

CX

INTEGRATION / AUDIO / LIGHTING / VIDEO / STAGING

THEATRE

HARRY POTTER REIMAGINED

The lighting design of the new Cursed Child

THE VIRTUAL ISSUE

- / HYBRID EVENTS
- / WEBRTC
- / SEVEN GOES VIRTUAL
- / VIRTUALLY THERE! NAMM AND INFOCOMM



INSTALLATION

GIPPSLAND PERFORMING ARTS CENTRE

News

- / Remembering Ian Couch
- / New AFIC Announcements
- / Vivid Sydney
- / Recruitment and Retention – Novatech Ups the Ante

Regulars

- / Andy Stewart's Listen Here
- / Jenny Barrett covers NZ
- / John O'Brien's Backstage
- / Brian Coleman: The Gaffa Tapes
- / Tech Talk

Road Test

- / Røde NTH-100 Professional Over-Ear Headphones

BRX300 SERIES

Superior sound for a new generation of events

BOOK A DEMO



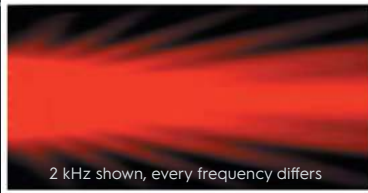
Contact us: audio@cmi.com.au





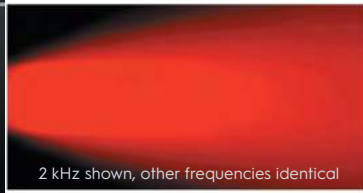
The Most Active Passive Speaker.

Traditional passive column soundfield



2 kHz shown, every frequency differs

JBL CBT column soundfield



2 kHz shown, other frequencies identical

Adjustable coverage to fit the application



CBT Series Line Array Column Loudspeakers - featuring Constant Beamwidth Technology



JBL Professional CBT Series

CBT Series Loudspeakers feature Constant Beamwidth Technology, Constant Directivity and Switchable Vertical Coverage, plus full bandwidth and high output levels. You've never experienced this much versatility and performance from a passive column. Affordable and user friendly, the JBL CBT Series vastly outperforms comparable systems, delivering great sound with a competitive edge.



Sales Enquiries 1800 00 77 80 www.madisonav.com.au

beyond connected

CONTENTS

News

| | |
|---|----|
| Remembering Ian Couch, 1951 – 2022 <i>by Colin Baldwin</i> | 4 |
| New Panel and Speakers Announced for AFIC | 8 |
| Seven Goes Virtual with Brompton | 10 |
| Matt Stone Racing and D2N | 12 |
| Support Act EOFY Appeal | 14 |
| The Tech of Vivid Sydney | 16 |
| Recruitment and Retention: Novatech Up the Ante | 21 |

The Virtual Issue

| | |
|---|----|
| Hybrid Events - The New Normal <i>by Simon Byrne</i> | 34 |
| Tech Talk: The Future of WebRTC for Event Streaming <i>by Aleksander Zids, COO of Bettercast</i> | 38 |
| NAMM or 'nam? The Ominous Reunion in Anaheim <i>by Jason Allen</i> | 42 |
| InfoComm 2022 - The Triumphant Return to Vegas <i>by Jason Allen</i> | 50 |

Features

| | |
|--|----|
| Harry Potter and the Cursed Child Reimagined <i>by Allee Richards</i> | 28 |
|--|----|

Installations

| | |
|---|----|
| Gippsland Performing Arts Centre <i>by Jason Allen</i> | 62 |
|---|----|

Regulars

| | |
|--|----|
| Listen Here: When Things Go Pear-Shaped <i>by Andy Stewart</i> | 24 |
| Innovating and partnering to beat supply chain issues <i>by Jenny Barrett</i> | 26 |
| Backstage: What's For Real? <i>by John O'Brien</i> | 66 |
| The Gaffa Tapes: Kidz Biz <i>by Brian Coleman</i> | 68 |

Road Test

| | |
|---|----|
| Røde NTH-100 Professional Over-Ear Headphones <i>by Andy Stewart</i> | 64 |
|---|----|



Cover Photo – Harry Potter Reimagined / Nyx Calder (Scorpius Malfoy) and Dementors.
Photo credit: Michelle Grace Hunder

Contents Photo – Vivid Sydney / ASN Co Building clock tower.
Photo Credit: Technical Direction Company (TDC).

CX is published by VCS Creative Publishing Pty Ltd
PO Box 1045, Ascot Vale, VIC, 3032
Phone +61 (0)407 735 920
Email jason@vcscreative.com

Editor and Publisher: Jason Allen
Layout: mark wood design – Mark Underwood and Alisha Hill

All contents COPYRIGHT CX Network Pty Ltd 2022
Nothing herein to be reproduced in any format without express written consent.

1951 - 2022

REMEMBERING IAN COUCH



Everyone who knew Ian loved his sense of humour, his quick wit, his unusual take on things, but always found him accommodating, friendly, reliable and easy to get along with. Just a great all-round nice bloke.

Ian loved his speed boat, although it has sat idle for many years. He loved fast cars, F1, and Asian food. He never lost his desire to continue working in the events industry, even though his illness made it too difficult.

I don't really remember the first time I met Ian, but I do remember working alongside him at the Musician's Club in Sydney back in the late 70s. We became friends and worked on many jobs together and later formed a partnership with Peter Milne and Vinni Sedgewick, which we called Showcorp.

During Ian's career he worked with artists including Barry Leef, Little River Band, Dragon, Renee Geyer, Tom Jones, Jeff Baxter, Billy Thorpe, Jess Mauboy, and many others.

Ian was very clever at creating concepts, convincing clients it was a good idea, and turning into a reality. Ian loved to embellish.... just a tad.... but always in an over-enthusiastic way and for the right reasons.

After Showcorp, Ian went on to form True Perspective with his son Dion. And together they worked with many large events for Toyota, Lexus, Microsoft, BHP, and the list goes on.

Sadly 20 years ago he suffered his first round of heart attacks and a debilitating disease, which literally ate away his organs. His illness brought his career and a normal life to a quick end.

On many occasions, he would tell me he can't go on with the suffering, but he wanted to be there for his family especially, his grandchildren, who kept him going. He loved Chloe the dog, who was his companion until recently.

Ian loved his Asian food, so it became part of our regular get-together where we would do fried rice Friday and order up massive amounts of Chinese food in the middle of the day. We would gorge ourselves on ham and chicken rolls, san choy bow, S&S pork, until we felt ill.

Which reminds me of the day I got married, when he took me for Mongolian BBQ just before the ceremony. I remember Fiona telling me later how bad my breath was, and I remembered Ian's devilish smirk when he ordered the food.

Baldwin Productions was in a tiny warehouse in Artarmon at the time and along with Pete Milne, Couchie became part of the furniture. This is where we really started our lifelong friendship.

Baldwin Productions morphed into Showcorp and the four of us became partners in a really great company. We spent a lot of time working together, and though partnerships come and go, true friendships stay forever.

After a couple of runs in my old Bullet ski boat, Couchie re-ignited his love of ski boats and that's when "Frostbite" was hatched. It didn't take long for a social ski boat to become a ski race boat. He and Narelle bought the weekender next to mine and we spent a lot of time training skiers on the Hawkesbury over winter, hence the name "Frostbite". Ko-Veda became weekend party central especially when IC moved to the weekender the other side of ours.

I don't know why, but we were always the first team to be breath tested on race day, but after standing in waist deep freezing cold water holding onto a race boat for hours, we seemed to always pass. You get to know somebody really well when your life is in their hands, hanging out the side of a boat going absolutely flat out trying to see the skiers behind a massive rooster tail of water. I still have cracked ribs from when Couchie would forget to tell me "Bumps coming".

I just know Couchies' now going flat out on the river Styx, not waiting for the Ferryman, and yelling his lungs out "There's no substitute for horsepower."

"Fair winds and following seas mate"



SHURE

Work from home

Gadgets to stay productive and connected when you're working from home.

As organisations become more mobilised and virtual, many workers are taking their meetings in their kitchens, loungerooms or home offices. The key to successful remote working is good technology that empowers people to collaborate, communicate and share with ease.

Whether you're a novice or an IT expert, OUR simple technology will help you and your team collaborate productively, creatively, and seamlessly.



JANDS | AUDIO
LIGHTING
STAGING

jands.com.au

Messages from colleagues and friends

"For as long as I can remember Ian Couch, he was involved in the live events industry. He presented great and sometimes magical shows and events, a wonderful, honest, and happy guy who will be missed by many. My condolences to the family. RIP Ian."

- *Michael Chugg*

"I just heard the sad news that Ian Couch has passed away. Ian was one of the best sound engineers in Australia and a great bloke too. A highlight of my musical career was playing with the Barry Leef band in the late 70s.

Ian's mixes were always superb and he took care that every detail was perfect for the band. I was married in 1978, and after the reception, Ian and the rest of us all headed to the Musician's Club to do our regular gig.

Ian will be sadly missed by many in the Australian music industry and beyond. Our condolences to his family."

- *Steve Howsden*

"Like a lot of people, I used to bump into Couchie occasionally on the road, but it wasn't until I was running the Tivoli in Sydney for Noddy that I saw a lot of Couchie.

Like a lot of people, Couchie would spend a fair bit of time in my upstairs "office". It also helped that Dragon was one of the better drawcards to the Tivoli. Nothing like a crowd of Kiwis drinking triple rum and cokes to make the night time money drop a healthy one.

However, it was when I started working fulltime with CB after the demise of the Tivoli that I really got to know Couchie.

He was a great sound engineer, but even a better salesman. He could sell fridges to Eskimos, just sometimes couldn't deliver them."

- *Vinni Sedgwick*

"Couchy was one in a million. He was clever, funny, loyal and kind. He was also ahead of his time and helped create successful initiatives including, Pass the Hat concerts, Farmhand on the Nine Network, Telstra Road to Tamworth talent search, and the inaugural CMC Rocks the Snowy Festival - just to name a few! We acknowledge his early contribution to the Australian country music world as it is today. Thank you Couchy, We love you."

- *Kerry Roberts*

"To Couchy - thank you for stepping in and being my manager on the eve of the Toyota Pass the Hat Around Australia tour in 1998. When all seemed lost you took over the reins, circled the wagons, and saved the day. You helped raised millions of dollars for community causes across Australia. You took no prisoners, led by example and will always be an inspirational force of nature.

Nothing was ever impossible and the sky was the limit, but above all, thank you for being the best mate and manager anyone could ever ask for.

After all these years your words of wisdom are still ringing in my ears: perception is nine tenths reality, rip tear and bust, sleeping is cheating, ...and there is no substitute for horsepower!

Couchy ...thank you mate ...we love you and always will.

Sending much love to Narelle, Karlie and Dion and your mates."

- *Lee Kernaghan*

"It was a Roland Space Echo that brought Ian and I together. The kind with 20 inches of tape running around inside it. It was (I think) 1976 and Ian looked after The Barry Leef Band at the Musicians Club, and I was the young dude brought in to look after Leon Berger and the other support bands.

Ian was generous with his time and his advice, and when he had other things happening, I would get to step into his shoes and mix Barry Leef. Every time he gave me two pieces of advice. "Number 1, don't fuck up. Number 2, fuck up a little bit so they'll be real happy to have me back!" What I learned from Ian and from the two years, seven nights a week at the Muso's served me very well.

I got to re-meet Ian when he joined CB's crew and would come on tour for Wavelength's corporate clients. I know Ian particularly enjoyed our many Macca's events. This is where I first saw his wonderful ability to engage everyone in his personality, humanity and humour. He had much in common with McDonalds late great CEO Charlie Bell. They got on like a house on fire.

I do remember some crazy times with Macca's as well. Being thrown out of the swimming pool by security at Hamilton Island at 3am with a bevvy of Macca's beauties enjoying Ian's laughter and humour, and of course the time he almost stopped my wedding happening by forcing me to play "drinking games" with Little River Band and the road crew after a big McDonalds Convention on the Gold Coast. My wife still reminds me of this every year.

Ian asked me to help him with a government client in late 1995. We ended up delivering a series of great events for the Australian Government in Hannover, Germany. Again Couch's charm offensive was on display, wooing the German bureaucrats in the Hannover Opera House, and laughing with then Australian PM Paul Keating as we prepared him for his Keynote Address.

For the past 45 years I have known Ian as a man of constant positivity and charm, of talent and of character. We are all the better for knowing him and being his friend.

To all Ian's family, my deepest condolences."

- *Paul Kenny*



It would only be fitting to send Ian off in a custom built Roadcase Coffin - with proper session clips & handles.



The Directors of SHOWCORP Ian Couch, Colin Baldwin, Vinni Sedgwick, and Peter Milne. Founders of the corporate industry as we know it today.

ABSSEN VIRTUAL STUDIO LED SOLUTION

The best choice for film studio & XR stage

Integrate show

17-19 AUG 2022 | Stand: B30 | ICC, SYDNEY

PL2.5 XR V2



- 1500nits brightness
- 7680Hz refresh rate
- 8800:1 contrast ratio
- 1/8 drive mode
- Covers 86.5% of Rec. 2020 color gamut
- Brompton control system
- -7.5° convex to +10° concave splicing
- Automatic edge protection system

Absen

LinkedIn: Absen Oceania
Email: carina.yang@absen.com
Phone: +86 13823556510
Website: www.absen.com

Audio Visual Distributors

Email: sales@avdistributors.com.au
Phone: +61 7 5561 7530
Website: www.avdistributors.com.au

NEW AFIC PANEL AND SPEAKERS ANNOUNCED!

In response to widespread industry feedback, a new panel discussion has been added to the Australian Festival Industry Conference's (AFIC) 2022 program, entitled: 'Workforce skills and labour shortages: planning for the future'.

A variety of factors such as the COVID-19 pandemic and international border closures means employers are being faced with extreme labour and skills shortages, and are struggling to find qualified and experienced workers to urgently fill roles.

Joining the discussion will be:



Jo Gaddes
Lead Vocational Teacher (Events) at TAFE Queensland (Gold Coast campus)



Badi Mahabat
General Manager, Casual Hands

The panellists will be outlining their observations of the past few years and what they feel needs to happen for the industry to get back on track.

Jo Gaddes: an experienced event educator that has been with TAFE Queensland for the past 15 years. She has enjoyed a 25+ year career in the events, hospitality and tourism industries, and regularly works with a variety of Gold Coast based festivals and major events. AFIC has also formed a partnership with TAFE Queensland to feature some of their current event management students throughout the event.

Badi Mahabat: co-founder and general manager of Casual Hands – a nationally recognised event staffing and labour hire solutions provider in the areas of hospitality, events, cleaning, security, and customer service. Some of Casual Hands' most prominent clients include AGB Events, Royal Randwick, and the ICC Sydney, to name just a few. Badi will also be presenting on a new staff management and reporting software that he has developed – considered a game changer for the major events industry.

"The pandemic, along with a toxic cocktail of other contributing factors, has created a troubling situation for the festival industry, and certainly poses a serious problem for employers as they try and get back to normal", says AFIC founder and event director, Carlina Ericson.

"I felt, based on feedback, that I was receiving from all corners of the industry, it was imperative that AFIC hosted a panel discussion covering this timely topic. The aim is for us to collectively determine some top-line solutions that the industry and Government can take away to implement", says Ms Ericson.

Further panellists will be announced soon.

AFIC is also issuing an open invitation to any relevant industry association board representatives who may wish to join the discussion. EOIs can be sent to Carlina Ericson, AFIC founder and event director, at info@australianfestivalconference.com.au

AFIC's existing speaker line-up includes the following industry heavy-weights:

1. Thea Jeanes-Cochrane – co-founder, producer and creative director of Cochrane Entertainment
2. Ulrich Schrauth – founder and artistic director behind VRHAM! Festival: the world's first virtual reality festival, held in Germany
3. Gill Minervini, festival director of Vivid Sydney and Director of Gill Minervini Creative
4. Luke Pearl, General Manager – Operations, Royal Queensland Show-Ekka and RNA Showgrounds

5. Jan McCormick, CEO of Major Events Gold Coast
6. Dr Jamie Ranse, founder of the Mass Gatherings Collaboration, Griffith University
7. Jason Holmes, managing director, H2 Insurance Solutions
8. Rob Raulings, director, Ferve Tickets
9. Jeremy Fleming, managing director, Stagekings & IsoKing
10. Morwenna Collett, disability access and inclusion expert
11. Linda Tillman, director, The Tilma Group and rEVENTS Academy
12. Dr Andrew Mathieson, senior lecturer, Australian National University (ex. Glastonbury)
13. Garry O'Dell, senior researcher, Hunter Research Foundation Centre, The University of Newcastle
14. Graham Gordon, CEO, Gardian Technologies
15. Matt Kreis, head of sales and partnerships, Gardian Technologies
16. Jane Gazzo, broadcaster (AFIC Master of Ceremonies)

Over 2.5 days, AFIC includes:

- A number of presentations and panel discussions from industry-leading professionals
- Two evening networking events
- Workshops
- Trade show
- Gold Coast event venue familiarisation tour

"We now have people registered to attend from almost every State and territory across Australia," says Carlina Ericson. "People are coming far and wide; from Adelaide, to Hobart, to Cairns and everywhere in between. It's going to be a terrific year!"

Tickets are on sale now. Prices will increase from 1 August 2022. The final deadline to purchase is 5:00pm, 24 August 2022. Discounts relating to group bookings, accommodation and theme park passes are available.

To view the program and purchase tickets, visit australianfestivalconference.com.au

BRX300

S E R I E S

Superior sound
for a new generation
of events



The family, **connected.**



JBL Professional has reinvented itself with the new line of products, with groundbreaking sound quality and connectivity. JBL's family of products, dedicated to hire companies, integration and live performance brings unmatched fidelity and technology that only a company like HARMAN could provide. Request a demo today and experience it for yourself.

CONTACTAUDIO@CMI.COM.AU FOR MORE



CMI Music & Audio is a proud distributor of JBL Professional products



SEVEN GOES VIRTUAL

WITH BROMPTON

This year marked the new era of remote broadcast experience, with Seven Network working with Australia's CT Group, part of NEP Live Events, to create a virtual production environment with a top-end LED wall powered by Brompton Technology Tessera processing.

"CT provided LED backdrops for Seven Network's sports hosting during the pandemic, when travelling to venues wasn't possible," says Michael Judges, Senior Project Manager for CT Australia & New Zealand. "As a result of this positive experience, we built a template with the client which they were subsequently able to use on the Tokyo and Beijing host broadcasts."

Judges explains that for this project, Seven Network wanted the highest resolution LED panels available to provide the ultimate background for the broadcast. "This resulted in a high pixel density, so we used two 4K outputs

from a media server into two Brompton Tessera SX40 processors to manage this," he adds.

CT installed Unilumin 1.8mm LED panels with an overall screen size of 19.5m by 2.5m, curved around a 5m radius. Also deployed are four active and four back up Tessera SX40 processors in redundancy mode, as well as eight Tessera XD 10G data distribution units offering the team greater piece of mind and ensuring a stress-free day-to-day workflow.

"Tessera processing is very robust, and the redundancy system works well," explains Judges. "Additionally, Brompton processors

are easy to use and provide powerful features for managing screen brightness and colour on camera. The panels were run in the specific Operating Mode that reduces panel brightness while still maintaining usable bit depth, which is essential for television."

According to Judges, the client was very pleased with the result and would like to continue working with CT on other projects this year.

"All high-quality images and videos looked great on the broadcast and the presenters were able to be very close to the screen without causing any moiré effect," Judges concludes. "Following the success of this project, Seven Network is going to utilise the entire system for other televised broadcasts during 2022. This speaks volumes about the high quality of all the elements within the system, including the industry renowned Brompton Tessera processors."



N E X T
X
N O W

At home in the most demanding club applications, a d&b system brings market-leading software and hardware to every performance. Night after night, this easy-to-use audio toolkit helps bring dancefloors to life. And, as d&b works hand in hand with the industry on innovative, patented technologies, the boundaries of what's possible evolve. So, in shaping what's coming next, the now becomes even more exciting. More than a sound system.

See what's possible at dbaudio.com/clubs

d&b
audiotechnik 


nas.solutions

VIC: (03) 8756 2600 | NSW: (02) 9898 0670 | NZ: (09) 414 4220 | www.nas.solutions

MATT STONE RACING

CHOOSES HIGH-END COMMS FROM D2N

Matt Stone Racing (MSR) was first established in 2011 by team owner Matt Stone and is based on the Gold Coast in Queensland. MSR compete in various Australian racing championships and series and have won titles in the Dunlop Super2 Series, Touring Car Masters and V8 Utes. MSR has also been the backbone of developing young and successful talent in Australia. Recently MSR had a requirement for a high-end motorsport comms solution and for that they turned to the industry's specialists – D2N Technology Solutions.

Matt Stone Racing Supercars' Data Engineer, Marc Mastrodomenico, explained, "We needed some serious, reliable and high-end motorsport radio communications between the drivers, engineers and mechanics. In our sport that means there's only one company you go to – D2N Technology Solutions."

D2N supplied MSR with high quality Kenwood NX series radios and MRTC x3 PTT headsets allowing for quick, clear comms between drivers and engineers.

Mastrodomenico continued, "In the past headsets provided by third parties proved not to be up to the job in terms of build quality, strength, audio clarity and programming flexibility. However, since D2N have come on board these issues are no longer active."

