

CX

LIGHTING | AUDIO | VIDEO | STAGING | INTEGRATION

THE EFFECTS OF THE PANDEMIC

BUSINESS AND WORKERS SURVEYED

THE INNOVATION ISSUE

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- > SHURE: THEN AND NOW
- > THE NEW NORMAL? EAVS' 'LIVE IN YA LOUNGE'
- > THINKING Laterally
- > ADAMSON, TASCAM, HIGHLITE, AND POWERSOFT

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- Feeding The Crew in South Africa
- Astera pivots to face masks

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- ShowPro LED FusionPAR Q XII
- PROLIGHTS Air5Fan BATTEN
- Swefog K1 Hazer

ListenTALK is a Mobile, Two-Way Communication System

Allowing front line teams to maintain a safe distance.

MORE INFO ON PAGE 9.





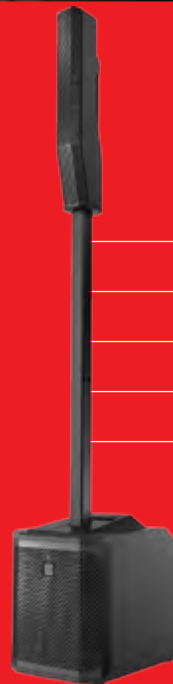
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Cover Photo – The Sydney Opera House's Joan Sutherland Theatre. Photo credit: Daniel Boud.

Contents Photo – Auckland Arts Festival 2020 Limbo Unhinged in the Spiegeltent. Credit Veronica McLaughlin.

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Production Powerhouses Join Forces

Creative Productions Australia and MPH Australia, leading providers of production lighting and video services, have announced a merger of the two companies.

Over the past decade, Creative and MPH have delivered some of the most innovative and successful live production solutions Australia has to offer, each becoming synonymous with a fresh brand of full-spectrum event services, and cementing their place amongst the country's live production elite.

The combined entity will now deliver their full range of production equipment and services seamlessly across three states and beyond, with the Melbourne, Sydney, and Gold Coast offices addressing the needs of promoters and event producers to deliver cohesive and cost-effective live production solutions throughout the country. It provides their existing and future clients access to one of the country's largest and most modern production technology inventories and removes the need to substitute or freight equipment across the eastern states.

"It was a natural progression for both businesses, with expansion already on the cards for both of us. We obviously hold

similar inventory and operate within the same space, so it just makes sense from that perspective. We're really looking forward to the growth and opportunities ahead for the company and our staff," says Matt Hansen, MPH Australia's founder.

Rebranding under the Creative Productions Australia umbrella, an Australian board will privately hold the company, with all shareholders having been involved with the companies since their inception. Dave Jackson, Creative Productions' founder, has been nominated to the position of CEO and Matt Hansen remains as director and head of business development. The leadership teams and all employees of both companies remain in place, meaning little to no change for existing clients.

Dave Jackson says, "We now have a combined powerhouse of highly respected industry professionals and a huge quantity of world-class equipment at our fingertips and can really push the boundaries of what we can offer our clients."

Please contact 1300 278 848 or info@cp-au.com for further information or to see how they can assist with your upcoming productions.



Dave Jackson



Matt Hansen

NEVER WASTE A CRISIS – LET'S FIX VET TRAINING

by Jason Allen

As the fallout from COVID-19 was shuttering businesses across our industry in March, our peak body ACETA (Australian Commercial & Entertainment Technology Association) were in the trenches along with Live Performance Australia and our union, the Media, Entertainment & Arts Alliance, lobbying government for assistance. As JobKeeper had yet to be announced, ACETA proposed a 'Get Paid To Train' programme that would have leveraged online learning resources to get techs paid to upskill while stood down. While JobKeeper largely negated the urgent need for this, ACETA received the following interesting reply from Ms Camille Crowther, Senior Adviser to Senator the Hon Michaelia Cash, the Minister for Employment, Skills, Small and Family Business.

"I commend ACETA on its proposal to encourage out of work crew, technicians and sole traders in the entertainment industry to undertake online training offered by

manufacturers and distributors during the COVID-19 crisis."

Ms Camille Crowther went on to outline the JobSeeker and JobKeeper packages and other financial measures recently put in place, before getting to the issue with the most potential upside for our industry – contributing to and changing the VET system:

"The myskills website at www.myskills.gov.au, provides information on nationally recognised VET courses, training providers offering these courses, and subsidies or funding offered. The CUA Creative Arts and Culture Training Package largely covers VET for the entertainment industry's workforce..."

"More broadly, ACETA and its members are welcome to engage in the Government's arrangements for training package review and update, as overseen by the Australian Industry and Skills Committee (AISC), to ensure the national VET system caters to the knowledge and skill needs of the entertainment industry's

workforce - now and into the future. The Culture and Related Industries Industry Reference Committee (IRC) advises the AISC on updates to the CUA Training Package and undertakes public consultation with support from its skills service organisation PwC Skills for Australia. ACETA members might like to register their interest in receiving notifications about opportunities to provide input into the IRC's work through PwC's website at www.skillsforaustralia.com."

The inadequacy of existing VET training courses in providing the skills required to work in our industry has long been an issue for every sector, from live to production to AV integration. With PM Scott Morrison announcing the 'JobMaker' scheme on Tuesday 26 May which seeks to give industries greater power to shape training, and align federal funding more in line with industry's needs, this is the perfect time to make our industry's training needs heard at a federal level. You can't fix it if you don't speak up!



installations, where minimal visual clutter is key. It can be used to provide information, show video or moving patterns, and even projection map imagery onto small objects.

The Liverpool Catholic Club also uses the LightScene solution for companies they partner and associate with to be able to project their logos. When showing movies, they use LightScene to project movie posters. They also cleverly and subtly advertise their own brand during functions.

Parisi continued, "There's a wow factor with LightScene and that is we now have unlimited content that we can project on what were previously unusable walls. As we have the length of both walls covered, it is very impressive when you watch a slideshow projected which tells the story of what is currently happening in the room. We've had very positive feedback on LightScene's ease of use and how it truly illuminates an otherwise boring backdrop." Clearly Gary Parisi is impressed with the Club's new Epson LightScene solution as he concluded, "The LightScene performs brilliantly. It is easy to use, it's up and running in minutes and when all LightScenes are running in sequence they create a real atmosphere in the room. After several meetings and a thorough assessment by IPG, it was clear LightScene was the best solution on the market for us."

