot to grab onto them reliably, and the 3" CDs spun around wonkily off centre, tried to be auto-ejected by the player, failed miserably and got scratched and/or a bit chewed up. Or worse still, got stuck in the player, where they had to be forcibly removed with some needle-nose pliers.

Neither option was conducive to a long life or quality of sound, usually resulting in the demise of the CD3 and severe damage to the fragile guts of the CD player! And if you think it sounds like I speak from bitter experience, you're right.

Given that every car owner wanted to play

CDs in their car while they were driving, the record companies eventually came out with an adapter that the CD3 could click into, and would then play like a standard size 5" CD. The adapters to fit the little CDs were a similar idea to the hole adapter that allowed US 45s with the big fat spindle hole in the centre to play on European/UK record players that had a smaller 6mm centre spindle.

So let me get this straight: The record companies come out with a new format for CDs, smaller but with less music on it, that 90% of the public can't play in their cars unless they buy an adapter for each of these mini CDs to make them the same size as the existing CDs –or they could buy a standard 5" CD in the first place and get more music on it?

Hmmm. As a great man once said 'This has got f***up written all over it!' as indeed it did.

The public voted with their feet (or wheels?) and stayed away in droves, and the poor little CD3s sank without trace.

I first saw them when ARX exhibited at the PALA Pro Audio show in Hong Kong in 1989. The show was sparsely attended due to the number of people directly affected by the Tiananmen Square shootings that year, so it was quite understandable that Pro Audio was not at the top of their 'must-see' list. It did give us a lot of time to wander around the show and meet other exhibitors, people whom we have remained friends with ever since.

But I digress... After setting up our stand we had a few hours spare so went shopping

“I spent a happy few hours ‘down the rabbit hole’ flicking through the CDs.”



around Hong Kong as tourists do, and drifted into a CD shop to check out what was new. What was new turned out to be a huge display of these new mini CDs, which I had never seen before. And, apart from seeing some at the Record Center in LA the following year I never saw any again! At the time I was an avid early-adopter of failed technology (hey - I bought an Apple Newton!) and I picked up a handful of mini CDs for a few dollars each.

What did I buy, you may ask? Well, they're an eclectic mix. Patriotically, I chose Kylie Minogue's 'The Locomotion', the re-recorded version with her UK producers Stock, Aitken, and Waterman twiddling the knobs. It was a

much fatter version than the one she recorded in Melbourne before jetting off to find fame and fortune. There's no disc inside the cover, so I'm guessing that was the one eaten by my car CD player!

Next, Cheap Trick featuring 'Don't be Cruel', 'California Man' and 'Ain't that a Shame'. Then, The Who, with 'My Generation' and more, Bo Diddley with a collection of the same song four times! Eddie Cochran next, playing his four biggest hits - 'Summertime Blues', 'Somethin' Else', 'C'mon Everybody' and 'Nervous Breakdown'. All four of his biggest hits, and they're original versions. Great value! The Go-Go's next, with 'Our Lips

Are Sealed' and some 'B' sides, and finally Kirsty MacColl with a great version of 'You Just Haven't Earned It Yet Baby'. A great under-appreciated singer, tragically killed while swimming in Mexico when a speedboat ploughed through a group of bathers.

So that's it for my little collection of CD casualties. They still play perfectly, they just were the wrong product at the wrong time. Phones, downloads and memory sticks full of mp3s are the current vogue. I doubt we'll see the CD3 format again...but never say never!



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