Mastrodomenico has had nothing but positive feedback about the excellent results achieved with the D2N comms solution.

He continued, "D2N's MD, Jason Owen, is fantastic to communicate with. If ever there is an issue, we know it will be solved as quickly as humanly possible."

During race events D2N-supplied headsets and radios are used while MSR's cars are on track for engineers to communicate with the

drivers, constantly updating them about all aspects of the race. Engineers will also speak to mechanics on "listen only" radios instructing what setups changes are to be made on the cars during pit stops. For MSR a typical signal path involves UHF analogue and digital Rx and Tx frequencies.

Mastrodomenico clearly has nothing but praise about the D2N solution adding, "D2N supplies us with the best dedicated motorsport radio comms solutions. Other products tried and tested by Matt Stone Racing have proven to be difficult to program and have not lasted in the rough conditions motorsport presents. D2N's solution is simply excellent and their friendly staff also provide timely support for their high-quality products. The whole package is brilliant."

According to Mastrodomenico the D2N comms solution gives Matt Stone Racing a crystal-clear edge over its competitors. He concluded, "The D2N comms solution gives us crystal-clear comms during loud intense situations. Jason and his team's promptness in shipping out ordered items on time is excellent and we are never left waiting. The technical support we receive from Kenwood is fast and efficient via D2N and quite honestly the entire

D2N sales, service and support offering is second to none."

Matt Stone Racing recently confirmed that they will be entering the new Gen3 era of Supercars racing with the support of Chevrolet Racing. MSR conducted a thorough review of what would be best for the team in all key areas of the operation before coming to this very important decision for the team's future success in Supercars.

About D2N Technology Solutions

Founded in 2005 by owner Jason Owen, D2N has grown steadily gaining a very diverse and loyal customer base and technology-focused family of suppliers. Today D2N offers a huge range of options in terms of moving content, communicating and the very best in video and audio products.

As a privately owned and operated company D2N invests a significant amount into R&D each year. The company supports a number of community organisations through sponsorship programs and welcomes the opportunity to engage with both the local and international business community, industry, media and Government to support their operations.

www.d2n.com.au



We are humbled

“Cleaner and smoother than we’re used to”

“Very noticeable amount of room before feedback”

“Hardly any EQ to do”

“On my input list from now on”

“Open, natural, loose and at the same time massive”

“Major improvement over the competition”

Finally here

Ask your trusted dealer



SUPPORT ACT LAUNCHES LATEST APPEAL WITH BACKING FROM YOUNGEST EVER DONOR!



Music charity Support Act has launched its annual End of Financial Year appeal to raise funds for music industry workers in crisis, with support from its youngest ever donor, 11-year-old singer/songwriter, Devy.

The appeal received a very welcome \$5,000 donation from the rising star from Melbourne, who donated her prize money from the recently-won St Kilda Festival New Music Competition to the cause.

Devy explains: "I realised how many Australian music industry workers have been affected by the pandemic. They're struggling to pay their rent and put food on the table, and their mental health has been heavily affected because of losing hope again and again because of cancelled shows."

"So when I won the competition, I donated all of the prize money to Support Act. I urge you please, if you have any spare cash, donate it to Support Act, because we're all Australians and we should support our mates."

Clive Miller, CEO of Support Act, adds: "We were beyond words when Devy contacted us to

tell us she was donating all of her prize money to the appeal. With everything the universe has thrown at the music industry in the last couple of years, it's heartwarming to see such generosity from this young rising star."

Despite living with the pandemic becoming the 'new normal' for most Australians, many in the music industry are still struggling due to decreased wages and ticket sales, increased competition for work, the risk of getting COVID-19 and having to cancel or postpone shows, and the subsequent decline in mental health.

In a recent survey undertaken by Support Act and the Centre for Social Impact Swinburne*, 73 per cent of people in the industry said they had high/very high levels of distress, 59 per cent of participants said they had experienced suicidal thoughts (four and a half times the

general population) and 29 per cent had a current anxiety condition, which is double that of the general Australian population.

Over the past two years, thanks to the support of donors along with funding from the Australian and NSW Governments, Support Act has disbursed more than 16,000 Crisis Relief Grants valued at close to \$40 million, and provided mental health and wellbeing support to tens of thousands of music and live performing arts workers in need. Those funds have now been expended, and the charity is calling on peoples' support again to continue its essential work.

For further information or to make a donation, visit supportact.org.au.

*Source: Mental Health and Wellbeing in Music and Live Performing Arts survey, May 2022.



A great audio system makes patrons **more likely to stay, and more likely to spend**. Quality audio is key to creating the right atmosphere for your venue's success. Electro Voice's extensive family of speakers includes a number of quality and reliable solutions to turn your venue into your customer's favourite.



FIND OUT MORE

"You might not have seen us before, but you have definitely **heard us.**"



JANDS

AUDIO
LIGHTING
STAGING



THE TECH OF VIVID SYDNEY

TDC delivers largest deployment of laser projector technology for brightest ever projections

After a three-year hiatus, the results of the hard work from the TDC crew of project managers, creative technologists, designers and engineers working behind-the-scenes at Vivid Sydney were live through May and June.

Millions of visitors descended upon the longest ever continuous 8km Vivid Sydney Light Walk, packed full of bright and glorious large-scale projection mapping, LED screens, wayfinding and high-powered media server technology linking the Festival's 50 installations and projection artworks from Sydney Opera House to Central Station.

Festival Director Gill Minervini, who directed her first Vivid Sydney in 2022, said: "For 12 years we've relied on TDC working behind-the-scenes to deploy the brightest, most powerful technology on a grand scale, helping to reinvent Sydney's urban landscape and using it as a unique and colourful canvas capturing the essence of Sydney's soul."

Michael Hassett, founder and managing director at TDC added: "Each year, Vivid

Sydney gets bigger, brighter and bolder!"

TDC deployed 110 projectors across 27 sites. "Making sure that each installation is perfect to the exact millimetre is what we do at TDC," explained Toby Waley, operations at TDC.

TDC had 30 video technical crew working on Vivid Sydney. Toby Waley said: "There's understandably a lot more detail and fewer last-minute changes that can be made working in a post-pandemic environment."

TDC deployed the latest Barco laser projectors which shine exceptionally bright. Karl Johnstone, technical project manager at TDC said: "With the added brightness uniformity and design we can configure them in different ways that better serve the imagery on the buildings. They are more compact, more heat and energy efficient, can be positioned in any configuration and produce a much brighter, bolder colour."

Content was managed using the 3D modelling and UV mapping features of the high-powered

media servers, a key element of the project.

"This year, we've revamped our media servers, automation and monitoring system," added Alex Rendell, technical project manager at TDC.

With the scale and inventory across over 27 locations, TDC uses a RFID inventory tracking system at its warehouse. "It helps with logistics and keeps track of all equipment," said Toby Waley.

TDC uses custom-designed projection equipment housing – great for keeping electronics dry in wet weather conditions.

TDC LiveView gave remote monitoring of each projection site as well as visitor status and wayfinding updates around the city. "This year, we've upgraded the image resolution for monitoring of all sites to 4K resolution," said Drew Ferors, technical manager at TDC. TDC is controlling real-time information displayed at over 70 LED screens and display points to help with traffic flow and city operations.

17-19 AUG 22

in partnership with
infocomm

ICC SYDNEY

INTEGRATE

REAL WORLD INNOVATION

From offices to stages, homes to retail, AV innovation has reimagined our world.

Experience the transformative nature of the latest AV technology at Integrate 2022, Australia's premier audiovisual event, returning this 17-19 August.

Explore products and solutions that elevate everyday worlds first-hand and gain real insights to drive your own digital transformation. Witness the emergence of new technologies with the co-location of the Security Exhibition & Conference and new convergent technologies incorporating both AV and security innovations.

Find innovation for your real world at Integrate 2022.

register
free



[INTEGRATE-EXPO.COM](https://integrate-expo.com)

co-located with



#INTEGRATE2022

headline sponsor



City Wide Projection for the Vivid Sydney Light Walk

TDC provided the manpower, knowledge and technology across curious surfaces and Heritage listed buildings along the 8km Vivid Light Walk at Vivid Sydney. This year's highlights included:

Barco UDX-4K high-brightness projectors deployed for the 9,000 square meter sails for Sydney Opera House Lighting of the Sails to show Yarrkalpa – Hunting Ground, 2021 by Martu Artists and creative technologists Curriious revealing the Parnngurr community from the edge of the Great Sandy Desert in East Pilbara region, Western Australia.

For the first time at Vivid Sydney, TDC provided expertise and projection technology onto all four 89-metre-high by 58-metre-wide concrete and granite pylons supporting the iconic Sydney Harbour Bridge for Sharing the Same Life Essence by admired photographer, Wayne Quilliam in collaboration with Yakkazoo, Rhoda Roberts AO and Ignatious Jones. Sharing the Same Life Essence was shown nightly on screens across the Vivid Sydney footprint at 5:55pm to 6pm (preceding the Sydney Harbour Bridge's 90th birthday projections) as part of Vivid Sydney's screening of the edited highlights of the First Light opening 'Welcome To Country' and performance that acknowledges First Nations culture.

Wayne Quilliam shares his thoughts on the significance of using video technology: "We have the fortune to transition from isolated tribal knowledge of the world's oldest living culture to using video projection techniques as a way of sharing stories to a global audience. As an Australian Aboriginal photographer and storyteller, I'm immensely proud of what was shown."

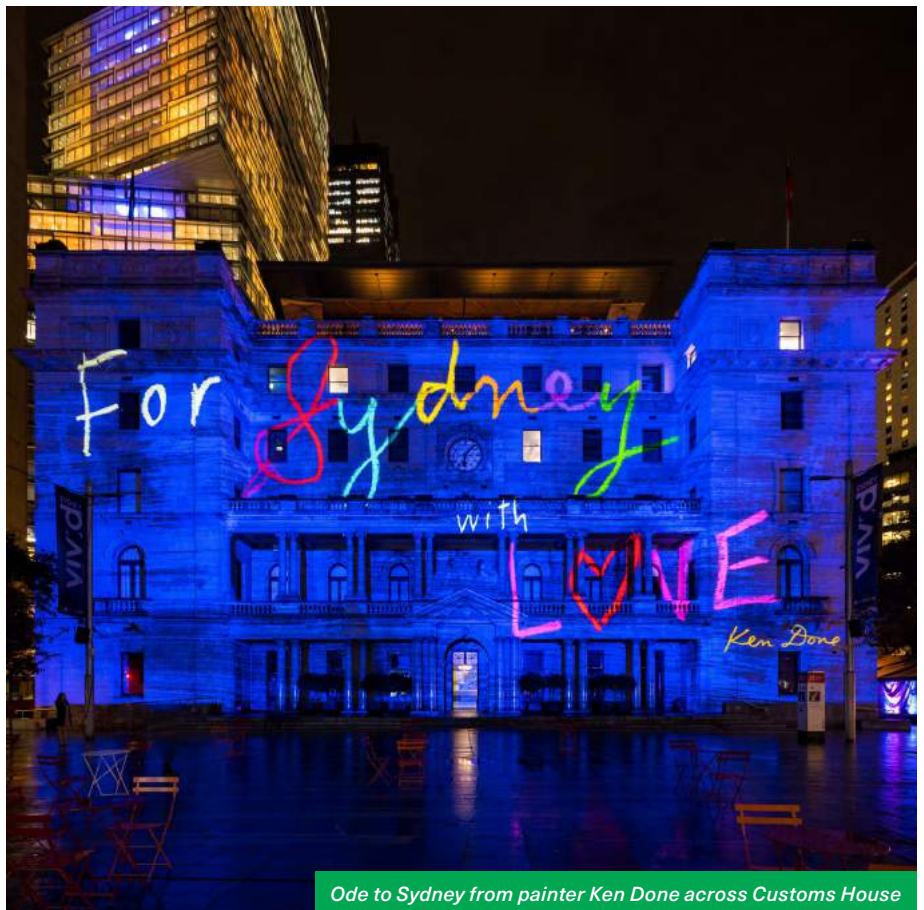
TDC Crew worked with creative studio Spinifex Group at three locations. For Sydney Harbour Bridge's 90th Birthday, images from the Historical Archive and Digitisation Team at Transport NSW were shown on the entire surface of all four pylons of Sydney Harbour Bridge. For Sydney With Love shows the colourful ode to Sydney from painter Ken Done across the 32 by 18-metre façade of Customs House. Ninget Universe is a metaphoric, colourful interpretation of diversity and inclusion by 11-year old Luca French at the new location of ASN Co Building clock tower against a stunning city backdrop.

Jason French, creative director at Spinifex Group said: "We've worked with TDC for a decade and they are the very best in Australia. The team of experts always come up trumps delivering first-class projections. At Vivid Sydney, we worked with TDC for the best possible scenario maximising the surface areas of the buildings for the artwork."

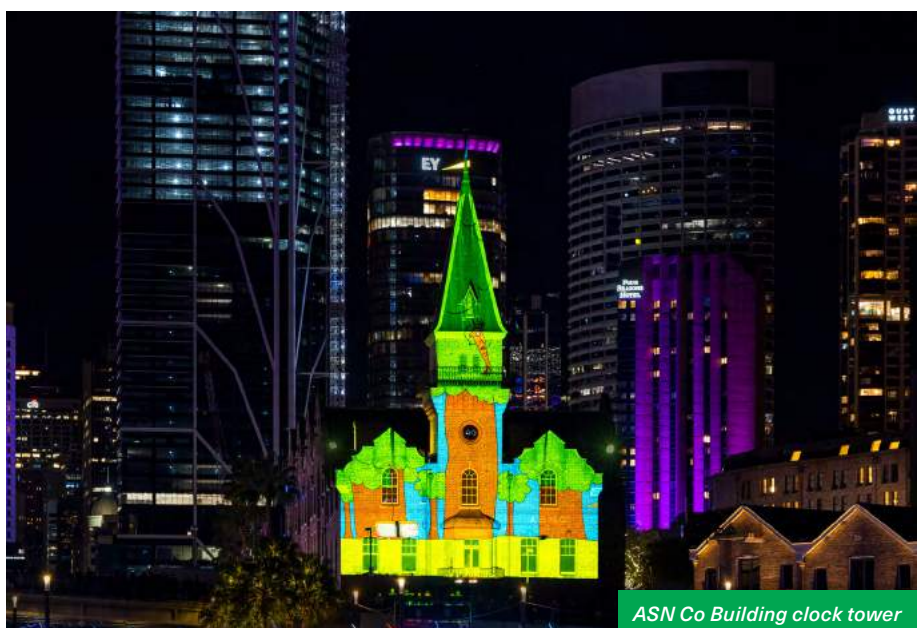
At Vivid House in Darling Quarter, TDC provided a fully immersive 14 by 5 metre LED wall and interactive floor projection to



Sydney Harbour Bridge's 90th Birthday



Ode to Sydney from painter Ken Done across Customs House



ASN Co Building clock tower

LIFETIME WARRANTY

Cordial

YOUR INSTRUMENT YOUR CABLE YOUR SOUND

Cordial cables deliver **your** sound, plain and simple. No unwanted noise, artifacts, or buzz. Just exceptional German quality, hand-soldered Neutrik connectors, road-worthy jackets, and precision manufacturing—all backed by a **lifetime warranty**.

You put your all into your music.
Now imagine actually hearing it.

All of it.

To find your nearest cordial retailer visit
grouptechnologies.com.au/cordial

 **GROUP
TECHNOLOGIES**





Vivid House

showcase the artworks of five featured artists. “We relied on TDC to showcase mesmerising artwork that is morphed across the 360-degree LED walls and video floor projection combined with an authentic IOSONO immersive sound system and lighting array ensuring Vivid House transports visitors to another realm,” said Des O’Neil, CEO at AFX Global.

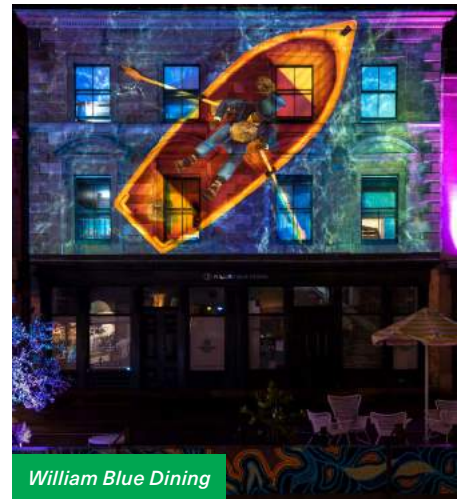
TDC transformed the whole façade of the Museum of Contemporary Art with Helen Eager’s striking New York Sunday geometric 8-minute moving artwork. The MCA is a challenging project to work on because every year, the trees grow so the position of projectors needs to change.

Temple by Leilia Jeffreys was a monumental 3-channel film that was projected on to triptych using 7.4 by 3 metre wide TDC LED surfaces

positioned over a reflective water pool that pays homage to native Australian cockatoos.

TDC’s creativity and ingenuity was also witnessed at Point of View, at George Street, Corpi Celesti at Barangaroo, We Dream The City collective dreamscape at Powerhouse Museum, Crowded Cadmans at Cadmans Cottage, Who the Heck is Billy Blue? above William Blue Dining, Smash at Central Station and the Goods Line. There was also projection magic combined with amazing soundtracks at the new DJs at the Goods Line each night of Vivid Sydney.

Alex Rendell concluded: “It’s recommended that several nights are needed to take in the wonder and spectacle that Vivid Sydney has become.”



William Blue Dining



Museum of Contemporary Art



Temple by Leilia Jeffreys

RECRUITMENT & RETENTION

Novatech Up the Ante in Adelaide



As the world recovers from the pandemic and the unemployment rate in Australia plummets to 3.9%, staffing is the hot topic globally, closely followed by cost-of-living increases. Production companies, integrators, and distributors alike are struggling to find experienced staff. The necessary exodus from the industry during the lockdowns has not reversed, and conversations with employers indicate that it's largely the older, more experienced techs that are not coming back.

Adelaide's Novatech Creative Event Technology is one company that is taking sweeping measures to recruit and retain staff, adopting incentives and rewards that the industry should take note of. For starters, they've implemented

an-above inflation wage increase of 5% across the board, including for casuals.

The competition for staff is a national one, and the pandemic has proven that people are more than willing to abandon the traditional industry centres of Sydney and Melbourne if they can still work in a job they love. Adelaide is an attractive prospect, and in 2021 was rated the world's third most liveable city in the Economists Global Liveability Index report.

Novatech have introduced four lucrative extra allowances for their staff, acknowledging the increasing pain of inflation and the differences between working in the office, warehouse, and on-site. Their Production Allowance is a 10% loading that is paid on top of the normal hourly rate when a tech is working on a gig, as opposed to prepping gear back at HQ. Team Leader Allowance is a 20% bump for the responsibility of leading a crew and liaising with clients and venues. The Project Manager Allowance, of an impressive 30%, rewards Novatech's salaried project managers for site-work, as the eight or so other events they are working on in any given week don't stop for shows. The Additional Shift Allowance ensures any employee is paid for any additional hours worked at their salaried rate.

The Time Off In Lieu (TOIL) system that Novatech employs was previously based on a 38 hour week, with TOIL applied after those hours worked to salaried employees. With the cost of living rapidly increasing, this has been revised to 45 hours, with the first seven hours of TOIL paid that week to the employee before TOIL is accrued.

"We were looking at the spiralling costs of living and ran some numbers," explains Leko Novakovic, Managing Director of Novatech. "We did some modelling. We took the standard example of a salaried employee that does a 50 hour week, some on-site, and some at HQ. In this example, the employee gets paid an extra seven hours before TOIL, did 20 hours as a Team Leader, and 20 on-site hours. That amounts to almost 40% more take-home pay than an average week."

The on-site allowances are also a mechanism to encourage and reward warehouse and office-based staff for volunteering to go out on gigs. "There's two scenarios when the tech or office staff, who often have come from production backgrounds, put their hands up for gigs," elaborates Leko. "The first is when it's an act that they really love that's performing, and the other is when we've asked them because we really need the bodies on the job. We feel they should be rewarded for that in both cases."



While Novatech's extra reward and recognition scheme was paused during the pandemic, it's now back and bigger than before. The third-party provided system grants substantial discounts across thousands of stores and allows for the ad-hoc gifting of vouchers and gift cards to employees who have gone above and beyond.

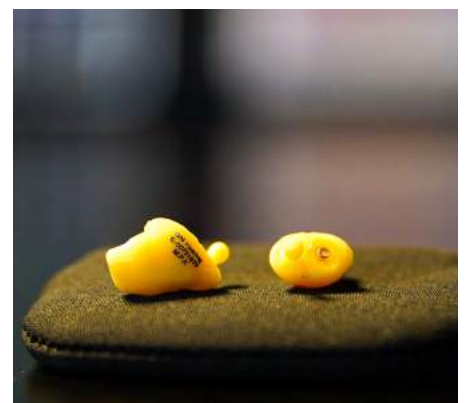
It's more than the hip-pocket of their employees Novatech wants to take care of. "We've created a strong, family-friendly and flexible workplace and we want to bring in more people to grow and maintain that culture," elaborates Leko. "Our health and wellbeing programme has expanded to encourage that. For example, we've realised we're not all gig-fit again yet, so we've got a personal trainer coming in. After a couple of group sessions, they'll be running individual assessments and giving out personalised training plans. In addition, we've been running mindfulness courses which have had great take-up."