Liverpool Catholic Club chooses Epson LightScene

Liverpool Catholic Club, one of the bigger clubs in Sydney's western suburbs, recently completed some significant renovations, part of which included a unique theatre and cinema space and for which they chose and installed an Epson LightScene projection solution.

Liverpool Catholic Club Admin & IT Manager Gary Parisi explained, "We were looking for a seriously good projection feature to add value on the walls in the new theatre so we asked our AV supplier IPG and they suggested Epson LightScene projectors."

The club eventually purchased six Epson LightScene projectors to help light the theatre's walls with clever designs, including some rare unique stained glass window images.

Parisi continued, "We wanted to add something extra in our theatre on the walls. We wanted to use what used to be free space to place everything from company logos, movies posters, advertising through to stained glass effects. The Epson LightScene solutions fulfilled our requirements by given us the ability to easily project and manage still images and video content on our bare walls. They couldn't be more flexible or straightforward."

Epson Australia's LightScene EV-100 Series is a new type of projector that has been created to blend into the background with a sleek, conventional lighting design. Available in black or white, the 2,000-lumen WXGA EV-100 can work as either a projector or a spotlight without distracting viewers from the subject.

The LightScene EV-100's unobtrusive design is ideal for curated visual environments such as clubs, retail showrooms, shop window displays, museum exhibits and art

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

Camera Computer Video Processor

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

A8s / A10s Plus 1 frame Latency

NovaStar's Low Latency Solution

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

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Avantis, our newest member, puts 96kHz next-generation technology in a 64 channel / 42 configurable bus console, with dual Full HD touchscreens, a super-flexible workflow, I/O options and a rugged full metal chassis.

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Photo credit: Tamsyn Strydom, MGG Productions.



Photo credit: Tamsyn Strydom, MGG Productions.

‘FEED OUR CREW’ INITIATIVE IN SOUTH AFRICA

Feed Our Crew is an NGO initiative (non-government organization) in South Africa co-founded by Johannesburg-based Tamsyn Strydom (project manager from production and rental company MGG), Kagiso Moima Wa Masimini (KG) who owns Blackmotion Production and Marcia Alves from We Are Boundless.

The goal is to focus on urgent fundraising for the temporary support of freelance live event technicians.

Working in collaboration with another NGO, People4Purpose, that provides individuals and families with basic necessities like food and clothing, donations are converted into 1000.00 ZAR vouchers (around \$85 AUD) which are distributed to qualified recipients via their cell phones. This is calculated to provide enough money, with some care and creativity, to support a family's fundamental needs for a month.

While the SA government has pledged to provide relief packages for virtually every sector in the country, the enormity of the task has made the process slow to get to those in the most desperate need.

With a lockdown, an already fragile economy in SA and no prospects of a bounce-back in the live events sector for some time, some people are literally starving.

Feed Our Crew's Daria Higgins, who runs a normally busy events company True North, commented, "There has been an immediate and devastating impact on the show and event industry across South Africa, and freelancers – the often invisible backbone of that usually vibrant industry – are particularly badly hit."

The vouchers are redeemable at the major retailers ShopRite / Checkers and can be used to buy groceries, medication plus

other essential utilities like electricity, cell phone data and airtime – all fundamental to sustaining themselves until government assistance comes onstream.

The scheme has received hundreds of applications as well as generous support from companies and individuals in a position to help. Robe's South African distributor DWR is one of these key sponsors, together with equipment rental production companies including MGG and Blackmotion as well as many individuals.

The story began when public events in SA started getting cancelled across the country in early March, soon followed by a nationwide lockdown. KG started drafting a letter to the President's office to highlight how dramatically the entertainment industry has been affected by the pandemic and the consequential shutdown, while Johannesburg-based artist management and booking agency, About Entertainment, campaigned for videos and messages of support from local and artist celebrities that could be used to encourage donations.

As these videos started flowing, more people joined the conversation, including technical manager Marcia Alves. As the need for more action on the ground became glaringly obvious, Tamsyn, KG and Marcia founded Feed Our Crew together with the assistance of several others.

Anyone meeting the criteria can apply for assistance, but the aim is to reach the most vulnerable of those who have been working across all the technical disciplines – lighting, audio, rigging, stage and set building, SFX etc.

As word spread about Feed Our Crew, a Facebook page and website were established, starting on the 16th April. By

the Friday of that week, the first donation had landed, they had partnered with People4Purpose led by Landy Yeatman who is also from the event industry and the plan was being activated.

Applicants can apply through the website or Facebook page and need to have an email and a mobile phone number. They complete a form, submit their ID together with two references for verification that they have been actively engaged in the shows and events world.

Feed Our Crew volunteers work every day to collate and process all the applications and manage the database, while the voucher distribution is coordinated by the People4Purpose team.

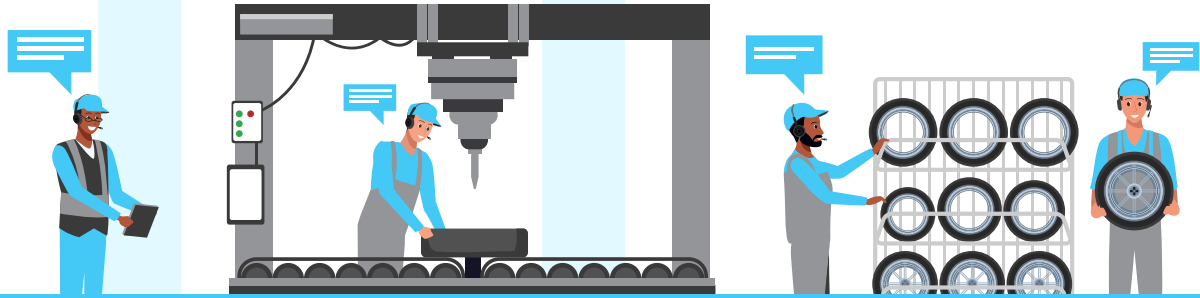
As Feed Our Crew has gained traction, the organisers have been reaching out to all their artist contacts, launching various social media campaigns to raise awareness and encourage those who can to get behind it and donate.

"We want everyone to realise that whatever the event – from an intimate wedding to a large international conference – it's all the technicians who are working unseen and backstage on the production who ensure the magic happens to make it a special and memorable occasion," stated Daria, who also feels "truly inspired with how our amazing industry is uniting, collaborating and pooling resources and ideas to help each other out on a practical and human level."

In the absence of any official help right now, for many this is an essential lifeline for survival.

To donate please visit www.feedourcrew.co.za and click the 'donate' button or email the team at help@feedourcrew.co.za

Social Distancing in the Workplace With ListenTALK



Social distancing is the number 1 thing you can do to keep employees and guests safe but face masks and distance can create barriers to communication and safety. ListenTALK communication systems can help.

Before COVID-19



Close proximity



Working together



Talking



Collaborating

After COVID-19

The New Normal



1.5m separation minimum



Face mask



Gloves



New procedures

NEW Challenges



Distance
Difficult to hear and be heard



Masks
Muffled speech clarity



Gloves
Difficult to use complicated devices



Poor communication
Safety and productivity at risk

ListenTALK Can Help

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- ✓ Audio delivered right to your ear
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- ✓ Long battery life
- ✓ Easy to sanitise

Great For



Two-Way Communication



Training



Tours



Interpretation

Headphone Options



Variety of headphone options available



Hearing protection for loud environments (NRR rated)



Use your own earbuds





ASTERA FACTORY ASSISTS WITH GLOBAL FACE MASK SUPPLY



LED lighting manufacturer Astera has energised its 10,000 square metre factory in Shenzhen, China together with its knowledgeable and adaptable workforce to assist with the delivery of essential personal protective equipment (PPE) items, including face masks.

These are desperately needed worldwide as countries continue to combat the Coronavirus pandemic.

Astera’s CEO Norbert Ernst explains that they were about to temporarily scale back operations in the factory, whilst the entertainment lighting business was quiet due to the crisis, when he was approached by a contact asking if they would be willing to assist with the production and distribution of face masks.

“Naturally I jumped at the chance,” states Norbert, “It offered a path to keeping many staff employed full-time which is great, and also helps contribute positively to the ongoing global demand for face masks which are vital to help meet the unique challenges of containing COVID-19.”

Additionally, he feels that having the factory working in this capacity will assist a rapid return to full LED lighting manufacture when conventional business starts to resume.

Two types of mask are being safely and cleanly packed at the factory – the standard disposable face masks and KN95 respirator masks. They are first enclosed in sanitised plastic bags which are sealed, then packed into an inner carton, and finally into outer boxes which are secured and palletised ready for shipping and transporting around the world.

During normal peak times, over 250 people work at the Astera factory across all departments. Currently, around 100 Astera staff (primarily from production, quality control and the warehouse) are dedicated to this project. Astera’s management team in Shenzhen are considering hiring another 100 temporary workers for the face mask project, depending on demand.

The current contract runs for three months, after which Astera has the option to continue or switch back fully to producing their award-winning range of wireless battery powered LED fixtures.

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NEW GEAR

Luxibel UVC Disinfection Systems

Luxibel UVC Disinfection systems provide a safe, reliable and sustainable solution for air disinfection and purification. They work to protect against airborne pathogens, creating safer and healthier indoor environments with the power of light.

All direct radiating fixtures have standard double security with a movement sensor and LED light and sound alarm, and can be used in production halls, hospitals, health care facilities, pharmacies, on public transport, and more.

Though there hasn't been any research looking at how UVC affects COVID-19 specifically, studies have shown that it can be used against other coronaviruses, such as SARS. The radiation warps the structure of their genetic material and prevents the viral particles from making more copies of themselves. As a result, a concentrated form of UVC is now on the front line in the fight against COVID-19.

B Direct

Single Direct UVC radiator with reflector. B Direct disinfects air and surfaces (up to 22 m²), prevents secondary infections and eliminates bacteria, viruses, and fungal and mould spores in the air.

- Disinfection time < 15 min
- Wavelength of 254nm (UVC)
- Mounting: wall, ceiling, or tripod
- Protective foil for radiator (on request)
- Radiators replacement: once a year
- Movement sensor standard included

B Direct II

Double Direct UVC radiator with reflector. B Direct II disinfects air and surfaces (up to 38 m²), prevents secondary infections and eliminates bacteria, viruses, and fungal and mould spores in the air.

- Disinfection time < 15 min
- Wavelength of 254nm (UVC)
- Mounting: wall, ceiling, or tripod
- Protective foil for radiator (on request)
- Radiators replacement: once a year
- Movement sensor standard included

B Hybrid

Direct and Indirect disinfection unit. B HYBRID takes care of 24-hour air disinfection in the presence of people and animals and eliminates bacteria, viruses, and fungal and mould spores in the air.

- Disinfection time < 15 min
- Wavelength of 254nm (UVC)
- Mounting: wall, ceiling, or tripod
- Recommended uptime: 24 hour
- Protective foil for radiator (on request)
- Air filter replacement: depending on the usage (twice a year recommended)
- Radiators replacement: once a year
- Movement sensor standard included

B AIR

Indirect UVC air disinfection unit. B AIR takes care of 24 hour air disinfection in the presence of people and animals and eliminates bacteria, viruses, and fungal and mould spores in the air

- Disinfection time < 15 min
- Wavelength of 254nm (UVC)
- Mounting: wall, ceiling, or tripod
- Recommended uptime: 24 hour
- Air filter replacement: depending on the usage (twice a year recommended)
- Radiators replacement: once a year

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Eclipse Panel TWC

The Eclipse Panel Tuneable White & Colour is a LED soft panel which provides a wide source of soft and precise colours. It comes with full range white reproduction from daylight through to Tungsten tones, with High CRI, TLCI and TM-30 (CRI > 94; R9 > 92; TLCI > 94). The 740W RGB+ Warm White LED source ECLIPSE PANEL allows for quick and accurate adjustment of light through three local knobs with two fully featured modes: CCT with +/- green and magenta shift, and HSI for total control of hue, saturation and intensity. The unit is packaged with an onboard driver and built-in power supply and being lightweight, the Eclipse Panel TWC offers easy rigging and cabling making it the perfect lighting tool for every location.

Eclipse Fresnel TW

LED Fresnel FC and Tunable White with colour correction, replacing a traditional 1000W lamp. The optical system harnesses the power of a 260W custom LED with six colours to create an even projection and precise white, with the option to apply +/- green and magenta correction to match other sources. Featuring HD dimming and tuning from 2800K to 10000K version with High CRI, the Eclipse Fresnel Tunable White delivers the performance and quality of output demanded from this level of a luminaire with silent operation for studio and stage use.