Novatech staff can also expand their minds and skills with access to thousands of online courses, which they can be directed to by Novatech or search out on their own. A full-time permanent in-house trainer has been recruited and starts in July. There's also group and individual training available with an emphasis on leadership and professional development. Health checks and flu shots are covered for staff, and there's a bonus of up to \$4,500 on offer for any personnel referral that leads to a hire.

Personal connection was the first casualty of the lockdowns, and Novatech have noted that it's central to the mental health of their crew. "It sounds like a little thing, but it's really important for all of us to have a BBQ out the back every month or so and have everyone have a chat over a couple of beers," relates Leko. "We had to pause all of that, but we've got all of our social catch-ups and staff events going again. We want to make Novatech an enjoyable and rewarding

place to work, but it's important to also enjoy a work-life balance that is conscious of both family and personal considerations."

Novatech believe they can fund these benefits without passing on additional costs to their clients and are happy to share the scope and structure of what they're doing for their crew with the rest of the industry. "With what we've put in place, obviously our crew stand to benefit," states Leko, "But we're sharing what we've done so the industry as a whole can look at adopting the same practices. If conditions and benefits like these are on offer, maybe some of the knowledge and skills that have left the industry will come back. And being proudly SA-based, we're not being shy in saying that relocating to Adelaide and working for Novatech gives techs the opportunity to work on some of Australia's leading events, including interstate tours, while living in hassle-free and cost-effective Adelaide."





THIS COULD BE YOU.

We're on the lookout for dedicated staff to join us in a variety of roles.

We offer an industry-leading remuneration package, and we've revamped our staff benefits with a focus on flexible & family-friendly work conditions.

To find out more, get in touch for a confidential, obligation free chat.

careers@ncet.co | 08 8352 0316 | ncet.co

novatech
creative event technology



WHEN THINGS GO PEAR-SHAPED

What do you do when the project you're working on just refuses to come together? Is there a way forward when the sonic image in your head remains steadfastly not what is coming through the speakers? On the flipside, what do you do if the mix sounds perfect to your ear, only to have it rejected by your client?

Welcome to the world of production and mixing. This is where the rubber meets the road.

There are two parts to this conversation: the first involving frustrations with your own work; the second involving the frustrations of others. Let's get to it.

Sometimes we wrestle with a production or mix for far too long. Despite all our experience, creativity and best efforts, the harder we try to land it the more elusive and uncooperative the music becomes. If you haven't felt this way at some point in your career, congratulations... you soon will.

Let's look firstly at some of the causes of our own work frustrations and discuss ways to overcome them.

Fear and Loathing in The Studio

When your own work is the primary cause of frustration and your best creative decision making leads you not to mixing nirvana, but rather, a dead-end impasse, dragging yourself out of this self-inflicted mire can be exceedingly difficult.

When your best efforts produce nothing but a pile of inadequate mixes, your energy levels for a project invariably plummet to an all-time low. This, needless to say, is not the best time to be attempting to drag yourself off the canvas to find a sonic solution everyone's happy with. Unfortunately, this is usually when your best effort is nevertheless required; when you've had a gut-full or you're stumped for ideas.

Getting yourself re-energised and thinking clearly is therefore now your top priority to get things back on track.

You may be producing a piece of music this week where you're one of the primary contributors of musical ideas (and perhaps one of the performers, too). In this situation you may be finding a song difficult to land because

your arrangements and performances simply aren't cutting it, despite your very best efforts. When you're at this crossroad it's time for a rethink; time to consider getting help from other musicians, or possibly taking a short break from the project. A fresh perspective, either through the ears of others, or by the passage of time, is probably the best medicine here.

You can't always succeed by the sheer force of your own will. Sometimes it takes a short break, or the performances of other talented musicians to contribute the last missing puzzle pieces. As a producer, recognising when you've reached this juncture is an art unto itself that you need to develop a keen sensitivity towards.

Similarly, if you're mixing a project for a client, and to your ears at least the mix just isn't cutting the mustard, it's time to take stock of where you're at, keeping in mind that having reached this conclusion, you're probably already low on fuel and need to act quickly.

The trick here is to find inspiration in some aspect of the mix that's cool and pursue that as a point of focus. We're trying to draw a line in the sand here to make sure things don't keep getting worse from this point on. Ask yourself (quickly) what it is that's specifically wrong and

look to right that problem with decisiveness and without distraction. Do not let your mind cascade into thinking there are twenty things wrong with the mix when there's only one or two. That's when you start to unravel all your good work and send the mix into a tailspin from which you may not recover.

The key here is to stay calm by focussing on the things that have the potential to spark your imagination back into life – primarily those things that you already know are great about the mix. Think clearly, act quickly, and work in short bursts. Work for an hour on a specific solution and then pull the pin. Remember, you're low on fuel, you may not be thinking clearly or acting calmly, so short bursts are the answer here. Lots of fresh perspectives are what's required now, not another 10-hour stretch that may produce little in the way of lasting results.

'Save As' and walk away. Don't forget that digital mixing, which is likely how you're working, is your good friend in this situation. Saving different versions of an idea in quick succession aids in the archiving of new balance options while helping you limit any unforeseen damage you might do to the mix along the way. Doing multiple saves also helps you avoid getting lost in the maze of your own process, digging the hole deeper as it were; another great way to deplete your energy levels. A quick word of warning though here: I would strongly advise against doing too many 'Saves As' at one sitting, lest you find yourself more confused the next day.

If you're trying out specific ideas 'Save As' but be sure to label each and every session with very specific words that will plug you back into last night's idea quickly and easily. Don't just call them A, B and C, or you may find yourself even more confused when you reopen the sessions.

Finally, remember to work decisively, and if you catch yourself playing the track from the top over and over without specific intent, switch off and walk away. Repeated aimless playbacks only sap you of energy, running you down faster than a dodgy iPhone. Tomorrow's fresh perspective, meanwhile, may change everything.

The Client, The Collaborator or The Self-Absorbed Agitator?

Now to the exceedingly complex world of working with others. Whether you call them clients, collaborators, friends, or names is entirely up to you, but whatever their title, these 'others' are inevitable, necessary and, in the main, crucial. Indeed, the art of being a great producer, recording or mix engineer hinges directly upon understanding the role these 'others' play alongside you in any successful production.

But like all relationships, it's mainly when things go off the rails that musical relationships become the most challenging. There are myriad reasons why this happens of course, beyond any capacity I have here to list them. Let's consider a couple of pear-shaped scenarios and ways we might put the ship back upright.

In 2022, one of the most common causes of a project's failure is when the clients are mostly off-site. Creating a piece of music with collaborators who are often (or sometimes entirely) absent from recording or mixing sessions is a sure-fire way to elevate the risks of things going awry. Ironically, this is now a typical working method, the significant limitations of which we all too often gloss over.

Particularly when it comes to producing, although the same applies to mixing, it's not enough for a client to throw a few ideas at you over the phone, embellished with a couple of

adjectives like 'warm' and 'atmospheric', and then expect you to fill in the musical blanks to their complete satisfaction.

Even if they record their main performances with you in the studio, for you or your client to then expect the rest of an arrangement to simply fall into place as if by magic in their absence is naïve at best. Frankly, music almost never works like this. Musical possibilities are just too vast and the time taken to explore even a tiny percentage of them is far too lengthy (not to mention costly, or are you working for free again?). Wherever possible I would urge people to get back in the room together and make music in the best possible way; face-to-face.

The same logic applies to absentee mixing. Without the client sitting with you between the speakers, or even lounging behind you reading a book, things can easily go off track. Hours of your hard work can potentially disappear in a puff of smoke when the client finally hears your mix via Google Drive (or similar) and wants to ditch half the effects, most of the pitch correction and your choice of main guitar, which they most unhelpfully suggest during the inevitable follow-up phone call that "We didn't plan on using!" These types of run-of-the-mill problems are easily averted with your client present.

So when things next go awry, ask yourself why. There's every chance that some, if not all, of the problems you're currently facing in the studio can be attributed to separation anxiety of the musical kind. Depending on your circumstances, maybe the time has finally come to encourage people back through the door.

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



THE LOOK

D R A P E H I R E
www.the-look-sydney.com

17 Greenfield St Banksmeadow NSW 2019
Email mail@the-look-sydney.com • Ph 02 9797 6068 • Fax 02 9798 9243

INNOVATING & PARTNERING TO BEAT SUPPLY CHAIN ISSUES

by Jenny Barrett



Audio-visual suppliers across New Zealand are thinking outside the box to deliver to client deadlines. Viv Green, Sales & Marketing Manager for Australasian Audio Engineering (AAE) speaks for the sector when he describes the current situation, “Alongside recruitment, the biggest risk to project delivery at the moment is the global supply chain. Meticulous design and planning are required to ensure that hardware is not just fit for purpose, but is also readily available.”

AAE, an Auckland-based company with a nationwide reach in audio and audio-visual system installation and servicing, are meeting the challenge by broadening their own network of suppliers, partnering with manufacturers to source loan product, and by optioneering and factoring in design alternatives. “We are fortunate that we didn’t lose any of our experienced audio-visual engineers during COVID as their knowledge enables us to have a wider view and to do a complete re-design when a component cannot be supplied in time,” explains Viv.

A recent example where AAE’s approach has paid dividends is a new entertainment complex at Sylvia Park. AAE were approached by Fraser Brothers & Co to discuss an audio-visual system to cover the gaming area, eatery, bar,

private party area and a four-lane bowling alley. AAE needed to design, deliver and install an AV system with less than six weeks to opening. AAE’s solution included four 55” Panasonic displays in groups of two, mounted back to back on a pole attached to the ceiling in the arcade, and two full HD Panasonic laser projectors pole-mounted from the ceiling and projecting on to a client-supplied fabric in the bowling alley, plus a high-quality background music system that included six discrete zones for guest performers. By factoring availability into the design process, all items and project hardware were delivered to site in time for the proposed fitout, apart from the laser projectors.

“The projector model selected for the project was due to arrive some weeks after the official

opening date of the complex,” recalls Richard Wahl, Sales Consultant. “We approached Panasonic to come to the party and they supplied loan projectors to bridge the gap and ensure that everything was installed ahead of the opening night. The projectors were an older generation but with the same throw, keeping the swap out straightforward. We made the client aware of the situation at the design stages so there were no surprises.”

Hamish Fraser, Director of Fraser Brothers & Co Entertainment Ltd, was open to the interim solution, “AAE was only given a narrow window to design and deliver the AV system, but they stepped up to the challenge and worked around the clock to meet our launch date. They really took care to ensure that we had covered all our bases.”



Another project that achieved its opening date thanks to the AAE engineering team's foresight and technical proficiency was the launch of StudioBox's Newmarket and CBD/ Princes St boxing gyms. A high end QSC audio system underwent a complete redesign when the header amplifier could not be sourced in time, and Viv managed to borrow

a TV from Sharp's demo room to make up the order for four. Dwayne Rowsell, StudioBox Director commented, "This was September and October 2021 in the middle of lockdown so a tough environment to work in. AAE just handled all the supply issues, were really flexible, and then worked around the clock to get the install finished."

Viv reflects, "These are challenging times for the industry, but we are avoiding compromising the majority of projects thanks to the flexibility of our suppliers and our team's sheer tenacity."

www.aae.co.nz

Portable Stages for Every Industry

Trusted by more than 2000
customers all over Australia

Safe and Robust
Quick Assembly
Highest Quality

transtage.com.au

Contact Us Today

☎ 1300 712 066

✉ info@transtage.com.au

*Nyx Calder (Scorpius Malfoy)
and Dementors - Photo credit
Michelle Grace Hunder*

HARRY POTTER AND THE CURSED CHILD



REIMAGINED

Lighting designer Neil Austin has a long list of accolades to his name. His design for the original West End production of Harry Potter and the Cursed Child back in 2016 won him the Laurence Olivier award.

He went on to realise that design on Broadway – Tony Award, Drama Desk Award and Outer Critics Circle Award – then in San Francisco,

Germany and then Melbourne – Helpmann Award. In the wake of the pandemic several Cursed Child productions around the world are transitioning to a reimagined one-part version of the show, Melbourne being one of them. Neil is now re-visiting the theatres he worked in years ago to reimagine his design. It may sound like a gravy-train, but it is clear very quickly when speaking to him that his team's job is far more complicated than simply cut-and-pasting a show-file.

In London back in 2016, Neil says he was still using lamps he would've used in 2004.

Because in 2016 there were not yet any quiet, profile LED moving lights suitable for theatre. Neil maintains that even in a louder production like a musical, it is unacceptable to have a noisy moving rig. As Cursed Child is a play with moments of utter silence, it was never an option. London's rig was – and still is – made up of ETC Revolutions, Vari-Lite 1000 Arcs and GLP X Bars.

Between the London and Broadway productions, Austin went to Prolight+Sound in Germany where he was allowed an exclusive look at the new Martin Encore which he



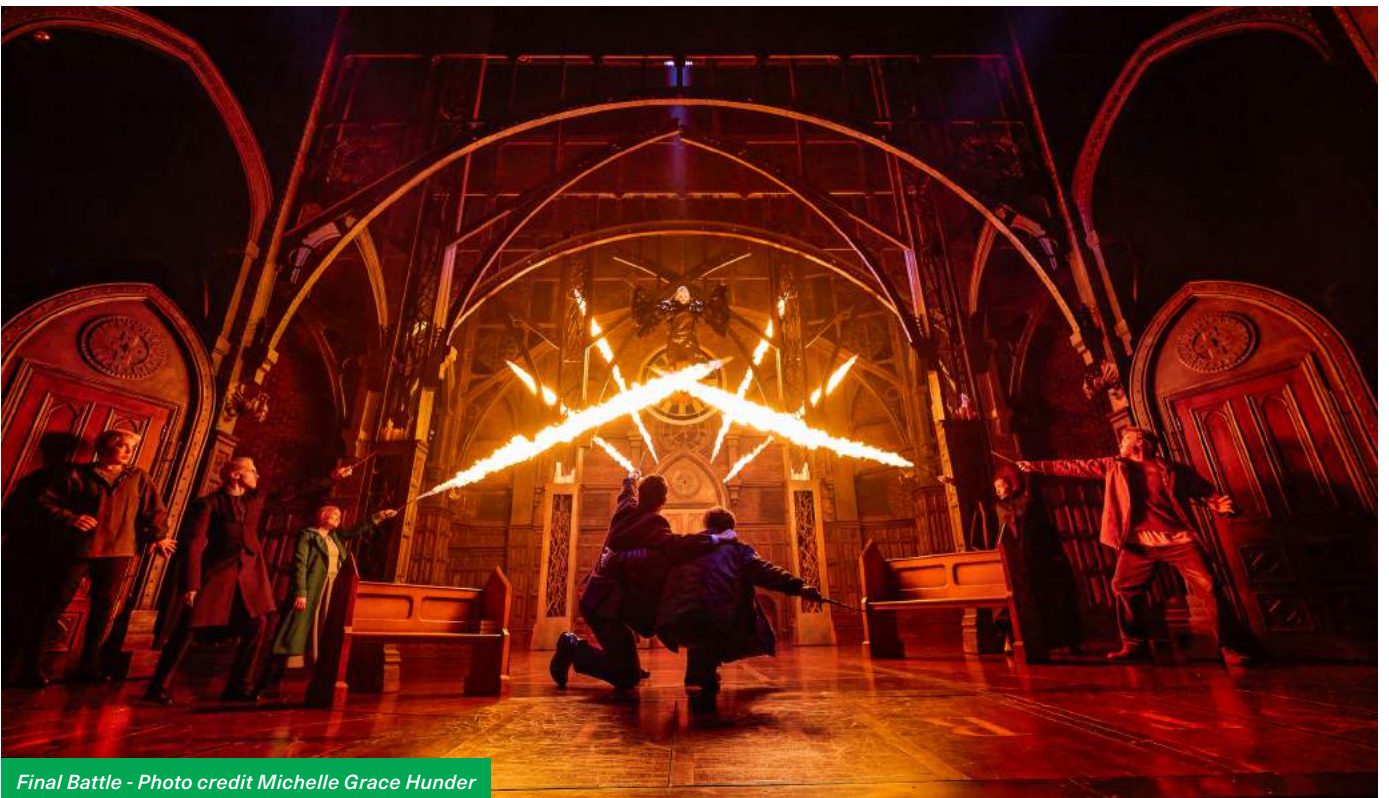
Jessica Vickers (Delphi Diggory), Nyx Calder (Scorpius Malfoy) and Ben Walter (Albus Potter) - Photo credit Michelle Grace Hunder

“recognised was truly ground-breaking as an LED unit.” For years people had been looking slightly ill under arc sources and Austin’s solution had been to add a bit of pink gel. The Encore with its full spectrum source he describes “absolutely looks like someone is standing by a window.” While the Encore was slightly dimmer than arc movers in the market at the time, those other lights grow dimmer and dimmer the longer they were used, whereas an Encore stays the same. “I would always prefer to know that a light is going to look exactly the

same no matter when you see the show.” The Encore wasn’t yet on the market, but Austin got Martin’s promise that he could have the first 100 units off the production line. “The production managers in the US thought I was crazy to be specing a unit that didn’t exist yet, that there was no price for. I put it back to them that I thought they were crazy that in 2018, on a show that you hope to run for five years, that you would be willing to use fifteen year old units.” Austin won them over when he showed them the maths on what they would save on

crew calls and lamp changes.

Broadway was bumped in using a new rig and the latest version of EOS software, an update from London’s version, and therein lies the complication with each remount of the show. Changes to the rig have been made incrementally between each production as Austin has found – and in some cases helped design – the exact units he wants. A new rig means none of the levels or the colours match, and a different version of EOS software means the show file is incompatible.



Final Battle - Photo credit Michelle Grace Hunder

Coming into the reboot Austin had to decide whether he was going to update the Broadway, San Francisco, and Melbourne shows to all be using the same rig and version of EOS software. He decided against the idea, as each show was functioning and running well on its own. "I wanted to make sure during tech that any problems I saw were my problems and not an issue of weird translation from one version of software to another." This meant manually entering the relevant change data in each city.

Compounding the difficulty is that the show's EOS system is integrated with a program called LightStrike. LightStrike interfaces automation

and lighting, meaning lights can track moving performers and scenery. It was developed for Austin by his friend Daniel Murfin especially for the original Cursed Child production and now exists in the market for other productions to use.

LightStrike isn't the only product that came into being because of Cursed Child. As a part of Austin's original design in 2016 were GLP X Bars. When Austin first saw these lights, they were being used mostly in the concert world, as opposed to theatre. He liked the units and spoke to Mark Ravenhill from GLP, "I think your unit is brilliant, but it's got the wrong source,

it dims like a piece of shit, it only has one axis of movement and it jerks as it does it and it has terrible chromatic aberration." He recalls Ravenhill responding, "OK, you love it, but you really hate everything about it." At that time Austin had six months until bump-in for London. He promised that if GLP worked with him on making the light what he wanted there would be close to 200 units on the show.

Having established that working relationship, Austin was able to go back to GLP when he was in need of 1K beam lights to use as followspots. That collaboration led to the X4 XL light being used for above stage dome





Gareth Reeves (Harry Potter) and Ben Walter (Albus Potter) - Photo credit Michelle Grace Hunder

positions, with a different chip, the RGB yellow chip. Now when anybody purchases an X4 XL they have the option to choose the 'theatre version' with the RGB yellow chip.

Originally intended to hang on bars, the X4 XL is far from a traditional followspot. Handles and faders were added so they could be used by spot operators. As the LEDs are controlled by the desk, it means operators always bring their fader to full, the exact level determined by the desk, guaranteeing consistency, which is important in a situation where the operators can't judge their own level as they're

on opposite sides of the stage to each other. The desk can also snap out lights meaning the range for operator error is far smaller. The likelihood of a clanging mistake where one light is left on during a blackout is almost impossible.

It seems a kind of magic in itself that Austin was able to conjure into existence the exact tools needed for his job. And now all these tools are available to be used on other shows. What's most interesting about their function on Cursed Child, is that the newest technology is paired with theatrics from the Victorian

era. Austin informs me that some of the magic in Cursed Child was performed at the Egyptian Hall in London by famous illusionists Maskelyne and Cooke in the 1800s.

When asked what he thinks of the newest technology being paired with the most traditional stage craft he describes Cursed Child as "a love letter to theatre".

TEQSAS

**The
P.A.
People**



Introducing the LAP-TEQ range from TEQ-SAS; a range of specialist rigging tools for production applications.

- LAP-TEQ Plus Clinometer measures the inclination of a cluster of loudspeakers
- TEQSAS TQX is a test tool for speakers and speaker cables
- LAP-TEQ Motion is a chain hoist controller with a LAP-TEQ display
- LAP-TEQ Elevation can determine the height of arrays, truss or LED Screens.

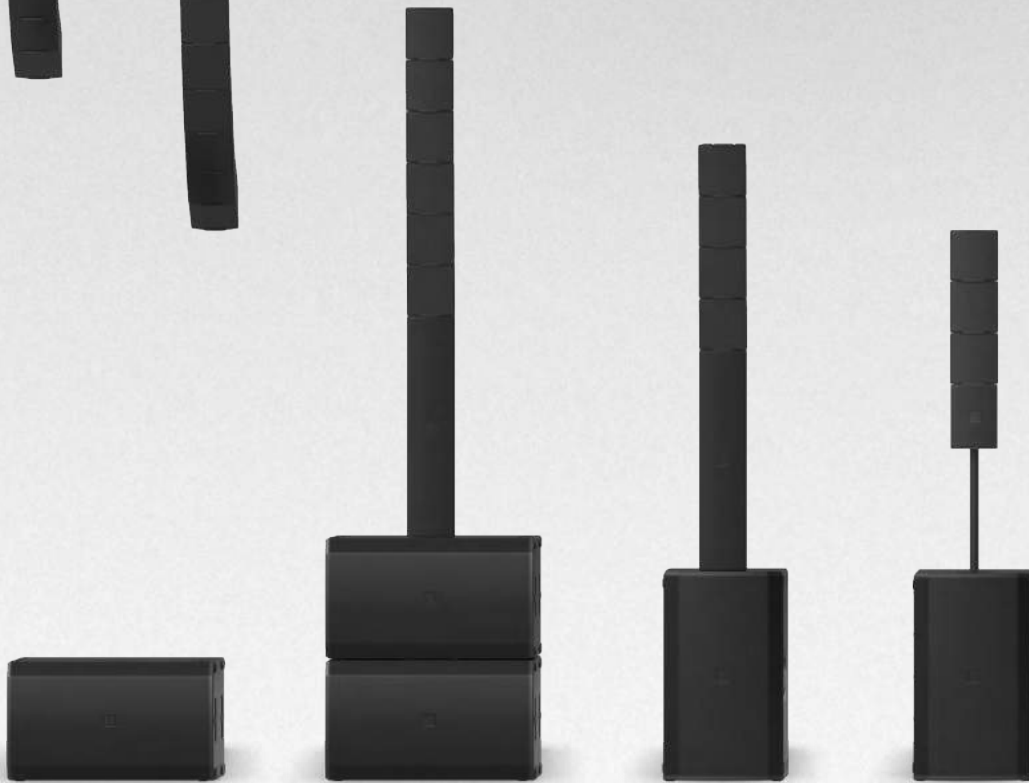
See the range and signup now at tradeline, our business to business e-commerce portal

AudioPressBox * Cable Jog * CTP Systems
Eclipse Broadcast * M-Solutions * Nixer Pro Audio * TEQ-SAS

tradeline.papeople.com.au



SOME JOBS REQUIRE
A **BIG** LINE ARRAY.



MAILA[®]

MODULAR ALL-ROUND INTELLIGENT LINE-ARRAY

MAILA is not just “one” product, it is a scalable system that sets new standards in terms of user-friendliness and flexibility: a compact line array system based on four modules that can cover almost any application ranging from a small business conference to a medium-sized festival.

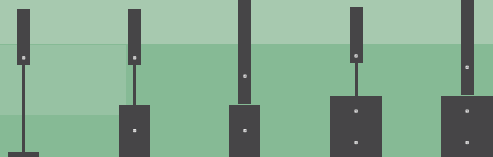
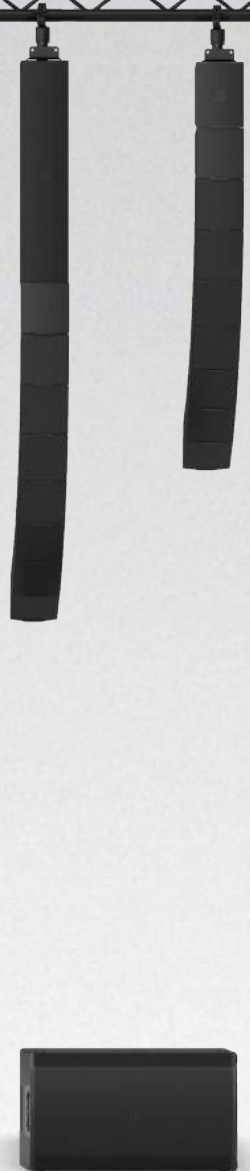
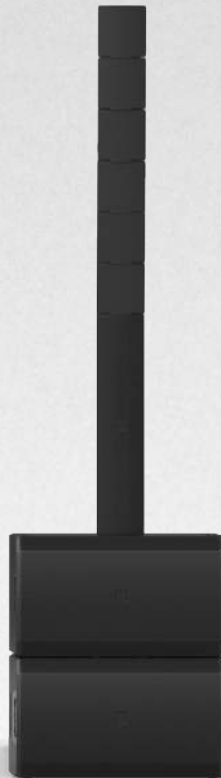


Discover now at:
[id-systems.com/maila](https://www.id-systems.com/maila)

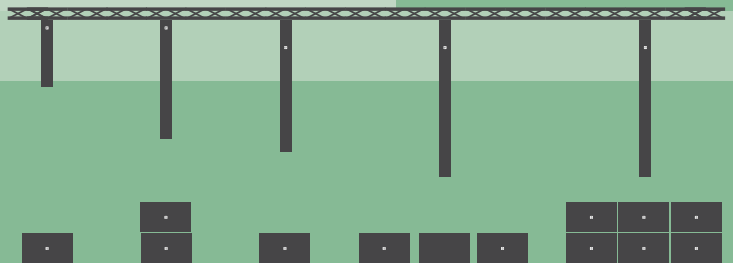
Distributed by:



FOR EVERYTHING ELSE,
THERE IS MAILA[®]



GROUND STACKING - UP TO 6 SATELLITES



FLOWN SETUPS - UP TO 8 SATELLITES

DESIGNED & ENGINEERED IN GERMANY

 LD Systems[®] is a registered brand of the Adam Hall Group.

LDsystems 
your sound. our mission.



HYBRID EVENTS

THE NEW NORMAL

Due to the COVID-19 lockdowns, people were forced to get comfortable with the online meeting platforms such as Google Meet, Zoom, and Microsoft Teams. Now that people are used to those technologies, it has changed the way many participate in meetings and as we return to in-person events, there is now an expectation that not everyone needs to attend, or even present in venue.

This is the new normal...Hybrid Events.

A Hybrid Event is a traditional in-person event at a venue, but with an online component bolted on such as presenters delivering their presentations remotely, and of course delegates viewing remotely. And by the way, at every event I work on nowadays, there is always a group of presenters who have just tested positive to COVID and therefore cannot attend in person. They'll need to present remotely.

It is crucial that the online side of an event is rock solid reliable. I'd argue just as, if not more important than the AV facilities at the venue itself. Remote contributors have come to completely rely on remote technologies. I have done numerous events where prime ministers, business titans, and high-profile celebrities have called in remotely, and the success of the total event relies on these links working well. Similarly, remote delegates expect to be able to participate just as if they were in the room.

To achieve a good result, you must have a good, hardwired, enterprise grade internet connection. In my opinion, any reputable venue should have this now, especially after COVID. Relying on Wi-Fi is a recipe for disaster. Wi-Fi is capable of high speeds, but is not capable of

delivering that consistently. It is susceptible to interference, especially in a venue where there will be a lot of users, which leaves you exposed to dropouts.

A backup connection is always wise. The Netgear Nighthawk range of mobile routers offer amazing value as they are a Category 16 Modem, and they have an Ethernet connection. Combine one of those with your house internet connection by using a Ubiquiti Edgerouter X Router, and you have a fully automatic load-balanced redundant internet connection. Ubiquiti Edgerouter Xs are an enterprise grade load balancing router that offer great specifications for little money (if you can get one due to the worldwide chip shortages).

Note that I said load balanced. Load balancing (often referred to as dual-WAN routing or multihoming) is the ability to balance traffic across two or more WAN (Internet) links without using complex routing protocols. So if one of the connections were to fail, it can take time for the router to recognise the failure and route the traffic to the remaining internet connection.

This is not a perfect solution, but if you can

tolerate a rare failure of say up to 1 minute, it provides cost-effective peace of mind.

A superior option is a Bonded connection where multiple internet connections are combined into one single pipe of data through a VPN tunnel to a server (usually housed in a data centre) that takes the data from the multiple connections, recombines it back into single stream, and forwards it on to its final destination. Bonded solutions have a huge advantage in that if a connection fails, the data is duplicated on the remaining connections so that no packets are lost. Peplink are the kings of bonded data solutions.

I have built a custom Peplink Pepwave system which combines 4, 4G and 5G cellular modems into a single data stream to a server that I host in Sydney. If one or 2 modems drop out (and they sometimes do), it doesn't matter. The remaining modems take up the slack and I have a completely reliable data feed.

The Pepwave system is a great mobile solution but it does have a couple of drawbacks. Firstly you need to be in an area with good, high speed mobile coverage. Secondly the system does add some latency due to the extra processing and wireless connection, about 30-

80 milliseconds which can become noticeable on a two-way video call. And lastly, because it is wireless, jitter will be greater. With video calls, dropouts and instability are often a result of high jitter. However, with Pepwave, I can tune a lot of this out by increasing the latency of my VPN tunnel.

I use the Pepwave gear when I cannot get a good hardwired connection from the venue. I push hard for a venue connection but sometimes it is not available due to information security reasons. For example, I do events for one of the big four international consulting firms where their client's information could be worth billions of dollars. They are quite rightly not going to allow some streaming dude access into their network.

By now you have probably realised that I am focussed on reliability. As long as the speed is adequate, I am happy.

So what is an acceptable speed? I like to see double what I actually expect to use. A stream to YouTube should be about 4.5 Mbit upload. Combine that with some remote callers on Zoom, say 2 Mbit each way, plus some download for monitoring purposes, you are looking at 10 Mbit up and down. Therefore, 20/20 Mbit is the minimum I would accept.

Be aware though, that if you are on 4G and your speeds are low, that generally is a sign that your connection is poor too. In this case, I'd be looking to get the modems at least near a window and in some cases outside. Some modern buildings have metallic film on their windows which acts as a Faraday cage (a Faraday cage is a metal enclosure used to block electromagnetic fields). I even have one client whose premises were deliberately built as a Faraday cage so as to ensure wireless technology was blocked and their secrets

could not be stolen! When we do events for there, we locate my Pepwave gear outside the building and hire a guard to watch the gear and to ensure the entrance is secure.

But with remote callers, their bandwidth can be a factor too. Before COVID, 1/3 of Australians had signed up to NBN's slowest plan. 12 Mbits down, and 0.8 Mbit up. 0.8 Mbit is right on the edge of an acceptable Zoom call. As soon as someone else in the household starts using the internet, the call will likely suffer. Fortunately this is less of a problem now as most NBN users have upped their plans with 75% now on at least 50 Mbit down, and 12 Mbit up.

With remote callers, internet bandwidth is only the first consideration. They will almost definitely be using Wi-Fi and not a hardwired connection. This is where you need to balance production expectations, versus how much the remote contributor is prepared or able to do to improve production values.

You can always do more to improve the production values, but presenters are not there for production values alone. They are there because they have something to communicate. As an online producer, it's up to us to deliver faithfully, but not to the point where the production overloads the presenters.

Firstly, I push hard for a quick tech check prior to the event for each presenter. It provides an opportunity to introduce myself to them, and importantly, we can deal with technical issues without the time pressure of the event itself. During the tech check call, you need to be ready to guide the caller on where to make changes. That means if you are on Zoom or Teams, you need to know those applications really well.

First will be their connection quality. Most

people will be on Wi-Fi and hardwired ethernet won't be an option. If it is poor, ask them to move location within their building where hopefully the Wi-Fi connection will be better. As well as this, get them to ensure no-one else is using the Wi-Fi at the same time. If it is still poor, encourage them to try another location completely. This happens regularly and presenters are often receptive to moving because they want it to work well too.

Sound is next. I really encourage the use of hardwired headsets. Presenters often push back and say something to the effect of "it is normally ok". We want better than just OK. I explain that we get better results with a headset because the echo cancellation technology does not have to work as hard. Consequently, you'll achieve a more free-flowing conversation combined with much better audio due to the microphone being closer to their mouth.

That being said, I care more about the caller getting headphones or earbuds working so their laptop speaker is not required. The earlier generation Apple AirPods had a crappy microphone so often I'll get the presenter to use the microphone in their laptop, whilst listening by using the AirPods.

Bluetooth headsets, and especially Bluetooth AirPods are a world of pain. I have observed countless occasions where the caller has problems getting their own Bluetooth headsets working, usually followed by the phrase "it normally works fine!". It is hard to guide them to a solution in these cases because you don't know their setup. One thing to be aware of though is that AirPods are promiscuous. They'll connect automatically to the user's phone, which breaks the connection to their laptop so the presenter must ensure that Bluetooth is turned off on their phone.



Whilst I am talking about audio, avoid lapel microphones in the venue where a PA system is used. I always use handhelds, or even better headsets. A carefully positioned omni headset capsule is about three centimetres from the mouth, whereas an omni lapel microphone is roughly thirty centimetres. That is, the lapel is ten times further way than the headset. That means to achieve the same signal level going to the remote speaker, the gain has to be increased by twenty decibels on the lapel when compared to the headset. Consequently, room noise including the PA system is brought up by twenty decibels as well! Therefore, the remote presenter is much more likely to hear an echo of themselves coming back through the venue microphones.

Returning to our remote presenter, I coach them on the best angle to have their camera. Ideally, the camera needs to be at eye height so often that means putting the laptop on a stand, or books and of course we don't want them too high or low in the frame. I literally say "we want to see more of you, and not so much of your roof".

Then we discuss lighting. Good lighting is incredibly important and you can get remarkably good results with poor cameras as long as the subject is lit well. This is especially important if they use a synthetic background. That means the light from windows is usually too strong and needs to be controlled. And then depending on the lighting in the room, some front light may be needed. Often this is just something as simple as a desk lamp.

For high profile events, I have shipped microphone and ring lights to the remote presenter. The client pays for these, and gifts them to the presenters. This might sound expensive, but a Rode NT-USB mini is about \$130, and a decent ring light can be bought for about \$70. By doing this, we achieve consistent results.

As the online producer at the venue, what vision do you send back to the remote presenters? You want the remote presenter to feel as much as possible that they are in the room, and you don't want them distracted. Therefore a camera pointing at the people on stage is crucial, but the projection screen should not be in that frame.

You want to avoid the remote presenter seeing themselves, especially on projection screens in the venue. It is a major distraction. Ideally you want them to see whoever they are talking with, and that

includes the audience. In my return vision I typically have a wide shot of the stage (with no projection screens seen), a close-up of the presenter in the room, and a camera pointed at the audience in the room and a countdown timer. Once the event has started, I do not send the camera image of myself as that can also be distracting.

When planning the event, encourage the organisers to schedule the remote presenters at the start of the event, or immediately after a break. That way, the remote presenter can call in during the break and has an opportunity to get comfortable with what they are seeing and hearing from the venue. I encourage the MC to have a chat with the remote presenter through the PA system so both of them can get a feel for what to expect.

Once the event starts, an audio back channel to the remote presenter is essential. They are feeling isolated, not really sure what is going on in the venue and wonder if they can be heard clearly and so on. With an audio back channel, you can jump in and talk with them if required. I set up an arrangement where I can hear them without their audio going to the PA, and a microphone with a push to talk button. By having a push to talk button, I can't accidentally feed my audio back to the caller; I need to deliberately push a button to be heard.

A lot can go wrong with hybrid events. You are working with lots of variables so for

those reasons, plenty of testing is crucial for a successful event. For that reason, I insist that at least a full hour is available to test all systems. Test, then test, and then do some more tests. It is so important to reveal issues before the event rather than during it. There will be teething issues...

I try to set up the day before for that reason. That way I have plenty of time to identify any issues and I usually leave the equipment on overnight. If things have remained stable overnight, it is usually a good sign that you'll have a good show!

By the way, avoid system updates leading up to the show. Microsoft have become increasingly aggressive with their updates lately. Even if you turn them off, they still seem to get pushed through. I recently noticed many of my USB audio interfaces would inexplicably stop working on most of my Windows machines on a really random basis. It turned out that Microsoft had pushed an update that reenabled the USB Selective suspend setting that I had previously disabled. My USB ports randomly stopped working!

In these uncertain times, you need to be flexible. You will have unplanned situations due to someone getting the bug or other reason. That being the case, have some contingencies in place to accommodate "the speaker who won't be attending in person now". It is normal now.



You also should have a plan if the remote caller's connection fails, or you cannot get your feed out. It does happen, usually for reasons out of your control. Have an honest chat with the organisers prior to the event so they too can have contingencies in place if there is a failure.

Lastly, record every single event, even if you are not asked to. That way, if there were a major stream failure, you have a copy available to play at a later time.

I had a recent event where the online platform provider screwed up their registration system which meant 40% of our audience could not view the event live. Far from ideal! But as I had a recording, we were able to make that available to the viewers who missed out.

Online events can be surprisingly complex. As you'd expect, the key to delivering a successful online experience is preparation, combined with managing the client's and presenter's expectations, and plenty of testing.

RARE LIFESTYLE OPPORTUNITY

TWO UNIQUE PRODUCTION FIRMS FOR IMMEDIATE SALE

Located in paradise, you choose from Central West NSW or the Mid North Coast of NSW - and neither are flood affected!

These owner operated firms have enjoyed many decades of solid ongoing business, each servicing a thriving regional city and adjacent precincts containing similar cities. Unrelated but very similar, these two firms are for sale individually or as a pair. Each contains a complete inventory of sound, lighting, video and staging ready for immediate live production deployment with extensive and diverse customer databases.

These are mature, profitable family businesses, each with a similar profile. Both owners seek to retire due to age, and both remain committed to supporting a new owner and contributing valuable service as required. Both firms have broad expansion potential – and this can be spelled out in a report as part of sale.

Covid has been kind to these firms.

With concerts and shows cancelled, both focussed on installation and enjoyed ongoing profitability. The momentum of installations could and should be maintained BUT/AND both firms are now smashed with resuming live production work. So much so, that additional inventory has been acquired - video at North Coast, and a new JBL line array out west.

Make no mistake, this is a fantastic opportunity for an experienced audio visual technician to do a sea-change and drive an existing viable family company to the next level.

- Perfect regional expansion for Sydney firm
- Ideal for a family
- Minimal or zero local competition
- Broad community client bases
- Diverse amount lists
- Pandemic proofed
- Dramatically expanding regions
- Modern inventory, ready to go
- Ongoing profitable work from day one
- Can be operated from a farm shed
- No permanent staff
- Both with wide casual contractor lists

Both these firms come with established premises ongoing fresh leased - one offers possible freehold purchase of a warehouse with retail showroom as an option.

Both come with optional extra van and truck combos, buy these or add your own wheels.

Expect to pay between \$400,000 and \$520,000 (plus refundable GST).

Price includes 6 months business coaching support from Julius Partners.



THE FUTURE OF WEBRTC FOR EVENT STREAMING

In January 2021, WebRTC became an official web standard. It was hardly a surprising announcement, given the major role this relatively unknown protocol plays in our everyday internet usage. However, even this major milestone may be overshadowed soon enough, with further uses and developments in the pipeline.

In case you didn't know, the RTC part of the name stands for 'real-time communication'. WebRTC is a free and open-source system developed in 2011 to allow web browsers and mobile devices to communicate with each other through APIs (application programming interfaces). While it has a wide range of

applications, those related to event streaming are only just starting to be explored.

What does WebRTC even do?

With 'real-time communication' being part of the name, WebRTC obviously plays an important role in things like video conferencing and group interaction. It has other applications, such as controlling and monitoring home surveillance systems via an app on your phone, but the use that most people have been heavily relying on throughout the COVID crisis is the ability to communicate and coordinate with people in remote offices.

"For many people, the last year would have looked a lot different – and been much less entertaining, emotionally connected, and productive – without WebRTC. In 2020, the use of real-time apps surged as the COVID-19 pandemic prompted companies to shift their workforces to remote and lockdown forced people to stay home with only the internet to connect them," wrote Mo Nezarati of

Subspace in a blog post on the current state and future of WebRTC.

"Just how much did the pandemic impact people's use of real-time apps? Well, in the first weeks of lockdowns in March 2020, Google Hangouts usage soared 25 times over compared to just a couple of months before, while YouTube streaming more than doubled, from 15 billion to 32 billion minutes, in April 2020 vs. April 2019. It's particularly interesting to note that spikes in getUserMedia calls, which are involved in WebRTC, aligned with COVID waves around the world."

What does WebRTC bring to event streaming?

"There's been a kind of evolution in video broadcasting," said Ryan Jespersen of Millicast, a WebRTC-based developer platform recently acquired by Dolby. "We've gone from analogue to digital to streaming to cloud-based deployments and it's now embraced the web. This RTC space is an intersection of that."

IT'S A SMALL STEP TO A GIANT LEAP



avantis

FIRMWARE V1.1
AVAILABLE NOW

The third mixer based on our 96kHz XCVI FPGA engine, Avantis puts all our next-generation technology in a standalone 64 channel / 42 configurable bus console, with dual Full HD touchscreens, a super-flexible workflow with Continuity UI, extensive I/O options, add-on processing from our flagship dLive mixing system, and a rugged full metal chassis.

Step up to Avantis. Leap ahead of the curve.

ALLEN & HEATH
allen-heath.com/avantis



DIRECTOR IS HERE

Comprehensive Editor and Control software for online and offline use.