Eclipse FS

The Eclipse FS is a full-colour ellipsoidal LED designed to deliver a full range of pastels, saturates and whites, both with or without gobos. The Eclipse FS's RGB + Lime LED engine has been specially engineered to provide a full spectrum and full output, regardless of which role the Eclipse FS is playing. This LED ellipsoidal is equipped with HD dimming and an extensive colour palette, high definition optics for sharp focus and gobo projection, and accepts industry standard accessories.



Eclipse JZIP

The Eclipse JZIP is an IP rated zoomable ellipsoidal designed for exterior applications. It has a 160W Warm White LED engine with 3,000K CT, delivering nearly 6,000 lumens and high CRI >91, all in a compact size allowing for use on any outdoor show or for logo and texture projection on buildings. Eclipse JZIP can use two different manual zoom lenses (optional) being 15° - 30° or 25° - 50° and can be mounted at any distance from the projection surface. It is rated IP65, allowing for temporary outdoor installations and events.



MiniEclipse Fresnel FC

MiniEclipse Fresnel FC is an advanced LED replacement for traditional 300 W Fresnel lamps. Offering four colour mixing, and delivering high precision reproduction of the white spectrum from 2.800 K to 8.000 K with extensive colour reproduction. The optical system harnesses the power of a 68 W custom LED with RGB + Lime to create an even projection, beautiful colours and precise whites. Featuring HD dimming and tuning, the Eclipse Mini Fresnel FC also operates silently for studio and stage use.

Gallery Eclipse FC

The Gallery Eclipse is a compact LED ellipsoidal luminaire designed for a gallery, product, and shop window lighting. Featuring a controllable beam, the Gallery Eclipse FC is a flexible tool for commercial and product lighting. It features 19° to 36° on-board zoom with full shutters, 1x60W RGBW LED source and optional track adapter and on-board wireless DMX receiver. Also available in white.



NEW GEAR

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Antari AG-1500

Antari has released the AG-1500 high output Disinfection Fog Machine. With a high output vertical blast, the machine can spread fog and quickly fill a room. Paired with FLD or FLV Antibacterial Solution, the fog can reach everywhere and form a protective layer on objects in the fogged space. The layer inhibits the growth of bacteria providing a more hygienic and safer living, working, or entertainment environment. AG-1500 is designed for large areas like banks, post offices, libraries, theatres, and concert halls. Its built-in six duration settings allow users to set output times based on the target area size.

Australia: Eventec www.eventec.com.au or (02) 9897 3077

New Zealand: Edwards Sound Systems edwardsnz.co.nz or (09) 571 0551



Astera NYX Bulb

The first colour-tunable LED bulb for professional film, stage and event productions. No bigger than a normal LED bulb, it contains a CRMX receiver as well as RF and Bluetooth modules for the AsteraApp. It can be powered via lamp socket or with a standard power bank. Thanks to its Titan LED engine it displays precise colours and white tones with ultra-high CRI and TLCI.



Australia and New Zealand: ULA Group
www.ulagroup.com or +61 1300 852 476
/ +64 9 889 3363

Event Lighting DMXRT

The DMXRT DMX Trigger / Recorder allows the user to record and play back any show or scene from a macro SD card. Any desk or DMX source can be used as input to record. Shows can be played using six external triggers or the built-in internal trigger. An optional wall plate provides a convenient way of accessing shows, without the need to interact with the device itself. Advanced features such as delays give total control of the playback.



Event Lighting SURF640

The SURF640 is a tilting LED bar with 6 x 40w RGBW LEDs, providing vivid moving parallel beam effects. The beam angle is variable from 4 to 38 degrees, while the field angle varies from 10 to 42 degrees. Control is via DMX, master/slave, sound active, or manual. Built-in RDM allows for remote changing of DMX mode and change of DMX address. Ideal for venues and productions, the SURF640 is an effective fixture for adding movement to any show.



Australia and New Zealand: Eventec
www.eventec.com.au
or +61 (0) 2 9897 3077

Redback 32 Zone Expansion Module

The Redback 32 Zone Expansion Module is a 32 zone paging microphone system. Building on the already successful 16 Zone Console, this new accessory enables systems to expand to 17-32 zones, making it the perfect paging console for schools, hotels, offices and more. The ability to name zones and set preset groups allows for easier day to day control. The microphone also features a momentary and locking option for making longer announcements. Manufactured in Australia, offering a 10 year warranty.

Australia and New Zealand: Altronics
www.altronics.com.au or 1300 780 999



Robert Juliat Arthur

Arthur is an 800W LED Long Throw followspot capable of matching the lumen output of a 2500W HMI RJ Aramis followspot and delivering up to 29,000 lumens. This eagerly-anticipated move marks the arrival of the LED followspot the industry has been waiting for – one that opens up the use of LED followspots into large venues such as opera houses, musical theatre and live music venues, concert and touring venues, both indoors and out.

Arthur's powerful LED engine, narrow beam angle (5.5° - 15°) and long-throw capability ensures invincible performances with a minimum output of 2000 lux at a distance of 40m (200fc at 130 ft), while offering premium light quality with a high CRI (>90) - an essential feature for a followspot whose main role is to shine a light on performers in the most sublime way possible.

Australia: Show Technology Australia
www.showtech.com.au (02) 9748 1122

New Zealand: Show Technology New Zealand
www.showtech.nz (09) 869 3293



Maxell MPJU4001 and MPJW401E

The MPJU4001 and MPJW401E are laser light source projectors designed for a variety of applications, including classrooms and conference rooms. Measuring only 330mm x 69mm x 271mm (excluding protrusions) and weighing just 3.5kgs, they are the smallest 3LCD-based laser projectors available. The laser light engines require no lamp replacement and get 20,000 hours of life in normal mode or up to 40,000 hours in Long Life 2 mode. This new series of projectors use a yellow phosphor chip instead of the spinning phosphor wheel and motor that's used by most other laser projectors. Because of that, the projectors have fewer moving parts that allow them to run quieter and more reliably. For added piece of mind, Maxell's MPJU4001 & MPJW401E are backed by a generous 5-year warranty.

Australia: Hitachi Australia
www.hitachi.com.au or 1800 448 224

GEAR

Highlite TCYC-7 Cyclorama

The Highlite Infinity TCYC-7 Cyclorama is an extremely bright luminaire equipped with a special high gloss asymmetric mirror. The projection angle is 75° with a very linear drop. A motorised tilt range of 30° ensures easy floor or ceiling focussing. The TCYC shares the same custom designed 7 colour LED array and intelligent software as the TS-260C7 Profile engine and the TF-260C7 Fresnel.