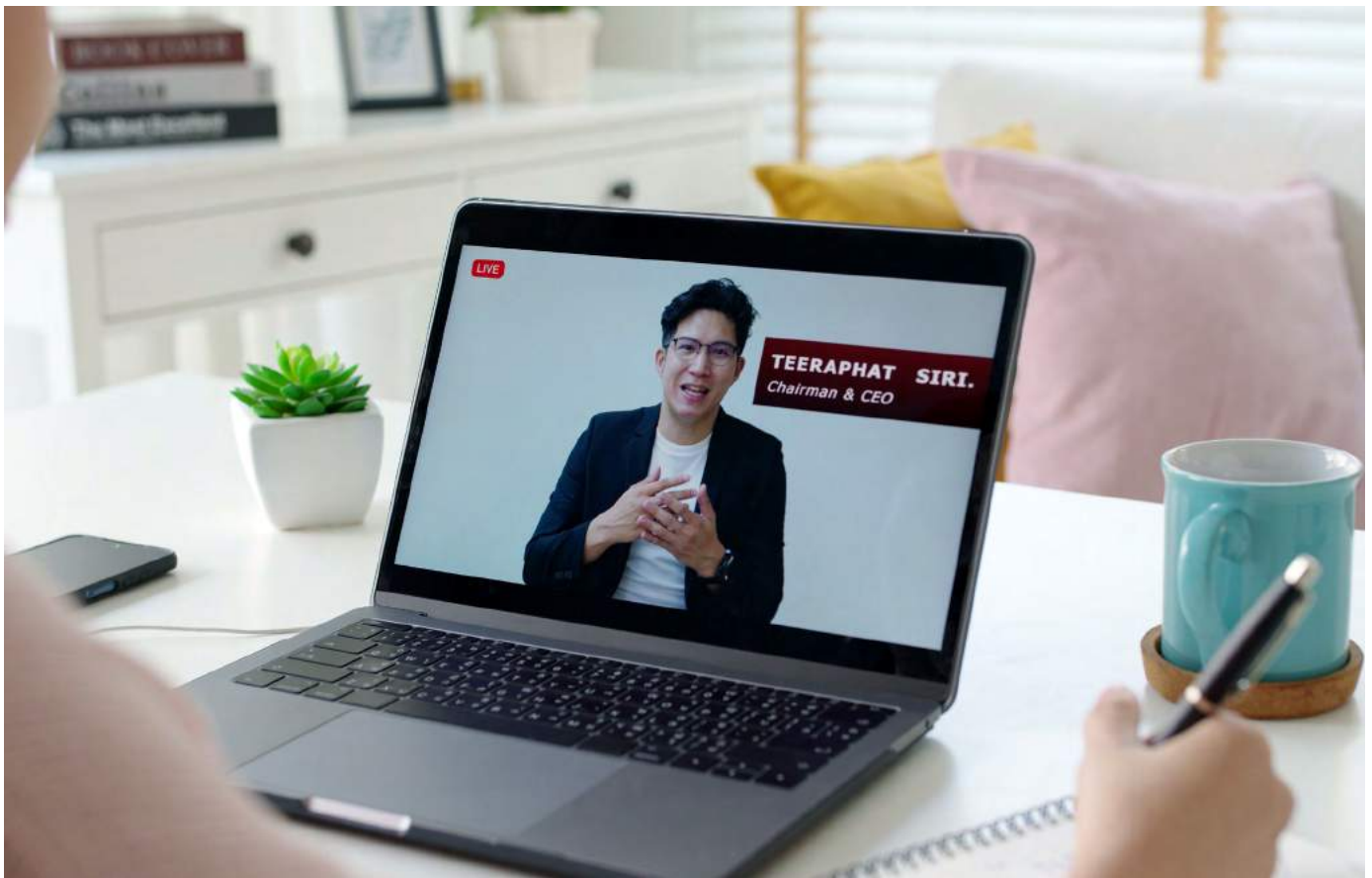
OPTTRONIK

New to dPack - direct from dLive
OptTronik: Legendary tube-driven,
electro-optical compression.



NEW FX

Hotly requested FX from the dLive
arsenal. Shape transients. Bring the
sub-bass.



With 20 years of experience in the live streaming business, Ryan has a very good idea of where the industry is going and how WebRTC can contribute. He stresses the three important needs for the streaming industry: human interactivity, low latency and native distribution to every single device in the world. “WebRTC is that,” he said. “There is no other technology in the world that’s perfectly positioned to do that.”

He added, “You have this strange ecosystem now of the traditional broadcast industry, the somewhat new live-streaming industry and the even newer WebRTC space that has never been narrowly focused on either broadcast or streaming. Both broadcasting and streaming have been against WebRTC because they have not accepted it as the next generation of where technology is going.”

How WebRTC differs from streaming

The aspect of WebRTC that helps it stand apart from streaming is the simple fact that it is a two-way communication. It enables a degree of audience engagement and interaction that has never been successfully achieved by broadcast and is severely limited in streaming.

“Trying to do two-way at scale is the next El Dorado,” said Ryan. “How do we get a broadcast stream and wrap true fan engagement, virtual audience interactivity, trivia, quizzes, betting and gambling – all of these in real time to create additional experiences that add a lot more value to a broadcast?” The answer is WebRTC, though the exact specifics of how that will look remain to be seen.

According to Mo’s blog post, Ryan’s El Dorado may be closer than even he thinks. “Large conferences and trade shows may never fully return to the in-person only events they were prior to the pandemic, in part because of WebRTC,” he wrote. “But rather than being driven by travel restrictions and the need for social distancing, some large events will likely remain partly virtual because there will no longer be a trade-off between accessibility and convenience and the quality of the experience. With real-time audio and video streaming, the ability to support an unlimited number of virtual attendees, and capabilities that will allow those remote participants to interact with each other and the event they’re attending, WebRTC can enable more dynamic and interactive hybrid experiences that offer as much as being there in person.”



A further advantage of the system over current streaming technology is the fact that it was specifically bought and open-sourced by Google in order to allow them to integrate it into their Chrome browser. "Google realised that they needed native video and audio inside of the web browser, so they ended up buying the company that made WebRTC, open-sourcing the technology and putting it inside the web browser," said Ryan. "The idea of a browser being able to encode and decode video and audio was very new and revolutionary. The only way you could do that previously was with a plugin, which is really not native. That's what the Flash Player plugin was."

He added that he believes that hardware encoders will be a thing of the past in five years. Even capture cards will be obsolete as everything will be done in the browser. Indeed, this is already possible using WebRTC, but the quality is currently the biggest struggle.

Broadcast quality with low latency

When describing the major advantages of WebRTC, Ryan referenced a joke that, by his own admission, is somewhat clichéd but nonetheless accurate: that of watching a football match on a broadcast stream but hearing about the goals on Twitter before they have been scored on screen. Given that WebRTC lives up to its name of being real-time, that's obviously less of an issue for this particular system.

Of course, the technology's use in the likes of Google Hangouts has not necessarily been WebRTC's greatest advertisement. The comparatively low quality of the video feeds of conference calls has led to a lot of negative perception around WebRTC. Ryan added, "It's always been considered web quality, not really broadcast quality. The big thing we were trying to do to create adoption is to develop native tools. That's what the broadcast and streaming industry needs – they need a way to evolve beyond the antiquated RTMP protocol into one that is natively low-latency and embraces these higher qualities of the future as it relates to video and audio codecs."

What does the future hold?

By Ryan's own admission, WebRTC is not yet ready to handle events on a FIFA World Cup sort of level, though more because of cost than capability. It is already faster and cheaper than satellite transmission, which is why the NFL in the US is already using the technology to allow live remote production of games, pulling feeds from multiple cameras and enabling multiple teams to work with them in real time.

However, as adoption increases and the technology becomes cheaper to implement, Both Ryan and Mo foresee a lot of exciting opportunities. "From multiparty online games with voice and video participation to live fitness activities to opportunities for fan engagement during sporting event broadcasts, WebRTC will help unleash an exciting new level of interactivity to livestreams and broadcasts," Mo wrote.

His visions of the future are comparatively grounded. Ryan is excited to see virtual stadiums in the metaverse, allowing fans to feel like they're in the stands watching virtual concerts and sports events. He also foresees a revolution in broadcast media, with a move towards streamers, podcasters and citizen journalists being able to integrate multiple audio and video feeds into their content in real time.

There are, however, still some obstacles to overcome. Bayan Towfiq, CEO of Subspace, voiced some concerns alongside his optimism. He said, "WebRTC eliminated previous barriers that existed as far as enabling seamless and flexible online interactions. The move to standard will only improve delivery and expand the potential of real-time interactivity. These are exciting times, and among technology firms, there's a huge propensity to move fast and deliver big changes. But in many cases, the networks themselves aren't ready for the next generation of WebRTC, and without considering how we support real-time apps, there is a risk that all of this energy and innovation will be hampered by the networks that transport these streams."

WE HAVE YOUR EVENT BACKDROP SOLUTIONS



Backdrops™ Fantastic

1800 737 037
www.backdrops.com.au

OUR BRANDS:

NAMM...



THE OMINOUS REUNION IN ANAHEIM

I have a history of attending international tradeshows for the first time as they begin to decline. “You should have seen it five years ago; it was three times the size,” is a phrase I often hear. The phase of my career where I’ve been able to attend these shows has coincided with their transition from essential industry events to optional extras as companies question their ROI.

First it was the internet, and then COVID. These two challenges to in-person trade events have made everyone question their operating assumptions. COVID in particular has addressed the phenomenon of FOMO that has kept many shows alive over the last two decades in a real-world experiment that everyone was forced to participate in. I’ve heard many firms say; ‘We’re not going this year, we’re sick of the cost and travel’ about almost every show, only to see them change their mind and attend anyway; the FOMO is strong. COVID finally answered the question ‘what happens if we don’t go?’, and often the answer was ‘not much, but we saved A LOT of money.’

NAMM showed all the signs of a show that has contracted dramatically. I’ve seen it happen before with the MusikMesse/PL+S pairing in Frankfurt. High profile companies absent.

Really, really wide aisles to hide the lack of exhibitors. Inexplicably empty areas of show floor. Exhibitors packing up early on the last day.

Now, I’m really only at NAMM because it was running so close to the main event for CX, InfoComm in Vegas. I’m here because I was curious to see the show, even though most of it is musical instruments. But I’d been told the pro side was definitely worth seeing, and bigger than an Australian show. This year, it wasn’t.

I’m sure most of this is down to COVID. On the musical instrument side of the show, Fender and Gibson were absent, which speaks volumes. The pro side, mainly housed in an adjacent hall to the main event, was patchy, with some major companies displaying a presence the size of a regional show. The proximity to InfoComm meant a lot of pro audio

and lighting companies had to choose, and chose Vegas, where the exhibitor map and show guide seem to be the same size as the last time I attended, pre-COVID.

With the show already being a bit of a downer, the mood was definitely not improved by the highly visible face of the USA’s unique social problems. Militarised police in full camouflage carrying assault rifles patrolled the walkways between buildings and outdoor spaces. Snipers perched on the roof of the adjacent Hilton Hotel, high above the main outdoor stage. “Is this NAMM or ‘nam?” quipped one of my Australian colleagues.

As guests in their country, we foreigners spoke of this unnerving presence in hushed tones. As I toured the impressive production of the Yamaha-sponsored outdoor stage, the French national hosting us gestured to the roof of the Hilton. “See our angels up there, protecting



OR 'NAMM?

us?" he deadpanned quietly, sharing the same dark sardonic humour as we Aussies. "That's exactly what they need here. More guns."

It's impossible not to think of the unspeakable horrors that have occurred in the USA over the last few weeks when there's such a visible reminder in front of you. Amazingly, the locals don't seem phased. They were posing for photos with the 'troops'. Fellow Australians were aghast. Turn on the news in the morning as you prep for the show, and you find out how many more mass shootings occurred overnight.

Metres from the show, my hotel sat on the intersection of two major roads. The streetscape was quintessentially US; a Walgreens on one corner, CVS on another, my hotel, a 7/11, and a strip of takeaway food and convenience stores. Dozens of homeless people slept around the 7/11 and the bus stops. Mentally ill, toothless, with nowhere to go. A ranting preacher with a megaphone harangued passers-by to accept Jesus.

There are local elections on in LA as I write this. The main issue all the candidates are addressing is homelessness. From the footage I've seen of the shanty towns and temporary tent cities elsewhere in LA, there are comparatively not that many homeless people here in Anaheim.

What's this got to do with trade shows? What we're seeing is that everyone likes getting together physically, and no-one wants to give that up. But the international show calendar is in flux as some shows fade and others rise. ISE in Barcelona was reportedly a great show, and InfoComm, which I'm about to head to, looks like it should be pretty good too. So why would we want to get together somewhere that makes us so uncomfortable? The domestic market might be OK with it, but talking to the other internationals, no-one else is.

Epilogue

Right after I finished writing the above text, I decided to go across the road to get a "coffee" at Starbucks. I ran into an Australian industry colleague doing exactly the same thing (and thanks again for shouting me the coffee). On our return, waiting at the pedestrian crossing, a very disturbed young woman stood in front of us and screamed "WHAT DO YOU SEE?" I said; "I see you're very angry, and I think people have failed you." Her faced changed. She then spoke quietly; "What are we going to about it?" I said, "I think there are a lot of examples from other places around the world that might work." She implored; "They need to stop torturing us."

I crossed the road and she wandered off. On the other side of the road, a dishevelled young

man decided to dance ecstatically into four lanes of fast-moving traffic, daring the cars to run him over. All around the intersection, throngs of families heading to Disneyland next door didn't seem to notice. I guess you just get used to it.





Austrian Audio

OD303 Dynamic Vocal Microphone

The extremely affordable OD303 follows the renowned Open Acoustic technology of Austrian Audio which provides an optimally shaped supercardioid polar pattern across a wide frequency band with excellent feedback stability. Also, holding the microphone close to the head grille (a.k.a. 'cupping') does not affect or change the sound. FOH and monitor engineers will greatly appreciate this feature, to say the least!

Equipped with the Austrian Audio ODC50 dual capsule, unique at this price, handling noise and stage vibrations at low frequencies are significantly reduced. In addition, the proprietary 3D Pop noise diffuser, developed by Austrian Audio, reduces noise caused by explosive sounds such as 'T' and 'P' to a minimum.

*Australia: Group Technologies grouptechnologies.com.au or (03) 9354 9133
New Zealand: jansenjansen.nz or (09) 377 3663*



DPA

4055 Kick Drum Mic

Designed to kick the bass to the next level, the 4055 takes the traditional concept of a kick drum mic and turns it on its head. No more pre-tailored sound - now you can take sound design back into your own hands.

What makes the 4055 stand out from the competition is that it delivers the renowned DPA sound, clarity and linear frequency response, both on axis and off axis. Its low frequency response and dynamics are superb and result in a tight, natural, well-defined sound - the best low-end with detailed mids and highs.

The 4055 is one of the only kick drum mics that is not sonically pre-tailored to fit a traditional sound in a specific genre. Its performance allows a professional sound designer to create the exact sound they are listening for, regardless of the music genre. Want more attack? Slide the 4055 into the bass drum and point it directly at the beater. For a super-low-end sound, place the 4055 at the hole, just on the outside of the front head. Here, the level of sub and lows are represented the most.

Australia: Amber Technology www.ambertech.com.au or 1800 251 367 / New Zealand: Direct Imports directimports.co.nz or (06) 873 0129



*Laura Davidson,
Market Development
Manager at Shure,
with the KSM11*

Shure

**KSM11
Wireless Cardioid
Condenser Capsule**

The KSM11 Wireless Vocal Microphone Capsule redefines vocal performance by providing a prized combination of full lows, clear mids and high-end detail, without the need for extensive EQ. The proprietary wireless condenser capsule utilises a ¾" gold diaphragm and premium electronics for exceptional dynamic range. The highly consistent, deep cardioid polar pattern reduces off-axis phase distortion for pristine and focused vocal reproduction. It's built with a dent-resistant hardened steel grille with three-stage plosive reduction pop filtering for consistent, artifact-free vocals. Shure's Laura Davidson even assured us that vocalists that insist on 'cupping' the mic won't affect the mic's performance, which would be a godsend when dealing with rappers.

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

The Italian manufacturer has designed and released a lot of product over the last two years, but obviously hasn't had a lot of opportunity to show it off. dBTechnologies' Application Support Marco Cantalù gave us the full tour of the booth, which had a lot of pleasant surprises.

Fifty Top and Sub

Updated for 2022, the Fifty line are an active top box and sub. The Top runs two 3" HF drivers and four 10" LF drivers. Its amp puts out 1600W RMS. Onboard processing, including FIR filters, is controllable via dBTechnologies networked Aurora Net software. The Fifty sub runs a single 18" woofer and is powered by a 1600W RMS amp. The combo is designed to be effortlessly scaled, stacked or flown, covering the huge range of applications that don't require a line array.



Marco Cantalù with Fifty Top and Sub



IS Series

A bit of a big deal in dBTechnologies' world, the new IS Series sees them enter the hospo, corporate, education, and retail installation market in a big way. Five models from the tiny IS4T 4", through to the IS26T two-way running 6.5" woofers and a 1" compression driver, plus two subs, are all passive, which is a new direction for a company that has been making active loudspeakers since the 1970s.



VIO X Series

Unique in the market, the VIO X206 is an ultra-compact active professional speaker that is available in two versions; a standard 90x60° coverage or a 100x15° dispersion pattern, which basically turns the full range speaker into a line array module. Pictured here mounted on a VIO S115 sub and in point source mode, the X206 can be converted for point to line in a minute or so without specialist tools, offering amazing flexibility.



VIO W10

This was one of the best things I saw at NAMM. Foldback is close to my heart, having spent the majority of my live career in monitor land. This impossibly low profile powered wedge is so sleek I can't even understand how there is an amp and a 10" woofer in there. Not only that, you can beamform the 4x4" neodymium HF speakers that sit in the front lip of the wedge via software. This thing is SEXY.

VIO L1610

"This is my baby," said Marco. The VIO L1610 is a three-way active line array system, entirely equipped with neodymium components: 2x10" woofers interact with a coaxial neodymium component (4" MF plus a 2.5" voice coil HF compression driver) mounted on an exclusively designed waveguide. This unique coaxial symmetric acoustic design results in everything above 500Hz coming out of the same waveguide, providing amazing vocal clarity.

Australia: [NAS nas.solutions](http://NAS.nas.solutions)
or (03) 8756 2600
New Zealand: [Direct Imports](http://DirectImports.directimports.co.nz)
directimports.co.nz
or (06) 873 0129



AC6 and NTX210L

Each AC6 is comprised of six 6" woofers and thirty 1" dome tweeters mounted to a CSA waveguide. Each transducer is individually amplified and processed for an unprecedented level of control and clarity. Adaptive technology allows vertical coverage to be perfectly customised to a venue across the entire 20KHz to 65Hz operating range resulting in even and musical coverage.

A modular design approach provides redundancy and full serviceability from the front of the unit making AC6 the easiest to service column loudspeaker available. AC6 is designed to disappear visually while being rugged enough for portable use, and carries an IP rating of IP54. All wiring is designed to be hidden behind the column and can be passed through to columns above or below it.

NTX210L is designed to help modern production and integration companies successfully conduct more business by being fast to deploy while delivering high performance. Different from other powered line array products, patented Optilogic technology allows each loudspeaker to communicate with the loudspeakers around it. This reduces setup and tuning time and opportunities for errors, all while maximising array performance.

The NTX210L includes Dante loop through, high output per line-length, a clean professional look, and Isophasic wave guide. A passive version is also in the works.

Australia and New Zealand: PAVT
pavt.com.au or +61 (0)3 9264 8000



EAW



Chris Lord-Alge at SSL



SSL

SSL's stand was one of the busiest in the pro hall, with special guest stars like celebrity mix engineer Chris Lord-Alge constantly dropping in to praise the legendary audio brand and run Q+As.

FUSION and THE BUS+

Out of a swag of beautiful analogue and digital gear on the stand, the new THE BUS+ was paired with Fusion, a unit with six completely new analogue colouration tools designed to bring the perfect combination of added tonal character, weight and space to your mix bus or stereo stems, with the detail, warmth and finesse that only real analogue circuits can provide. Fusion includes a Vintage Drive, HF Compressor, Violet EQ, Full-band Listen Mic Compressor, Stereo Imager, and a Transformer.

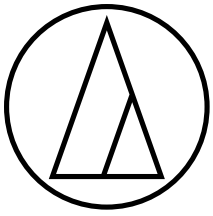
An update to the industry-standard SSL Bus Compressor, the core design of THE BUS+ remains faithful to the original, while a number of advanced processing tools have been added to create the most versatile Bus Compressor ever. In addition to D-EQ and Transient Expander, THE BUS+ features three unique compression colours; LOW THD, F/B and 4K MODE. Each 'colour' offers a different characteristic and can be combined for unique compression styles.

LOW THD MODE introduces a special circuit modification in the side-chain, helping to limit the amount of low frequency distortion compression can create, especially with fast release times. Subjectively, LOW THD 'cleans up' the bottom-end, allowing you to achieve 'cleaner' gain reduction.

F/B (FEED-BACK) MODE takes the signal feeding the side-chain from a feed-back position (i.e. after the main gain-reduction VCA in the audio path). This results in a more 'relaxed' style of compression, in contrast to the traditional 'grab' of the Bus Compressor.