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Riedel MediorNet

Riedel Communications has significantly expanded its MediorNet family of video networking devices, adding 13 new hardware devices and nine new software apps. These include: MediorNet MicroN UHD, big brother to MicroN. MicroN UHD adds more bandwidth, more I/O, higher resolutions, and more processing power. With 12G SDI interfaces, the new node provides native support for UHD signals and concentrates up to 48 video signals in just 1RU with 400G backbone connectivity. MediorNet MuoN, VirtU, and FusioN product series. Based on innovative, ultra-dense SFP technologies, these new processing modules and processing hubs complement the intelligent MediorNet signal interfaces and core switches and round out the Riedel video portfolio with full-IP solutions. Alongside new software-defined hardware platforms, Riedel has also launched a range of brand-new apps for up/down/cross-conversion, encoding/decoding, audio routing, and multiviewing, as well as a series of IP gateway apps.

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THE EFFECTS OF THE PANDEMIC: BUSINESS OPERATOR SURVEY

“The only certainty is uncertainty.”

by Julius Grafton

In May, Julius Partners published a survey aimed at suppliers and businesses operating in the supply side of entertainment technology, shows and installations. 162 responses came with almost 70% selecting this category: Supplier - Production / Staging / AV / Electrical. The next largest group were Consultants, at 15%.

131 business owners responded to our question: “What REDUCTION in turnover do you predict in your first year after reopening?” The answer is 49.57% - let’s say 50%. That’s 50% less gross money they expect to see.

As for any current increase in turnover, only two of 162 reported an increase.

We asked if any staff or contractors had actually acquired COVID-19, and two of 162 reported they knew of this occurring. So, in the opening days of the pandemic, audiences were not likely spreaders – significant when you consider a few huge and sweaty events, like the Madi Gras Party, happened right on the edge of the shut-down.

59% managed to reduce costs. 36% have not. Here’s some commentary on that: “We reduced insurance coverage on equipment not being used. Deregistered all trucks. Cancelled garbage collection. The rent we reduced to zero as our super fund owns the property we rent. Directors are working for free.”

Many made practical cuts: “Reduced rent to a quarter with landlord, reduced insurance and paused it for four months, received a rebate on our power bills, paused our landline phone and internet with Telstra and use our mobile

phone data for internet with Optus”.

Rent reductions were less common than deferrals, but some reported three or six month’s rent free, while others said the landlord wasn’t interested. Of those, the likelihood is they will quit the tenancy as soon as they can, so you’d have to wonder about the short-sightedness of some greedy landlords.

As to the banks, some reported good outcomes, others not so good. Most say that of any loan repayment suspensions, the interest is just capitalised on, so it adds up in the end. A few report that they have been able to set up a government backed loan with no repayments until “it is over”. The interest rate is 4.5%.

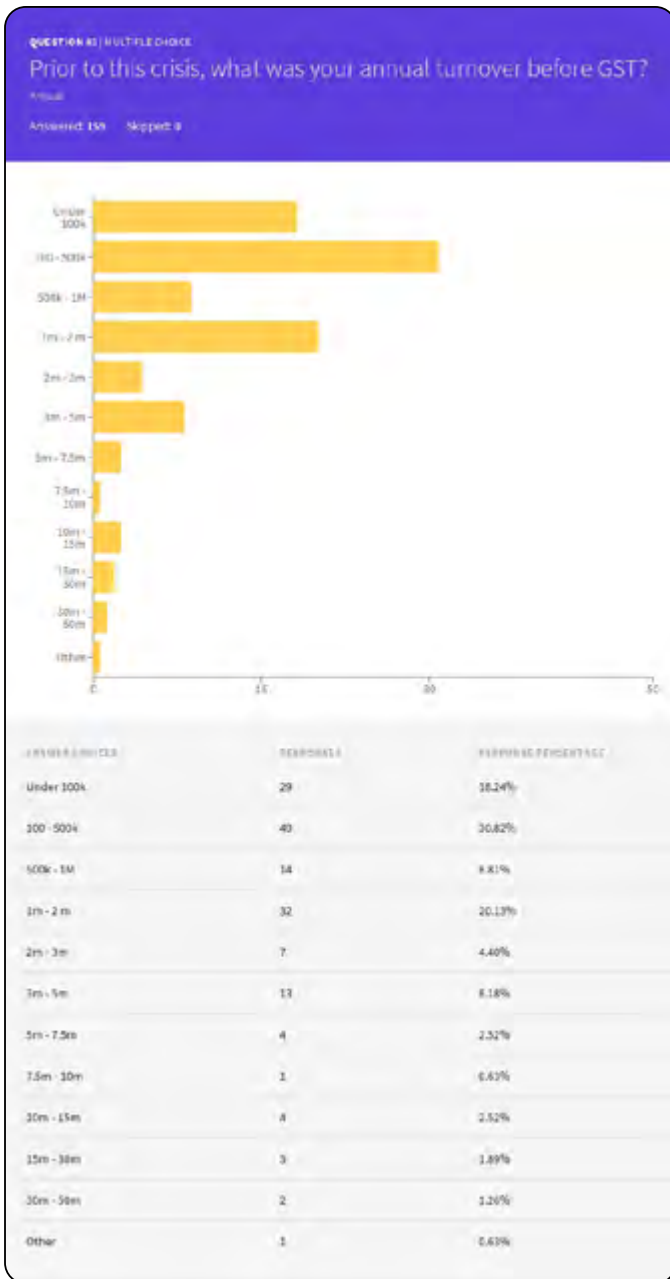
Encouragingly, a significant minority of responses reported no bank loans and are well capitalised, probably having experienced the GFC in 2008.

As to the recovery of their business, the overall mood is gloomy. It will be slow, and many said that some form of diversification was either helping them now, or a thing they would need in order to grow out of this.

Frontline:
Business operators tell their story...

“At the beginning of March we were on track for the 19/20 year to be better than average. When it hit, all the remaining jobs for March, April, May and June cancelled within three Days (approx \$350K). Our last show was on March 18, and we closed the doors on March 23, when the last of the touring equipment was returned. All the casuals were stood down and the full time staff were instructed to use up leave entitlements. We had also had a number of events cancelled in February due to poor ticket sales as a result of the bushfires.”

“Once the JobKeeper scheme was confirmed, all our casuals and full time staff were eligible to be included in the payments. The casuals have all received the full JobKeeper amount. The full time staff have used the leave entitlements to top up the JobKeeper amount to maintain their usual salary value until leave runs out. Until social distancing and mass gatherings are returned to pre COVID-19 arrangements, it will not be viable for indoor theatre-style or even outdoor events to resume in a cost-effective way. This also assumes we can find an audience with enough disposable income to afford tickets. I am hopeful we may see some of the smaller musicals and concerts resume by October, but January 2021 might be a more realistic target to be aiming for. If that is the case, the JobKeeper scheme will need to be extended or staff will be stood down again to preserve the viability of the business. Before closing we paid all our suppliers in full and have continued to pay everything within seven



days of receipt. Unfortunately, I cannot report the same treatment from many of the larger hire companies who still have not paid their February invoices for cross-hires we provided to them. Some have indicated they cannot pay and expect creditors to provide an interest free loan until cash starts to flow again. I would have said trading while insolvent was occurring in some cases before the COVID-19 crisis hit."

"I lost \$500,000 in bookings in 24 hours. Turnover for April was \$80. We were a long-standing profitable company. Soon we will be bankrupt along with many, many more."

"We are a Pty Ltd company providing technical staff for outside broadcast. All sport has been postponed or

cancelled temporarily, so a number of lucrative overseas jobs (the Olympics, Wimbledon) have been cancelled, and domestic sport, if or when it recommences, will have very limited staff required. There are too many crew to sustain with limited roles. I can't imagine how the industry will recover."

"I manage a theatre at a school. Everything has stopped, the venue has been mothballed and I have been moved to another... department until the Government lifts event bans. All income has been lost. But I am fortunate to remain employed on full pay, albeit in a position I wasn't hired for."

"International work has completely gone for now. Potential clients are fishing for ideas, but have no confidence to pay us to execute them. We're keeping staff busy and clients happy by helping them try things, but it won't last post-JobKeeper. I see a huge desire from clients for events to resume. I think people will get back out there as soon as they can. In video shoots, we're already seeing willingness to get going again within the confines of current restrictions."

"I'm an individual consultant with local and overseas work, all cancelled. And I cannot leave the country to resume contracts if possible."

"I'm an independent Sound Designer (Musicals and Theatre), and sole trader. I expect that there will be less work as producers will be wary of putting shows on until a vaccine is found for COVID-19."

Are you concerned about your mate's mental health?

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

Support those around you and register for free mental health training

www.entertainmentassist.org.au
Supporting the mental health of Australian entertainment industry workers

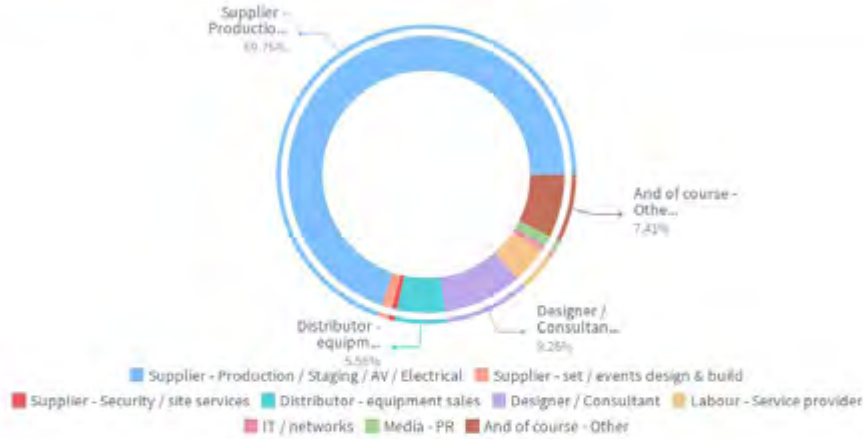
ENTERTAINMENT ASSIST
Passion, Pride, Pitfalls Dec 2014

QUESTION 01 | MULTIPLE CHOICE

About Your Business: what is your primary operating activity?

Check the whole list

Answered: 162 Skipped: 0



ANSWER CHOICES	RESPONSES	RESPONSE PERCENTAGE
Supplier - Production / Staging / AV / Electrical	113	69.75%
Supplier - set / events design & build	2	1.23%
Supplier - Security / site services	1	0.62%
Distributor - equipment sales	9	5.56%
Designer / Consultant	15	9.26%
Labour - Service provider	7	4.32%
IT / networks	1	0.62%
Media - PR	2	1.23%
And of course - Other	12	7.41%

restrictions, \$2m of projects was cancelled, and a further \$1m since then. Incredibly disappointing to continually see large corporations, and known agencies and producers take advantage of vendors during this crisis, low balling on budgets, expecting pre-production and R&D on digital platforms, sharing confidential information, all for little to no return or guarantee of revenue.”

“We operate in three areas of the industry: onsite support, event production (incl video), integration and consulting / design. Despite the 35% decrease in onsite revenue, there has been only a 15% decrease in events as we have been providing webcasting services for 18 years and this strong base has now grown. Our integration arm has slowed, but consulting increased dramatically - we took on extra staff in consulting at the beginning of this calendar year and all staff are fully utilised with the potential of having to hire more.”

“We saw this coming weeks before most, and in early March started talking steps to reduce expenses. We effectively put the business into hibernation a few weeks before Scott Morrison announced that plan. Although it's a very painful time and I see recovery taking years, I believe the government has acted and is acting for the betterment of all Australians. I have no issues with the business restrictions regardless of how long they affect me.”

“We are a live production supplier based in Sydney with a background in live events dating back 45 years. We also provide installation design and sales services. We own all of our equipment, except leasing two vehicles and a sound system. Our bank has deferred payments for six months. Our business premises landlord would not negotiate our rent, so we have moved to much cheaper premises. We are concentrating on sales and installations until live production returns.”

“There should be the ability to put truck registrations on hold. No shows means the truck is not in use...so far six months of rego is useless!”

“We mainly dry rent conference equipment to the meetings industry. My kids want us to just close the door. We probably could see it out over a number of years, but really it is so depressing we may as well dump it and retire. Trouble is the whole world is in the same position. Will probably go to a business broker and sell at a hugely reduced rate as a going concern. We're just playing it day by day.”

“Sub tenant so no reduction on rents or

utilities. Small family business means only one person got JobKeeper. Zero outreach from a single entity (bank, insurance, supplier). Zero outreach from anyone (other than TV ads) for mental health support.”