4K MODE changes the operation of the VCA from balanced to unbalanced (matching how the Bus Compressor in a 4000-series console was implemented). It also introduces a variable amount of harmonic distortion via the VCA. These two factors combine to allow for a more 'coloured' sound. THE BUS+ allows you to adjust the distortion amount which 4K MODE offers. You'll find there's a certain 'sweet spot' (depending on your mix level) in which your material will become more cohesive, thanks to the added thickness.

Australia: Amber Technology www.ambertech.com.au or 1800 251 367
New Zealand: Amber Technology www.amber.co.nz or +64 (0)9 443 0753



audio-technica



M50X



M60X



M70X

M-SERIES

FROM THE STUDIO,
TO THE STREET.
NO COMPROMISE.

Long heralded by online reviewers and top audio professionals, and backed by a cult-like following of serious music fans, the M-Series offers an unmatched combination of audio and build quality for exceptional performance both in the studio and beyond.

For information on the full range of M-Series headphones go to **audio-technica.com**

Follow us
[@AudioTechnicaAU](https://www.instagram.com/AudioTechnicaAU)



SRX900

The first big outing for JBL's new affordable powered line array meant that it was the star of the Harman stand. Announced via a global webinar, it was great to finally see it in the flesh, and even better when we heard it at the demo room at InfoComm four days later.

The SRX900 family includes dual 6.5-inch and dual 10-inch powered line array loudspeakers and 18-inch and dual 18-inch powered subwoofers. Because these systems are scalable and affordable, users can start with a small investment and expand over time. All SRX900 models work seamlessly with other JBL touring PA systems.



Harman's George Georgallis with his baby

EON700

After surprising the market with the announcement of a seven-year warranty, JBL's EON700 Series of powered loudspeakers and their brethren EON ONE MKII and PRXONE portable column speaker systems were gaining a lot of attention at NAMM. Proud father of the range, Brandon Knudsen, was on hand to give personal demos of the products, which he was not afraid to push to nightclub levels.

JBL's EON700 series leverages the latest acoustic science, transducer designs, cabinet materials and advanced DSP and control technologies to deliver extraordinary performance in a fully professional, highly flexible, easy to use, portable system. With four models available, including the 10-inch EON710, the 12-inch EON712 and the 15-inch EON715 powered PA speakers and the 18-inch EON718S subwoofer, EON700 systems cover the needs of today's working musicians and sound providers.

Australia: CMI Music & Audio cmi.com.au or (03) 9315 2244

New Zealand: JPRO www.jpro.co.nz or (09) 275 8710



Brandon Knudsen, Product Manager, with the EON700 range

FBT

Roberto Mataloni, FBT



Don McConnell, ABA

X Series

FBT's refreshed X Series powered loudspeakers have been treated to a full redesign of all the electronics. Power handling has been increased, a 3-channel mixer added, and Bluetooth 5.0 included for streaming audio from smartphones and tablets.

The range includes three models of polycarbonate X-LITE, four models of the higher powered and plywood X-PRO, and two models of X-SUB.

Australia and New Zealand: Audio Brands Australia www.audiobrand.com.au or +61 (0)2 9659 7711

XPS Power Amplifiers

Surprisingly for a company known for its powered speakers, RCF released... power amplifiers. The XPS 16K is a 4 x 4000W power amp designed with ready-to-use presets and RDNet integration with advanced tuning capabilities. Onboard DSP handles input mixing, delay, IIR/FIR equalisation, crossover filters, and thermal/RMS/peak limiting. Premium sound quality in a pro audio road-proof amplifier, designed for years of reliable, flawless operation with best-in-class signal-to-noise ratio, ultra-low distortion, and great dynamic range. The 16KD model includes Dante and AES/EBU connectivity

ART9 AX Series

Ah, that's more like RCF. The three new models of powered loudspeakers, ART 915-AX, ART 912-AX, and ART 910-AX, combine all the features of the ART 9-A with a powerful digital mixer and advanced capabilities. Several operating modes are included, alone or paired with other speakers and subwoofers, wired or wireless. All available functions and parameters are accessible from the onboard colour display via a capacitive touch screen and an encoder knob, as well as from a dedicated app for iOS and Android devices. The series also includes Bluetooth for audio streaming and control.



RCF



IPS Series

Three models of power amp, the PS 5.0K, IPS 2.5K, and IPS 1.5K, output 1500W, 800W and 500W RMS at 8 ohms, respectively. Each amplifier features independent gain control, signal clip and fault indicators, stereo XLR input and output link, mono/stereo/bridge switch, SPEAKON, and binding post output connectors.



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

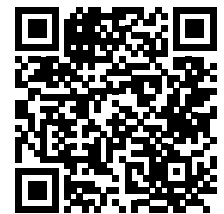


All meeting controls at your fingertips

Confero 360

Manage meetings right from your own browser

Scan the QR code to find out more



**NO INSTALLATION
NEEDED**



**QUICK SETUP
WIZARD**



**SIMPLE MEETING
MODERATION**



**MEETING
REPORTING**

Confero 360 is Televic's key-solution for straightforward meeting management. The software is all web-based and requires no installation on a PC. Simply access the software through any web browser and run the setup for a smooth configuration of the system.

Confero's quick setup wizard has a very intuitive interface and easy-to-use tools for room setup and meeting control. This solution also introduces different user roles. This makes it possible to tweak the interface and see only what is important to get the job done. It allows a chairperson or operator to control the meeting, microphones and voting, as well as view the meeting report after the meeting.

Confero 360 makes managing meetings easier than ever before!

NOW WITH CONFERO MEET

Hybrid Meetings Made Easy

Confero MEET is Televic's solution for organizing and managing hybrid meetings. It allows you to easily invite delegates to participate in a meeting, either in person or remotely, from their home or office, using a standard web browser.

Sales and enquiries
contact 03 9264 8000
or sales@pavt.com.au





INFOCOMM 2022

The Triumphant Return to Vegas

This is the first InfoComm CX has been able to attend since 2018, and it certainly did not disappoint. Now occupying the shiny and huge new West Hall as well as the old North Hall at the Las Vegas Convention Centre, the 2022 edition has come back with a larger footprint, more exhibitors, and more attendees. It was a joyous reunion of the global AV industry, even if we APAC folk were a bit thin on the ground.

The stands were busy, and the audio demos rooms were packed. If you were worried about COVID, it was the wrong place to be. On the last day of the show, InfoComm sent out a warning from Clark County (where Vegas resides) that rates of transmission had dramatically escalated, and everyone should wear masks inside. I was already getting on a plane back home. Having spent three happy days cheek-by-jowl with the international AV community, I was past caring.

The big product and tech news from the show came from three unlikely sources: a video conferencing bar from Biamp, a captioning system from Williams AV, and a LED screen calibration tool from Aoto. What do they have in common? They'd all been trained by AI.

Biamp's Parlé VBC 2500 video conferencing

bars have beamtracking microphones, great speakers, and a nice camera, but the absolutely astonishing thing about them is their AI-trained noise reduction. I sat in on the demo, and there is no audio tech on the planet that can do what they did. An AI was taught to distinguish between human speech and 'not human speech' and applies an aggressive algorithm to the audio in real time. The live demo saw the remote participants crunching chip packets, using drumsticks on the table, and even operating a drill, and the AI just took it all out, while we could still hear them talking.

Williams AV real-time video captioning system Caption Assist can transcribe live speech into 73 languages with up to 94% accuracy. Williams teamed with Google's Neural Network AI to train it. Aoto's UVA Smart dark and bright lines Calibration System uses a combination

of drones, real-time image recognition AI, and smart devices to make calibrating large outdoor LED screens easy.

The implications for AI in AV are huge. If Biamp can use AI to train DSP to remove speech, we can also use it to train DSP to emulate classic audio gear like pres and mics, or achieve the "perfect" vocal tone. It could also tune entire speaker systems. If it can be trained to turn audio into captions and intelligently calibrate a screen, it can be trained to alter video in almost any way we can imagine.

For more coverage of InfoComm 2022, head over to our YouTube page and check out the interviews with product experts we captured at the show: www.youtube.com/c/CXNetworkAustralia



Williams AV Caption Assist



Parlé video conferencing bars - we welcome our robot overlords

WHEN THE CHIPS ARE DOWN...

Audinate addresses supply issues

With supply chain the hot topic of conversation at InfoComm 2022, Audinate took the bold step of inviting the assembled AV media to a press conference at 5 pm on the first day of the show. Leading up to this, I'd had two versions of the Dante conversation with manufacturers on the show floor, version one being "we can't get Dante chips to make this product," and version two being "we are very wise and bought two year's worth of Dante chips. We are shipping now with no issues." Dante chips seem to have become the toilet paper of the AV industry.

Audinate's Chief Marketing Officer Joshua Rush and Senior Vice President of Product Development Chris Ware fronted the crowd with some interesting insights. Firstly, they actually shipped more Dante chips last financial year than ever before. Secondly, 500 manufacturers use their products, so Audinate have been leveraging that to lobby chip manufacturers to stop putting them last in the queue for supply. This second point

is admirable – the AV industry is dwarfed by the consumer electronics and automotive industries, and certainly doesn't hold sway over chip manufacturers like defence and government. Audinate's unique position as a nexus for the whole industry makes them an advocate for us all.

With product development brought forward, products redesigned, and ongoing parts disruptions calming down, Audinate were also keen to encourage manufacturers to consider migrating to their software solutions; the Dante Embedded Platform and Dante IP Core.

While many manufacturers find it hard to come to grips with selling software instead of hardware, QSC is definitely not one of them. QSC's VP of Product Strategy and



Development, TJ Adams took a guest spot at the mic to explain the advantages of the software based approach, pointing out that their continuing upgrades to their Core products and implementation of not only Dante but Q-SYS itself on Dell servers has led the market.

ADAMSON

Two major releases from Canadian loudspeaker manufacturer Adamson – one very big, one very small. Both were showcased in Adamson's demo room, and both impressed.

First up, the tiny IS5c. It's an ultra-compact, lightweight, passive 2-way coaxial loudspeaker, with a 100° conical dispersion pattern. Designed to produce linear, high-resolution audio throughout its intended bandwidth, the enclosure contains a 1.4" dome compression driver coaxially combined with a 5" low frequency transducer. Demonstrated with subs on and off, you'll be pretty surprised what this tiny unit can do.

And the big one. 12 pm on Tuesday 8 June in Vegas, the press release hit our inboxes just as the demo kicked off. Adamson have entered the spatial race with the Adamson Fletcher Machine. An entirely new development in object-based mixing, the Adamson Fletcher Machine utilises amplitude and time localisation, so objects are clearly perceived at their intended position, offering the listener a more direct connection with the music. The rendered signals that are sent to the loudspeakers are calculated from the object's point of view, ensuring the best spatial coherence for most listening positions.

The Stage Unit is a 3U 19" rackmount, capable of controlling either 64 or 128 inputs and outputs, with the compact Traveller Model being able to handle either 32 or 64 inputs, paired with 32 outputs. Each of these are available with hardware configurations operating in AVB/MADI or Dante audio at 48 or 96 kHz. All configurations keep latency at an amazingly low 1.33 ms.

The easy-to-use user interface is based on the digital mixing desk approach and includes a complete set of mixing tools including EQ and compression for each object, up to 4 auxiliary sends and up to 8 VCAs, loudspeaker positioning in 3 dimensions, as well as a unique, high-quality integrated reverb with a vast amount of control.

The Adamson Fletcher Machine can receive OSC and MIDI messages so it can also be controlled using external devices. As well, it can be easily interfaced with tracking systems to accurately track object movements.

Australia: CMI Music & Audio
cmi.com.au or (03) 9315 2244

New Zealand: Direct Imports
directimports.co.nz or (06) 873 0129



L-Acoustics' Scott Sugden gives us the Ted Talk vibe



Soka and SB6i



X4i



L-ACOUSTICS

It's not always about massive line arrays. The four intriguing releases from the French manufacturer were all about compact, with an eye to installation and immersive audio. The miniscule X4i weighs just 1kg and is just 116mm wide and 99mm deep. It's a two-way coaxial design with usable range of 120 Hz – 20 kHz. When they demoed it, there was a 'no way – surely there's a sub on' moment among the assembled crowd.

Two other products that blend in discretely are Soka and its companion SB6i subwoofer. Soka combines line source technology with a sleek aesthetic, integrating nine 3.5" MF drivers and three 1" HF transducers to impart a wide 140-degree horizontal coupled with a highly controlled 26-degree vertical directivity. Soka and SB6i are an ultra-shallow 99 millimetres, designed to be easily enclosed in-wall or discreetly mounted on-wall, yet are capable of astounding power and bandwidth. An immersive audio installation with these around the venue's walls would totally rock.

Powering all these extra channels is the new LA7.16i power amp. LA7.16i offers an unprecedented 16x16 architecture in a 2U chassis with seamless Milan-AVB redundancy. Each of the 16 output channels delivers up to 1300 watts at 8 ohms or 1100 watts at 4 ohms.

The L-Acoustics demo room was booking out 20 minutes ahead of each session, but I managed to talk my way in. The

L-ISA Processor II was running the new Ambiance Virtual Acoustics System, with a ring of X4i around the room, fed by a grid of ambience mics. The L-Acoustics demo was a masterpiece – more Ted Talk than PA demo. I've never seen a product demo so beautifully staged, choreographed, and delivered. L-Acoustics' Product & Technology Marketing Engineer Jordan Tani played a flute while walking the room, switching the Ambiance on and off to demonstrate its effectiveness. It turned a draped-off box in a convention centre into a concert hall.

Scott Sugden, Head of Technology and Product Marketing, then took over, talking through the LA7.16i before showing off the X4i in a pair with and without sub; "I've convinced my wife to let me install them in our house," he quipped. Soka and the SB6i then got their turn, and their heritage from Syva is obvious. The whole demo was capped off with a glorious L-ISA mix of a live recording by a band whose name eludes me, but who sounded like a cross between Bon Iver and Grizzly Bear. The whole room was employed in the mix, and it was immersive audio at its best.

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

LA7.16i



L-ISA Processor II

BIAMP

Biamp were on a hot streak at InfoComm, introducing two absolutely killer products. We've already talked about the Parlé VBC 2500 video conferencing bars, and we urge you to get yourself into a demonstration of their incredible AI noise reduction as soon as distributor Jands can put one in front of you.

In one of those 'aha!' moments, Biamp also impressed me with their TEC-X family of programmable wall controllers. On the surface, it's another knob and touchscreen combination controller for an AV system, but the real pain-point removing innovation is that users can scan it with their smartphone and have the control duplicated on their device, taking it anywhere in the room with them. Corporate AV is all about making everything as easy as possible for the end-user, and this kind of product thinking is exactly what the market needs.

Australia: Jands
jands.com.au or (02) 9582 0909

New Zealand: Jands NZ
jands.nz or 021 674 601



TEC controller mirrored with iPhone



**FEELING
THE PINCH?**
Check out the special
reduced membership
offer for people in
financial hardship

COLLECTIVE STRENGTH

CAMPAIGNING

WORKPLACE SUPPORT

DISCOUNTS & BENEFITS

NETWORKING

With more than a century as **the leading advocate for workers in the arts and entertainment industries** and dedicated and experienced staff, MEAA is the union for any lighting, audio, staging or rigging crew who work in theatre, live music, concerts, conferences and events venues.

BECOME A MEMBER TODAY

meaa.org/join [1300 656 513](tel:1300656513) members@meaa.org
[fwithMEAA](#) [@withmeaa](#) [withmeaa](#)



AUSSIES AT INFOCOMM 2022

Between the nerve-wracking pre-flight negative COVID test result needed, mountain of paperwork, possibility of getting sick, and sky-high flight prices, APAC can be forgiven for not turning up to InfoComm en-masse. There was however a bold contingent of Aussies there, with Jands in particular bringing an impressive entourage. While we didn't get to see all of our fellow Antipodeans on the show floor, those we did, we forced to pose for photos...



Biamp's Kheong Sen



Jands' Chris Ling with a WattBox he won in a totally legitimate giveaway



Pro AV Solutions' Jeff Lloyd



Charles Sturt University's David Stormonth



L-Acoustics' Damien Juhasz



Bosch's Phillip Webb



Dolby's Michael Smithers and Danley's Steve Anderson



Jands' Paul Shephard and Will Repanellis

PRODUCTS ON SHOW

Clear-Com Arcadia

Designed with input from Clear-Com's extensive global live sound user base, Arcadia represents the next evolution in partyline workflows, combining digital, analog and AoIP intercom technologies into a single integrated system. From the Broadway stage to a growing community congregation to the largest and most complex live events, Arcadia is ideally suited for a wide variety of applications, in part due to its flexible licensing-based model that allows future expansion.

Australia: Jands

www.jands.com.au or (02) 9582 0909

New Zealand: Oceania

oceaniaproductions.co.nz or 09 846 5533



Bose VB-S

Aimed at home users and small huddle spaces, the Bose Videobar VB-S is a compact all-in-one USB conferencing device that's easy to install and brings premium audio and video to rooms up to 3 x 3 metres. With four beam-steering microphones, a 4K ultra-HD camera, and signature Bose sound, VB-S delivers a meeting experience so clear you can read the room from across the globe.

Australia and New Zealand: Bose pro.bose.com or +61 (0)2 8737 9999

JBL Control Contractor

The absolutely heaving Harman demo room saw not only the new SRX900 line array get a workout, but also eight new models of the bread-and-butter Control Contractor Series flanking the walls. Due to the sardine-like conditions and constant mood lighting, I couldn't get photos of the full range, but here's the details:

Control 68HP Two-Way Pendant Loudspeaker: Its driver complement features an 8" Kevlar-reinforced low-frequency driver with a high-powered 2" voice coil.

SLP12/T and SLP14/T On-Wall Loudspeakers: These really caught my eye with their unique dimensions. The SLP12/T and SLP14/T are made in a discreet, close-to-the-wall form factor. Installation is fast and easy using an included slide-in wall bracket and both models are available in black or white finishes.

GSF3 and GSF6 Ground-Stake Landscape Loudspeakers: Compact, weather-resistant GSF3 (two-way coaxial 3-inch) and GFS6



(two-way coaxial 6-inch) aimable landscape loudspeakers. Both models deliver full-range sound and can be extended further with JBL's new GSB8 and GSB12 landscape subwoofers.

GSB8 and GSB12 In-Ground Landscape Subwoofers: GSB8 (8-inch) and GSB12 (12-inch) in-ground landscape subwoofers augment GSF landscape speakers to provide rich, full-range sound. Both models extend down to 35 Hz, with a steep, multiple-slope lowpass filter.

Control 89MS Above-Ground Landscape Subwoofer: The Control 89MS is a sleek, attractive, IP56-rated subwoofer that features a long-throw 8-inch driver and augments the low-frequency performance of the JBL Control 80 Series landscape speaker line.

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

New Zealand: NSL
www.nsl.co.nz or (09) 913 6212



Meyer Sound Panther

Why did Meyer Sound hold a demo of their new PANTHER line array in Vegas a mere month before InfoComm? Why didn't they have a demo room where I could hear PANTHER? The answer is because there are more than 200 units on tour with Ed Sheeran, and Dead & Co have the rest on their tour. Pictured here is the only element even Meyer Sound can get their hands on. As Tim Booth, Director of Global Marketing at Meyer Sound told me, PANTHER has been the most successful product launch (in terms of units and value shifted) in their history. PANTHER's acoustic output is closer to the significantly larger and heavier LEO line array loudspeaker and occupies the slender form factor of the existing LYON line array loudspeaker. Despite stadium levels of performance, PANTHER weighs just 68 kg and offers substantial savings on current draw from the previous generation flagship line array loudspeaker. A dual analog/Milan AVB network input module means PANTHER offers flexible signal distribution options and each cabinet comes standard with an IP55 weather protection rating — all at a substantially lower initial cost compared to LEO and LYON.

Australia and New Zealand: Meyer Sound meyersound.com



WolfVision Cynap Pure Mini

Good things come in small packages. The new Cynap Pure Mini is a compact, affordable, BYOD wireless screen mirroring system, providing comprehensive wireless screen sharing for all iOS, Android, Windows, macOS and Chrome OS devices onto a central shared screen. Connection is quick and easy, and support for AirPlay, Chromecast, and Miracast means that no additional software, apps or dongles are required when sharing content on-screen from any laptop, smartphone, or tablet.

Australia: Amber Technology ambertech.com.au or 1800 251 367
New Zealand: Amber Technology amber.co.nz or (09) 443 0753



Waves CA3000-MX

Well known for their plugins and the eMotion LV1 live mixer, Waves are now going after the install market. The CA3000-MX is ideal for any corporate, commercial, government, educational or house-of-worship installation that demands a high level of audio quality and advanced processing flexibility. Housed in a compact half-width 2U rack-mount chassis, CA3000-MX couples a powerful digital audio processing engine with an install-ready version of the industry-proven Waves eMotion LV1 mixer, supporting up to 32 stereo inputs, 24 stereo aux mix outputs plus L/R/C/M outs, and a 12x8 stereo matrix.

Australia: Sound & Music sound-music.com or (03) 9555 8081
New Zealand: Protel www.protel.co.nz or (09) 414 0477

Shure MXA920

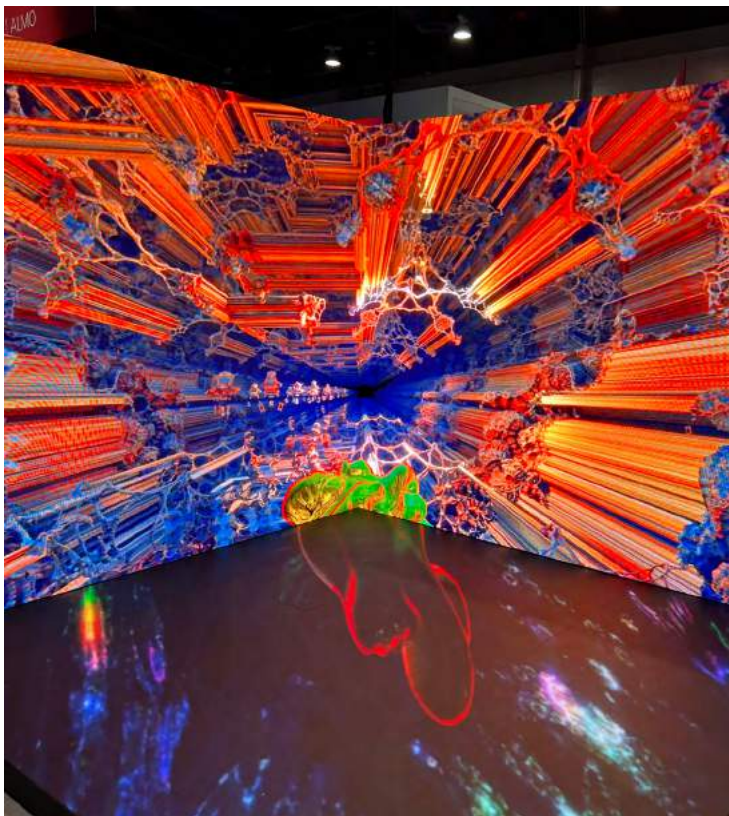
Shure were another booth that was nigh on impossible to photograph due to the incessant crowds. Good news for them, bad news for this photo of the brand spanking new MXA920 Ceiling Array microphone and its ecosystem. Now available in both round and square, and hangable as a pendant, the MXA920's next-generation array architecture delivers enhanced low frequency directionality and the most natural speech quality. An advanced talker localisation algorithm instantly reports the exact position of each talker for the most accurate camera tracking possible. Precise coverage control provides exceptional isolation between microphone lobes and loudspeakers, guaranteeing the maximum sound level possible in voice lift and sound reinforcement applications. In larger spaces, Designer system configuration software helps you configure MXA920s with other Microflex Ecosystem devices.

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

Infiled xR Studio

Trippiest stand of the show award goes to VuePix Infiled. Showing off their xR studio and virtual production capabilities, Infiled built a mini xR studio on the stand with two walls and floor, built from DB Series panels for the walls and DF Series LED panels for the floor. They then ran some extremely fast-paced visuals that not only looked amazing, but had you questioning what kind of mushrooms were in that salad you had for lunch.

*Australia and New Zealand: ULA Group
www.ulagroup.com
or AU 1300 852 476 / NZ +64 9 218 6532*



Elation KL PROFILE FC

The KL PROFILE FC is a manual LED framing fixture designed for a wide array of precision lighting applications. With an integrated manual zoom range of 7 to 50 degrees the fixture requires no additional lens tubes, reducing cost, complexity and providing excellent flexibility for any theatre, performance venue or show. The integrated manual Iris allows further beam control.

Elation KL PAR FC

The KL PAR FC is a compact full-colour-spectrum LED fixture that provides high output, precise colour temperature control, full-spectrum colour rendering, and even wash coverage. Offering powerful colour intensity and a wide array of saturated and pastel colours from its efficient RGBMA engine, it is also optimised for the tuneable white light requirements of Film and Television.

*Australia and New Zealand: ULA Group
www.ulagroup.com or AU 1300 852 476 / NZ +64 9 218 6532*



Audio-Technica ATND1061

This was a bit of a surprise. Audio-Technica launched their compact Beamforming Ceiling Array Microphone, the ATND1061. Its dimensions are compact: 227.5mm x 227.5mm x 30mm (WxDxH). This means it can be surface, flush, or VESA mounted. The microphone may be used singly or in multiples for larger meeting spaces to capture every person speaking in a room with clear, natural audio that reduces distracting environmental sounds. A state-of-the-art professional product in a familiar form factor (roughly the size of a wireless access point), the ATND1061 is easy to install, set up, and operate.

*Australia: TAG
www.tag.com.au or 02 9519 0900
New Zealand: Direct Imports
directimports.co.nz or 06 873 0129*

Digital Projection Satellite Modular Laser System (MLS)

While it's been out for a while and installed in Australia, this is the first time I've seen it in person. The basic concept is to cut the projector in half, separating the 'Head' from the light source, allowing a huge amount of flexibility in installation. By linking the two with robust and flexible fibre optic cables up to 100m long, MLS offers the installer many more options, particularly where space and access are restricted. Compare the installation and rigging of 'Heads' weighing in at between 19kg and 45kg, with that of more traditional integrated projectors that can weigh as much as 150kg.

*Australia: Amber Technology www.ambertech.com.au or 1800 251 367
New Zealand: Amber Technology www.amber.co.nz or (09) 443 0753*



Electro-Voice MTS

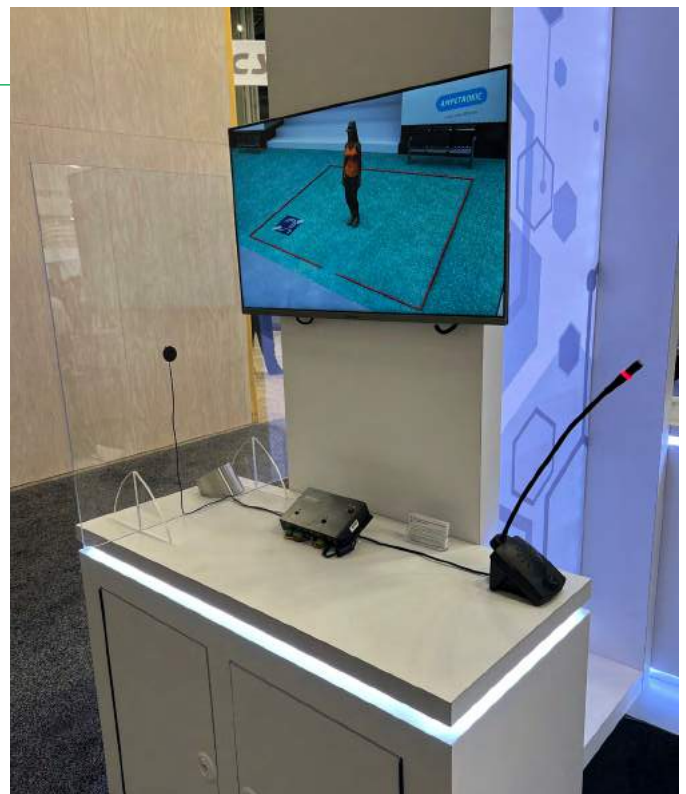
What's not to love about a loudspeaker that measures 1m x 1m x 1.5m (HxWxD) and weighs 213 kg? With 16 unique variations, each MTS model is equipped with four 15" woofers and dual coaxial mid/high frequency compression drivers. The system is capable of generating more than 151 dB peak SPL with exact directivity for very long-throw applications. We actually heard this beast in the Bosch demo room, but it was barely idling. There are also two models with a cardioid configuration (two woofers mounted in the rear) that improve low frequency directivity. Obviously for outdoor use!

*Australia and New Zealand: Bosch
www.boschsecurity.com.au or +61 1300 026 724*

Ampetronic TalkPerfect

Designed to keep workers and customers safe, the TalkPerfect duplex window intercom system improves communication at fixed screen security counters. Based on proven, reliable and patented technology, the full duplex (two way) system amplifies speech for both customer and staff whilst minimising background noise and actively reducing acoustic feedback. The Ampetronic TalkPerfect amplifier is typically installed below counter in conjunction with a CLD1 induction loop, providing a fully integrated intercom and control module, with a host of features for integration and versatile use.

*Australia: Jands www.jands.com.au or (02) 9582 0909
New Zealand: JPRO www.jpro.co.nz or (09) 275 8710*



Pliant MicroCom XR

Currently being adopted by multiple companies and venues in Australia, MicroCom XR is a simple to operate and budget-friendly intercom solution for applications where quality wireless intercom wasn't previously a viable option. MicroCom XR's excellent range and rugged construction make it the perfect choice to deliver dependable performance for any application including theatre, concert, corporate events and just about anywhere groups need to communicate together.

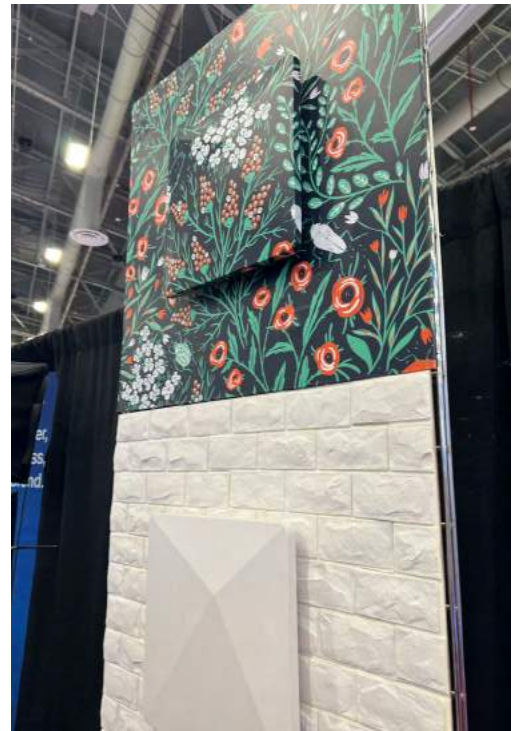
*Australia: NAS nas.solutions or (03) 8756 2600
New Zealand: NAS nz.nas.solutions or (09) 414 4220*

Listen NAVILUTION

Listen NAVILUTION uses GPS technology to trigger pre-recorded audio to play as the vehicle or vessel travels through the trigger zone without requiring internet connectivity while enroute. Easy-to-use Cortex software lets operators plan routes and set the trigger zones for a customised experience. The audio content can be as simple as an instructional message or as extensive as professionally produced cinematic experiences. In addition, operators can choose to deliver the audio in multiple languages.

Australia: [NAS nas.solutions](mailto:NAS@nas.solutions) or (03) 8756 2600

New Zealand: [NAS nz.nas.solutions](mailto:NAS@nz.nas.solutions) or (09) 414 4220



RF Venue Diversity Architectural Antenna

I didn't think I'd be impressed by an antenna at a tradeshow, but here we are! The new Diversity Architectural Antenna by RF Venue is a high performance antenna system for wireless microphones. Featuring a slim profile enclosure, the Diversity Architectural Antenna can be installed in any position on a wall or ceiling and can be painted to match any interior. Using a unique patent-pending dual-feed antenna design, both A and B diversity connections are provided, so there's no need to install two separately spaced antennas resulting in a more professional look that room designers and architects appreciate.

Australia: [Jands www.jands.com.au](http://www.jands.com.au) or (02) 9582 0909

New Zealand: [Jands NZ jands.nz](http://Jands.NZ.jands.nz) or 021 674 601

Are you concerned about your mate's mental health?

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

Support those around you and register for free mental health training



'Passion, Pride, Pitfalls Dec 2014

www.entertainmentassist.org.au

Supporting the mental health of Australian entertainment industry workers



Soundtube Mighty Mite

This photo does not do it justice, but these Soundtube pendant speakers are doing a more than creditable job of playing Steely Dan's 'Aja'. From the original inventors of the pendant loudspeaker, the Mighty Mite is available in two models; the MM43-BGM is a 3-way pendant speaker with a 5.25" dual-chamber, band-pass subwoofer, a 4" woofer and a .75" BroadBeam ring tweeter, with high-frequency dispersion technology for wide off-axis coverage. The Mighty Mite MM32-EZ is 2-way pendant speaker with a 5.25" dual-chamber, band-pass subwoofer, and a 3" wide-range driver.

Australia: NAS nas.solutions or (03) 8756 2600

New Zealand: NAS nz.nas.solutions or (09) 414 4220

Renkus-Heinz CX/CA121M

After being extremely impressed by pretty much the full range of Renkus-Heinz products in their excellent demo room presentation, I have to put a word in for these small but impressive loudspeakers. Usable as both wedges and mains, the CX/CA121M was developed for applications needing consistent directivity and great sonics from a very compact cabinet. It features a coaxial transducer based on a 12" woofer and a 1.75" Voice Coil Compression Driver. The woofer and compression driver share a common motor structure for high performance in a very compact package. The result is natural, distortion free output at high sound pressure levels, ideal for all monitoring applications. The Coaxial design also results in ideal constant directivity, for optimal on and off axis performance.

Australia: Amber Technology

www.ambertech.com.au or 1800 251 367

New Zealand: Amber Technology

www.amber.co.nz or (09) 443 0753



ADJ Hydro Spot 2

ADJ's Hydro Spot 2 is an IP65-rated professional moving head luminaire powered by a potent 320W cool white LED engine. It offers an impressive 15,000 lumen output with while featuring a wide variety of beam shaping tools to provide lighting designers with almost limitless creative potential. Its features include motorised zoom (8 to 41-degrees) and focus; two frost filters; CMY colour mixing, variable CTO flag and independent colour wheel; two GOBO wheels (one fixed, one rotating and replaceable); two rotating prisms (6-facet circular and 5-facet linear); and an animation wheel.

Australia and New Zealand: ULA Group www.ulagroup.com

or AU 1300 852 476 / NZ +64 9 218 6532



Obsidian Control Systems Netron EP2

Awww, cute! The Netron EP2 is a compact Ethernet to DMX gateway with two RDM compatible ports designed for wall mount, truss mount and standalone installations. It is configurable via its internal web remote and powered over Ethernet or via the convenient USB-C connection.

Australia and New Zealand: ULA Group www.ulagroup.com

or AU 1300 852 476 / NZ +64 9 218 6532

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:





GIPPSLAND PERFORMING ARTS CENTRE

Accessible and Affordable in Regional Vic

Gippsland Performing Arts Centre in Traralgon, Victoria, was previously home to a small 227 seat space known as the Little Theatre. As of March 2022, the civic precinct adjacent now boasts a brand-spanking new 750 pax flytower theatre that includes an orchestra pit on a lifting platform. The Theatre was designed by theatrical consultancy Arup in conjunction with architects Jackson Architecture and Katsieris Origami.

Brett Tippet, Head of Technical Operations at GPAC, has been involved with the theatres in Traralgon since 2007. Handily, he's also chairperson of the Victorian Association of Performing Arts Centres' Technical Network, which put him in the box seat to select tech as the project to build the new theatre developed.

"Arup wrote up a best-case scenario of equipment and setup for the theatre, including the fly system," explains Brett. "When it came time to go out to the market for quotes, we had to square the wish-list with the budget, and that's when we started the conversation about what's most suitable for us."

The fly tower went totally manual, with 43 single purchase flylines installed. "Part of

the original brief had some lines on motors," elaborates Brett. "But we rationalised pricing to get the best quality on as much as we could. I've seen some venues open with some lines on motors with a plan to buy more later, only for them to never get the budget. We wanted to go for quality and get everything up-front."

Part of this up-front purchase was a surprising amount of dimming. "There's 192 channels, but they can act as distro for LED as well," offers Brett. "We find there's still a lot of call for dimming in touring theatre productions." Adding to their existing inventory of Chauvet Rogue R1 LED movers, ShowPro LED CYC2 RGBAL cyc lights, and conventional Fresnels moved over from the old building, the new theatre opened with some new Martin Rush MH7 moving head wash and hybrids for touring rock'n'roll. These joined a new FOH conventional and LED wash and "a lot" of ETC Source 4 Profiles. Control is from an ETC lon.

PA choice was changed from the original spec when Brett and the crew realised they weren't going to get enough PA to do touring concert work for the money. They started looking for alternatives. "I have friends who had been raving about Adamson, so we contacted

distributor CMI and got a system set up for demo. We were more than impressed, and got CMI to then go back and forth with Arup, modelling coverage in Adamson's Blueprint software. Arup were on board with the results, and we got a system that more than meets the brief of what is needed to cover the room."

The final design sees eight Adamson S7 line array elements at left and right, with a centre cluster of two Adamson IS7p point source boxes backed by three Adamson S1119 subwoofers flown. Six Adamson PC 6 coaxial speakers are built into the stage as front fill. Six Adamson PC 5 coaxials are installed as under balcony fill.

While they were at it, Brett and the team decided to buy another six PC 6 boxes to deploy as side fill if the need arose, but they've been using them elsewhere. "We've found that they're such a good sounding box, we've been using them as foldback wedges," admits Brett. "We thought for the small size they'd just be good for fill, but on one of first gigs we tried them out down the front as wedges and we've had nothing but compliments from artists on the quality of the foldback since, which honestly surprised me."

"We have artists say 'I've never had a stage sound this good! What have you done?' and we say 'Your channel's flat.' We had Jack Jones through with his Neumann vocal mic recently, and he said; 'Some of the places I play I struggle to hear myself, and this is one of the clearest sounds I've ever had.' Brian Cadd told me it was like playing in a studio. It really gives us confidence that we've gone the right way with Adamson, because these touring artists and engineers have all been in front of 50 different boxes in the last three months."

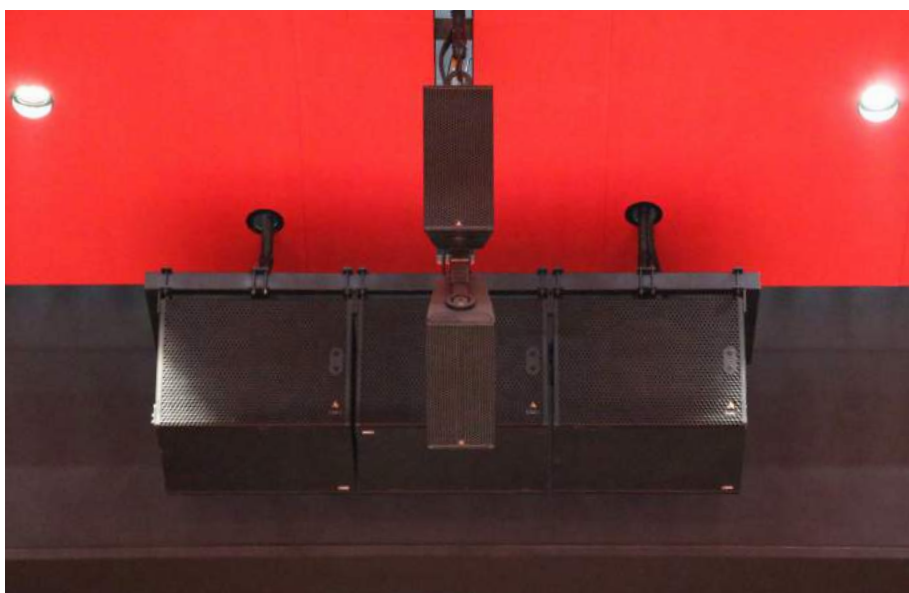
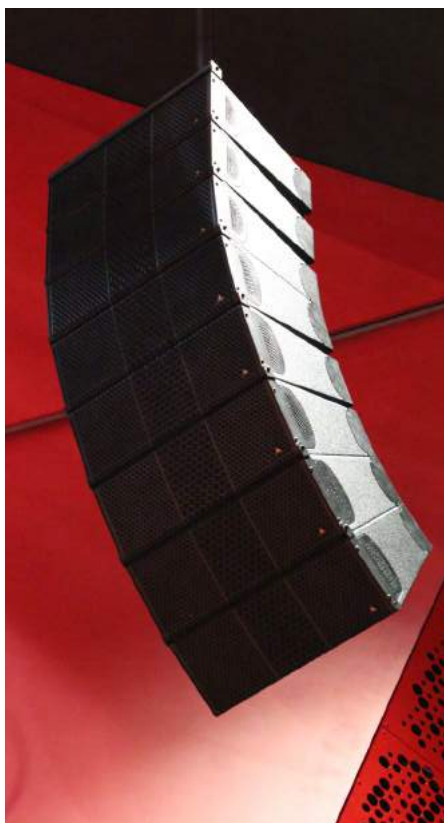
Out the front, the house mixing desk is an Allen & Heath dLive S5000 connected up to a DM48 mix rack and DX168 stageboxes. "We share staff between venues in Warrigal and Sale, which are both on the dLive platform", says Brett. "Its advantageous to have consistency. We're running at 96kHz and its just sounds beautiful and wide open; the Adamson PA really lets that shine. The desk runs Dante to the Lab Gruppen amps, so signal is clean all the way through."

With the venue a completely new player on the regional touring map, the mix of client base is yet to coalesce. "We're not sure exactly how the balance will break down yet," concedes Brett. "We're definitely getting more live music than the old venue did, which really suits the new space. We had Client Liaison here the first couple of nights, which are very synth and sub heavy. That certainly blew the sawdust out! We've had a couple of drama pieces, which are still slowly getting back on road. I'd imagine we're probably going to settle at around 60% music, comedy, and theatre, and 20% corporate, with the usual shift at the end of the year to school functions and dance recitals. Then again, ask me again in six months and I might have a different answer!"