“95% of our work is in the education sector. The COVID-19 crisis has changed our work mix - much less from hall and assembly PA Systems, and greater campus wide / evacuation systems. We have simply switched from one form of work to another, since both always present more work opportunity than we could ever handle. A significant amount of regional work has also been pushed back.”

“In the 48 hours following the public gatherings

“The enterprise was in a growth mode. It would have been the first year in a number of years that I could draw a personal income. We had been building quality equipment, supporting local initiatives out to as far as 600km from base, all the while with a very low debit overhead. Cash at hand was low too, but the prospective job base had grown to encourage us that we were doing the right thing financially.”

“With such an urgent industry closure, there was no backup support. It is not likely that this industry will have the quick response to return to productivity until mid 2021. Promoters will be shackled in as to what they can either risk or are allowed to risk by communities,

financiers, and regulatory authorities. I am optimistic that there will be a resumption, but the support required will not be there for that duration. Then finding people that want to engage / risk entering this field will be hampered more than previously experienced. We work in a GIG economy.”

“As the owner of a small business I have taken on the responsibility of making sure that all of my team are physically and mentally OK, and that they are surviving financially. I spend countless hours desperately trying to drum up any work to enable us to survive this horrible crisis as well as negotiating with landlord, suppliers and debtors. I am getting no industry support and I sometimes feel that my staff just don't realise exactly what I am going through myself - the stress, the sleepless nights etc. I am, however, determined that we will survive and still be here when the entertainment industry emerges from this dark place.”

“We have one large job pending - an installation - not what we usually do. We quoted the job before Christmas and subsequently got a PO last week, but our supplier has no stock, and there is no stock globally that I can get hold of. I don't think

that we will have much happening in the hire department until next year.”

“25 year old, historically robust business. Forward bookings wiped off the board within three days of crowd restrictions. JobKeeper and government packages around loans will keep our doors open and our staff engaged, if not being overly productive through until Sept. Hard to see crowds being allowed by then..... that is the uncertainty that keeps us awake at night. We have spent years building and upskilling a brilliant team who meet the needs of the region. We would hate to have to say goodbye to any of them, but the reality is that we are geared for work that needs crowds to be economically viable and that may be some time off. We have managed to pick up some installation work, although a particularly good project was lost due to Lotterywest grants being redirected to the COVID-19 crisis.”

“Have never felt more lost. We have grown this business with bliss and tears for so long and it's our passion. We are now doing furniture removals.”

“We are hanging on. We have to stay positive. We are finding things for staff to do, and we

will have a very clean office/warehouse. We split into two teams, two days each. Each team does a welfare check, cleans and sanitises at the start and end of each day. Everyone has their own PPE masks, gloves, soap, towel, cup, plate. We are learning video conferencing and remote collaboration. We are doing welfare checks outside of our team too. It is mentally and emotionally taxing on senior management. We don't have answers or a plan for the first time in our history.”

“Six months of bookings cancelled in a 24 hour period is something I will never forget. Laying off someone that has done countless 15 hour days for you and have them throw their arms around you and say “It's not your fault mate” brings me to tears thinking about it. The bills still arrive on a daily basis, about \$25k a month to “hibernate” is not a storm I can weather for long.”

“As a sole trader working to support the AV and entertainment industry, my business was hit as hard as those that had to close. I had a couple of jobs at the beginning of March but since then only one has been forthcoming. The other problem I face is sourcing parts to complete repairs. With air traffic severely cut, I have parts on order that still have not left the origin country. Who knows when I will receive them.”

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THE EFFECTS OF THE PANDEMIC: WORKERS SURVEY

“It feels like we never mattered”

by Julius Grafton

253 participated in this survey, hosted by Julius Partners, to see how the crisis has affected us all. The survey was run alongside the survey for Business Operators, of which 162 reported.

The snapshot of who we are: 16% are aged 20 – 30, then equal slices of 24% 30 – 40, and same for those aged to 50. 21% of us are aged 50 – 60 and 14% have survived to work beyond 60, this author included! Not surprisingly, 83% of us are male, and 16% female which is better than previous years, where the tech production and associated industry was almost totally a boy’s club.

Two thirds of us have a partner, and 43% of us have a partner who is still working. 17% of our partners have lost work since the crisis. 61% report that we work on or around a performance stage, 18% are in an office (which may be performance related), then we are scattered across film and TV, Workshop, Site, Training/Teaching, and we have two vehicle operators in our sample group.

As to the entertainment genre, main types are theatre (26%), music (29%), and corporate events (25%). The question around work type shows 49% were full time, 19% contractor (with ABN), and 15% casual. 89% of us were happy with that.

A biggie: pay. 132 people reported they are paid about \$45 an hour (this question was optional). I cross-tested this, however, and as this was an anonymous survey, we need to be

careful. 59 people reported their daily rate at \$500.

That was tested with the next question, which is typical weekly pay. 85 answered that one. The average was \$1,951 but I’d discount that due to a cluster of high reported wages. The most common range of pay was \$1,200 to \$1,800 a week.

Given the variety in reported numbers, the probability that some are net, some are gross, and some are invoiced contractor amounts, I estimate our sample group of 253 crew averages around \$1,500 a week. Good, but not great.

Confidence around restarting our workplaces was poor – as of 22 May, 51% expect their workplace will re-open. 26 people are owed entitlements; that’s better than I thought. More than half got JobKeeper, and 47% did not. Of those who didn’t, 15% have savings. That’s good! 23% are supported by family. That’s nice.

THE MENTAL ISSUES

44% say this is a difficult situation, and only 6% of us report no real change in our mental state. 54% say their emotional state is best described as anxious. Only 23% are

unaffected. On that 58% say their ‘wellbeing’ is worse.

I revisited mental health later in the 55 question survey. I asked ‘How would you describe your mental state since the crisis?’ 69% report troubles. I asked about major crisis in life, before this one. 56% had faced a crisis, most commonly death of a loved one (23%), then illness (17%), then workplace dispute or termination (14%).

Did that rate worse than THIS crisis? 46% say yes.

207 people tackled the suicide question. Horrifyingly, 5.8% had attempted suicide BEFORE the crisis, and the exact same number (12 people) say they have SINCE. But lest you think they are the same people, 6.76% say they have BEFORE and DURING this crisis. Almost 13% of people clicked on the ‘I don’t want to answer this’. So we have a problem. And 33% of us know someone who HAS had suicidal thoughts during the crisis. What does that says of us? We are talking.