The arts precinct in Traralgon is still expanding. GPAC has also received extra funding to build two outdoor spaces, and at the time we interviewed Brett, a nine-metre-wide LED screen was being commissioned in an outdoor space overlooking the Little Theatre. The screen will be flanked by even more Adamson PA, with the powered IS7 line array purchased to cover the gigs outside.

The Latrobe City Council has put a community emphasis on the theatre development, with accessibility and affordability the core goals. Hiring the new theatre has been made reasonable for school and community groups, and the complex itself has an admirable "no questions asked" concession ticketing policy.

"There should be no barrier to anyone within our community to access the theatre," said Latrobe City Deputy Mayor Dan Clancy, speaking to the ABC not long after the centre's opening. "You ring up or you book online, and you say 'I'm after the full price' or 'I'm after the accessible price' and there's no questions asked."



RØDE NTH-100 PROFESSIONAL OVER-EAR HEADPHONES

Possibly the most used and abused piece of audio gear in any studio, venue, content creation space, film shoot, or front-of-house setup are headphones. We drop them, run them over with our chairs, accidentally pull them out of patch-panels and mixing consoles forgetting we still have them on our head, step on them repeatedly, and then drop them again. Headphones live a hard life. Very hard in some cases. I've seen people throw them to the ground in excitement after recording a fantastic take and throw them across the room after a bad one! Headphones are often shown very little respect. If people treated my favourite condenser mics like they often treat my headphones they'd be shown the door, tout de suite.

Headphones need to be several things at once, unlike any other pro audio device: durable, comfortable, brilliant sounding and cheap. Admittedly, there are people out there for whom \$1,000+ for a single pair of high-end headphones isn't beyond their budget, but if you're not quite so flushed, or if you need five or 20 pairs, at that point you're presumably focussed primarily on price, whereupon expensive headphones are the first off your list. Headphones must also look half decent (sometimes they're in public, don't forget) and be worn by anyone and everyone whether they're 65 pounds wringing wet or 400. And they need to fit every one of these individuals comfortably!

As far as I can tell the new Rode NTH-100 headphones, the company's first foray into the hopelessly overcrowded headphone market, fit all these criteria like a glove. They're comfortable, even if you're working with them all day, which I've done several times now, incredibly well priced given their quality (\$249.00 RRP), they seem well built (though I'm yet to have a tantrum and throw them across the room to test them out) and they sound... well, they sound superb, quite frankly. In this last, most critical respect, I have been quite shocked.

I've used dozens of different headphones over the years, many of them excellent, and like so many of my colleagues, I have purchased (not just used – there's a difference) literally hundreds of pairs. For reasons that are self-evident, again, this is their first ever headphone release, Rode has not been among them, and so with this bias in mind I was expecting the NTH-100s to be good, but not amazing.

But they are. They're all cliched adjectives: detailed, low in distortion, clear, big-sounding and accurate in their frequency response. But reading this sort of stuff about any piece of gear, you'd be well within your rights to sceptically roll your eyes or glaze over with boredom.

So, what I'd add is this: the way the Rode headphones are constructed (in Sydney, I might add), and by virtue of their key elements: the custom-matched 40mm dynamic drivers that are embedded in non-spherical, contoured earcups, the Alcantara lining, and the steel headband with its lockable adjustment, the NTH-100s put you in another space. While some headphones simply sit on your head (sometimes in relative comfort, sometimes not), the NTH-100s seem to gently isolate you from your surroundings and set you up for a private listening experience. They don't have any noise-cancelling technology on board, but they seal well (around my ears at least, courtesy of memory foam), and establish an amazing soundstage that mixes far less with the real world around them.

I have heard things in these headphones I've not noticed before, and that's saying a lot. The left/right balance is superb, the depth perception of reverbs and distant audio components is accurate and revealing, panning is precise, and the low-end response is just the right balance of deep and extended without becoming gratuitous or try-hard. The cans also allow you to connect the cable to either the left or right ear-cup, which is perfect for things like overdubs when the lead seems almost invariably to be coming from the wrong side of the instrument!

Where you wouldn't use these closed-back headphones is anyone's guess. The list of places where they'd do a great job is beyond the scope of this article; everywhere basically. It might sound throwaway to say this, but if you can't work with the NTH-100s, you probably shouldn't be working in headphones in the first place.

One last thing: I like these headphones for two additional reasons: the packaging contains almost no plastic at all (good work Rode) and they're built from the ground up in Silverwater, Sydney. Not much else in the Australian audio industry can boast these two facts.

Distributor Australia and New Zealand:
rode.com or +61 (0) 2 9648 5855



THE SPECS

Transducer Size: 40mm

Operating Principle: Dynamic

Frequency Response: 5Hz – 35KHz

Impedance: 32Ω

Sensitivity: 110dB/V

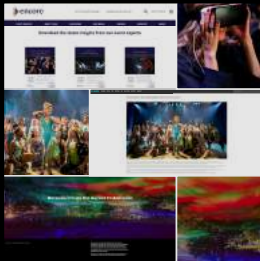
Maximum Input Power:
1700mW, 1% THD @ 1kHz

Ear Coupling: Circumaural

Ambient Noise Attenuation: 20dBA

Connection Type: Dual TRRS Cable
Attachments

Creative Services for the AV and Entertainment Technology Industries.



Specialist Content Creation



Integrated Print & Digital Media



Marketing & Business Development



Professional Event Services

VCS Creative understands your products and services because we've used them professionally. We are AV, sound, lighting, video, comms, and staging professionals working as content creators and AV and entertainment technology business specialists. You don't have to explain your products to us; we know how to sell them to your potential customers.

vcscreative.com



WHAT'S FOR REAL?



I moved bush to get better in touch with the elements. Watching the snow fall last week, I aced that goal. Viscerally cold while ethereally beautiful. And very, very real. Yet the days following disappeared in virtual environments.

Meetings for work, meetings for committees, then more meetings for work. One VC after another. Every digital Neapolitan flavour too: Zoom, Teams, and Google Meet. Even did a phone interview. And all from home. Not once did I get to press the flesh or cop a waft of someone's perfumery or funk.

Scents aside, there are numerous upsides to doing all that remotely - not least being able to run a flexible, whimsical schedule - but they cannot truly replace proper eye to eye contact. Nor any of the myriad unspoken cues or feels that happen in person. How does the soul communicate in a codec?

Even properly Zoom-attired and caffeine fortified, going from one screen to another can start to feel a bit surreal. Did I really say yes to the red pill? What version of me am I meant to be switched to? Which platform again?

I like to set traps in my routine to keep in contact with reality and bolster context, so it doesn't all feel like a dream. Boring things like lists and spreadsheets help maintain focus on desired outcomes or achievements. Glossy distractions like socials, games or rabbit hole scrolling are countered with a semblance of self-discipline. Fresh air and a walk in the trees have become brilliant for grounding reality checks but nothing replaces hanging out with other people.

Online life can seem so real but coincidentally unreal. So many boundaries are blurred between the meat and the meta. Friends on the net can sometimes seem closer than those in close physical reach. Entertainment or enlightenment are only a tap of the screen away. Perversion, conspiracy and worse just a click further. Online shopping is convenient, but the payoff is constant tracking. Order something on the net, and minutes later, you'll start seeing ads for the exact same item.

The scariest concept of all is the perverse commercial nightmare that is the Metaverse™ - a bunch of lame-arse avatars wandering around mediocre VR environs perving on NFT art. How dull? Does non fungible mean something intangible, or does it refer to inedible mushrooms? To me, it comes across

as a second rate Second Life with even more Ponzi scams.

As for the VR headset, forget it. Why would I want to spend \$1000s to get even more immersed in that suboptimal universe? I prefer the actual reality headset, though it does require an industrial strength beanie at the moment.

After even a short session of virtual, I find myself longing for some actual. You know, real world experience. With smells and pheromones. With peripheral stimuli. With noises that haven't been ducked by a background filter. With vibe.

But that is kinda difficult right now. Social outlets are fewer at this time of year anyway. Pile on helpings of risk-aversion, born through social convention resets of the Abhorring '20s; existential fear about climate, war, damned immuno-compromises; or the very act of appearing publicly, and the incentive to risk all for a quick catchup is diminished. I dig it - I'm having similar tingles. Besides, it is freaking cold outside, and the home fires are burning bright.

Today, I'm waiting on delivery of some new shiny. I recently ordered a fancy managed switch to complete the home network, helping make the virtual connection to the world easier. When that is installed and working, I'll be adding a Starlink setup to complete our cybernetic connection. I've had enough of Telstra's inconsistency, ineffectiveness and arrogance. Time to see if the spaceman from X can do any better.

Currently, we interact via 4G wireless to the local (oversubscribed) tower, which goes microwave to the main (also over-subbed) repeater and then into the nebulous virtual cable tangle that is the internet. On a good day, we can get 15-18 Mbps down. Peak hour is more like 2 Mbps, if that. The average speed in Madagascar (32 Mbps) is twice what we get at best, sixteen times what we get in peak hour. It's 2022 and we still call this the lucky country. Lucky if you live in Potts Point maybe. In the actual country, tin cans on a wet string are considered an upgrade.

The state of telecommunications in this country is beyond a joke. Passed around like a political football for a decade or more, we've ended up with an expensive, inefficient mess, patched and hacked together to satisfy the ever-changing whims of corporate lobby backed Canberra powerbrokers. Add in endless gamesmanship and short-term political opportunism, and we end up in the murky e-swamp that our comms must now wade through.

Granted, our contemporary home connection is faster and more stable than when we started. Linking up via Elon's satellite swarm should enhance that experience considerably. Another pact with another devil, all so that our household may consume more content faster. As long as we never see any more buffering circles in lieu of our chosen eye candy, I'll take that hit.

To be fair, I'm extremely grateful for the rewards that virtual life offers us. Stuff like: real time international production and recording collaborations; on-demand streaming of infinite selection; telehealth consultations; cross-cultural, cross-border interactions and the general knowledge base / entertainment repository that is on tap 24-7. Being able to see families, friends and colleagues on screen when travel was impossible was, and still is, a godsend.

The underlying problem remains: all these fun things require a good delivery network. They need a backbone more integral than those of the weasels that have crippled our telco setups.

So, we stay torn between enjoying the pleasurable aspects of techno-utopia dreams and living the unforgiving reality that it is all delivered by commercial interests who want their pound of e-flesh. On a politics-wattled BBQ matrix of mixed connectivity.

Maybe I'll whinge less when my internet improves. In the meantime, it's time to chuck another log on the fire, then go for a walk in the mist. Tomorrow, I might even visit a friend for a cuppa. For real.

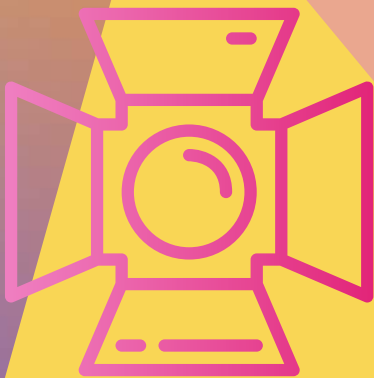
Call Julius on 0408 498 180 or email juliusmedia@me.com

ENTECH!!!

R O A D S H O W

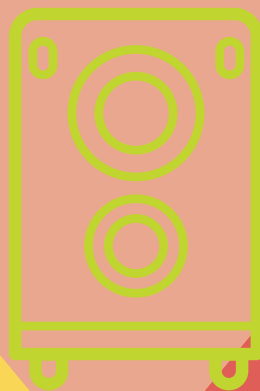
ROLLS IN OCTOBER

2022 3xCities • 2023 5xCities • 2024 NZ is back!



SYDNEY

Monday October 10th
The Concourse



MELBOURNE

Wednesday October 12th
MCEC



BRISBANE

Monday October 17th
RNA

Kate & Julius
PRESENTS

www.entech-roadshow.com

Established 1994 by the current owner this trade event connects more industry buyers spread across our wide brown land than any other channel. The new October timeline best suits our busy professional integrators, venue technicians, designers, specifiers and working technicians.

Come, network, learn and connect at ENTECH!

SNIPPETS FROM THE ARCHIVES OF A BYGONE ERA

Wendy and the Walrus



KIDZ BIZ

Inspired by the awe kids exhibited at children's concerts, I once toyed with the idea of an animated motion capture character on a screen performing a live interactive children's show. However, after only a couple of telephone calls I was made aware that the technology was in its infancy and not commercially available. After all, this was 1991, pre Wiggles, the Hooley Dooleys, and Hi-5. Today you can do facial capture with an iPhone app.

Years later I put together a zany children's pantomime called Captain Aldo, which featured an eccentric Circus Boss as the villain whose circus in Antarctica keeps a performing seal, Aldo, and a walrus, Wilberforce in captivity. I played the walrus - goo goo goo joob!

The hero is Natalia, who after falling asleep on a flight to Tasmania, lands in Antarctica, and earns the ire of the Circus Boss when she tries to free the captives from their cage; a prop made from PVC pipe.

I wrote eight songs for the show, but couldn't

resist putting in The Beatles' Octopus's Garden. During practice at my residence, a neighbour, who had complained bitterly about my guitar practice during my 70s rock 'n' roll days, dropped by to compliment me on one of the songs. "I really like the one about the octopus," he said.

((bsound))

BAND PA SYSTEMS, VOCAL PA SYSTEMS, LIGHTS

Pick up and do it yourself, or Delivered, Set up and Operated by experienced Crew.

Mark Barry; (03) 9889 1999 or 0419 993 966

www.bsound.com.au
mark@bsound.com.au

RentalPoint
SOFTWARE

Use it Anywhere!

Powerful web based software
Designed for your business!

CX

GET THE LATEST INDUSTRY NEWS VIEWS AND JOBS TO YOUR INBOX EVERY WED

Register now at cxnetwork.com.au



JOIN THE CX NETWORK

Join the biggest network of like-minded people at **cxnetwork.com.au** and get FREE online access to almost 3 decades of our magazines including CX, Connections and Channels!



SUBSCRIBE TO PRINT

If like us, you can't go past the smell and feel of fresh, glossy print; subscribe to the industry's most in-depth and readable magazine - delivered straight to your door.



Subscribe to our monthly printed magazine online at **cxnetwork.com.au** **OR** fill in this form.

You can send the completed form via **email to:** jason@vcscreative.com **or post:** VCS Creative Services Pty Ltd, PO Box 1045, Ascot Vale, VIC, 3032.

Name _____
Email _____
Address 1 _____
Address 2 _____
Suburb _____
State _____
Postcode _____
Trading name _____
Phone _____

VISA MASTERCARD
Card number _____
Expiry date _____
CSV _____
Name on card _____
Card holder phone number _____
Card holder address _____
Tax invoice required? YES NO

Please tick one option below:

Prices are in AUD. Magazine's mailed to Australia only.

1 Year \$79 3 years \$175

Thank you for subscribing - You are doing business with VCS Creative Services Pty Ltd, an Australian, family-owned company.



Captain Aldo original cast



Charmaine and Rick Connelly Makeup FX Team modelling our masks



Filipino artist painting our backdrop

Rick and Charmaine Connelly from the Makeup FX Team in Sydney, who worked on prosthetics for *The Matrix* and later *The Matrix Reloaded*, created our masks. Charmaine went as far as visiting Taronga Park Zoo to study the facial characteristics of seals more closely. The mask making entailed the process of life casting, which means your face is cast in alginate, and you are left breathing through a straw. The prosthetics cost \$3000 each, which, in hindsight, I can't believe I committed to considering I was warned they only had a limited life-span; but I was totally driven to get the show into production.

The seal and walrus characters used Sennheiser MKE miniature microphones, which were taped onto the skin inside the masks. The unmasked performers wore Sennheiser head-worn microphones. The seal and walrus also used Sennheiser IEMs (in ear monitors). But with players requesting different levels on the IEMs, and juggling this with microphone levels for the FOH, things got complicated. And after seeing *Bananas in Pyjamas* live with painted smiles on non-moving mouths performing to 100% playback, I did feel our show was somewhat over-engineered.

Yet another component of over-engineering was the backdrop. Since 24 feet (7.3m) was a typical stage width, I designed the backdrop to be 8m x 3m. Quotes for this backdrop came in at around \$5000, so I had it made in the Philippines for around \$350. The backdrop was hung on a truss between two lighting poles, but it was too big and cumbersome for most shows.

For playback of the backing music and sound

effects we used a Sony MDS-E58 mini disc recorder/player. Although the magneto-optical mini disc was soon to become a casualty of the digital audio age, it was a brilliant medium for live performance. The MDS-E58, which I still have, features a window that displays the song title, and it cues at the end of the song, flashing the title of the next song. The playback operator sat with a script and only had to push one button.

The idea of the show, in typical pantomime, was to get the kids to boo the villain when he made his entrance. I did go a bit overboard in scripting this animosity, and at our first performance the kids invaded the stage and physically attacked the Circus Boss who was somewhat shaken by the onslaught. The club apologised for the unruly behaviour, but I revelled in getting the response I had strived for.

Sometimes we'd use our own PA and Par 56 lights. In club gigs we'd do a sub-mix and send the feed up to the in-house console via the stage box. To give the in-house sound engineer control over the individual levels, the four stage microphones were sent from the sub-mixer via channel inserts converted to microphone level using Shure impedance matching transformers.

We were able to pull a few gigs from a Sydney agency, but they were few and far between. Even before the last gig, the Circus Boss pulled out and I asked a mate to fill in. He'd done some bit part acting in Australian films, and he magically turned the Circus Boss into a bumbling comedic character, which really went over well with the kids.

Our last gig was October 2001 at the Asquith

Leagues Club. We were featured on the front page of the journal for a Saturday morning show, which was free with free ice cream and sweets for the kids. Few turned up. This drove home the realisation that if you weren't a known headliner act you weren't going to succeed in the big city. So the curtain had come down for the last time on Captain Aldo.

I brooded over this dissolution for a year or two before downsizing to a 2-person act with my wife, who was a singer and who had been our playback operator. The budget didn't allow for a replacement playback operator so everything had to be meticulously timed with cues to sync to the mini disc, which ran from start to finish.

The act became Wendy and the Walrus. Aldo (the seal) got cut and the Circus boss morphed into a recorded voice-over, which children would sometimes go looking for backstage after the show. We ditched the IEMs for a single foldback wedge, and I decided to paint a smaller backdrop 4m x 2m. Devoid of any talent in this field, I entered the dark world of the tortured artist. However, despite the fact that my wife sometimes found me dancing around slightly unhinged with paint brush in one hand and a glass of red wine in the other, the painting miraculously turned out OK, and I did stop short of cutting off my left ear.

Once again it was the marketing that became a mountainous task. I'd spend hours every day on the phone just to get a single gig, or none! One agency told me they didn't accept acts with a narrative, kind of like a kid's storytelling cancel culture.

The last gig was July 2003 at the annual Stroud Brick and Rolling Pin Throwing Competition, which is attended annually by about 2000 people. We marched in the annual parade then did a 30 minute show for which we received a glowing letter from the committee thanking us. But future bookings were scant, and the curtain was now coming down on Wendy and the Walrus.

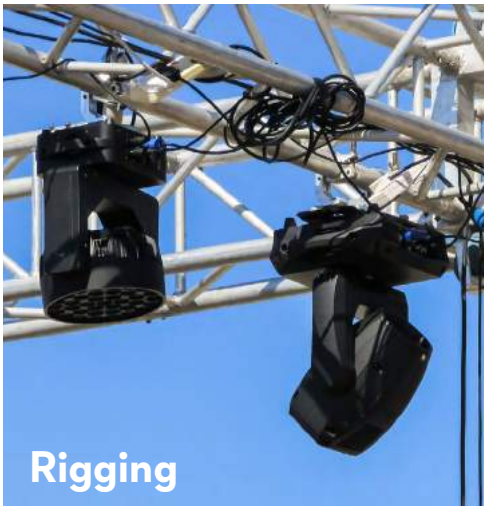
In 2006 we revived the act for a one-off regional charity Christmas show. The town had a regular Santa Claus who'd been doing the rounds on the back of a ute for many years. So, my ingenious idea was to incorporate him into the show. I met with him to coordinate his exact entrance time. The idea was that at the end of the show we'd do our final song and then the walrus would say, "I think I hear bells jingling in the distance. Could this be Santa Claus?" And Santa Claus was scripted to make his entrance and give the kids their toys.

But, you see, Santa used to imbibe a bit during his Christmas rounds, and drunken Santa never arrived, which left me standing on stage repeating my line trying to adlib. Then in a scene reminiscent of our very first show, the frustrated kids invaded the stage, attacked the walrus and wrecked the set.



Australian Commercial & Entertainment
Technologies Association

One Industry, One Voice.



Rigging



Audio



Live Capture



Manufacturing



Lighting & Drapes



Filming

Your industry, working for You.

Please support us
by joining ACETA:
aceta.org.au



Australian Commercial & Entertainment
Technologies Association



ASTERA ROAD SHOW 2022

AUSTRALIA & NEW ZEALAND

MAY - AUGUST 2022

WHAT ARE WE BRINGING TO YOUR TOWN?

Astera hottest products | Crowd favourites | Original merchandise
Refreshments & Great vibes

OUR PIT STOPS

Melbourne | Sydney | Brisbane | Adelaide | Perth | Rockhampton | Newcastle | Darwin
Canberra | Coffs Harbour | Cairns | Townsville | Gladstone | Mackay | Geelong
Auckland | Hamilton | Wellington | Christchurch

Call us and we will make a detour in your area!