Eight people know someone who has committed suicide since the crisis started. More evidence that we ARE talking; in the question ‘Have you reached out for emotional support?’ 55% have not. So 45% of us are open to that.

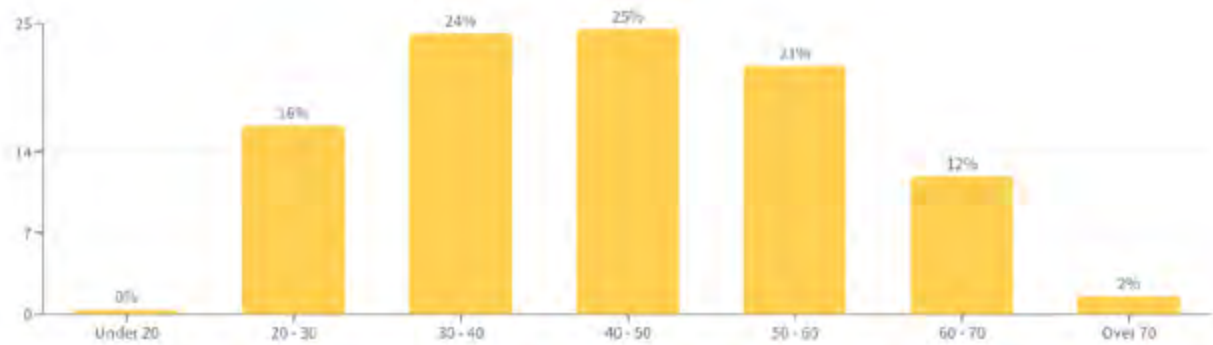
As with the Business Operator survey, almost no-one has been infected with COVID-19. Three cases were reported, but they were not tested or confirmed. This shows that community transmission has not occurred in entertainment, where in theory we were super-exposed via audiences up until mid-March.

QUESTION 01 | MULTIPLE CHOICE

About You

Your age range

Answered: 253 Skipped: 0



Frontline:
Workers tell their story...

"Almost immediately, our company made all full-time staff part-time. We were doing a mixture of days at work and paid leave until JobKeeper kicked in. Now we are doing

every little bit of work that can be done in the warehouse. When it kicks off again, we will have some crazy clean gear and a very economical warehouse to do gigs from. Bring on the gigs again!"

"My partner and I both work in the industry

in full time roles, so this has been a roller coaster of emotions. Together we have a 15 month old who was in child care five days a week, which we had to cancel and request a fee hold as soon as the industry was told to stand down. I applied for Centrelink (JobSeeker and parenting payments) but was rejected from both as what I personally had

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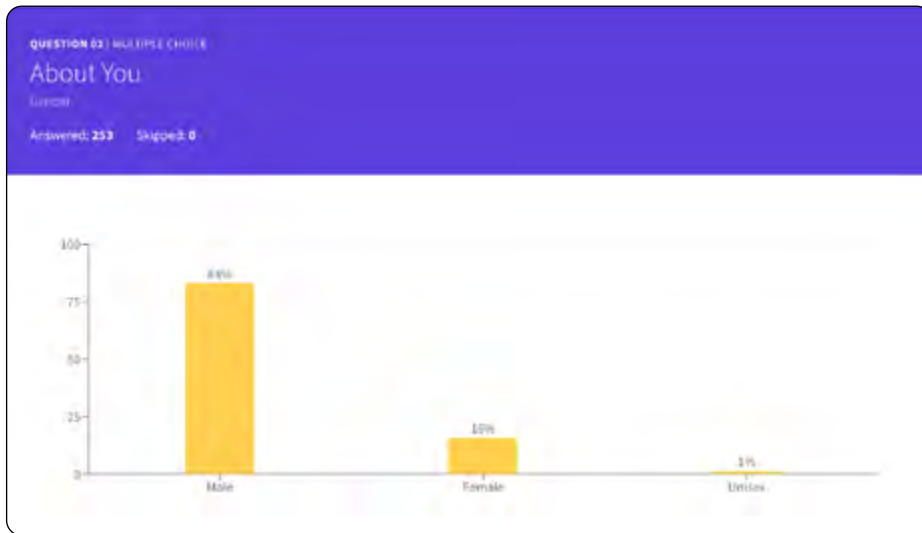


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already made in the financial year was over the minimum pay, and then my partner's pay just over doubled our household income... so they weren't able to help us in any way. This put us both in a situation we had never been in where we technically had our full time jobs but were only being paid the \$1500 before tax on JobKeeper a fortnight. This figure is only 25% of our normal take-home income a fortnight, so the dramatic loss was felt straight away. With rent, a mortgage, my partner's child support payments for his first child, utilities, food, nappies, formula, petrol, insurances, car costs etc I definitely had a hard time comprehending what was happening. To top this off, our daughter got very unwell and has spent most of the past three weeks in and out of hospital, which has been so tough as only one parent is allowed inside the hospital at one time. We weren't allowed to even hand our baby over to each other. We had to leave her shut in a cot by herself until one parent is back outside and the other parent has then been scanned in and taken to the ward. It was heartbreaking."

"Two days into COVID-19, I was stood down immediately. One week later, after 10 years with the company, I was the only employee out of 12 made redundant. Two days after being made redundant, the Prime Minister announced the JobKeeper package. I was not offered my job back. The company now refuses to pay out my remaining entitlements. I have now taken the situation to the Fair Work Commission for Unfair Dismissal."

"Christ, this is f*&%d. To make everyone scared of physical contact is the worst thing that can happen to humanity. Five years of lockout laws in Sydney, and now this? I've spent the best years of my life when I was supposed to be at the peak of my career scraping s&^t off the carpet for three beers and 50 bucks if I'm lucky. By the time Sydney has a job for me again, I'll be dead. So, yeah, it's all f*&%d and there's no hope for any of us, unless you like setting up Zoom meetings!

The AV industry is as dead as a run-over cat. And old f&^\$s like me will just end up washing windows at traffic lights, supporting a meth habit. It was good while it lasted, eh?"

"People at my company have been stood down. My workload has increased and I am working from home. This has given me more time with my family, and we are saving more financially since I'm not travelling to work anymore. It sounds unfair on others, but this lockdown has been fantastic for me and my family. We do get sick of being stuck inside for the most part, but we're glad we got to have this time together."

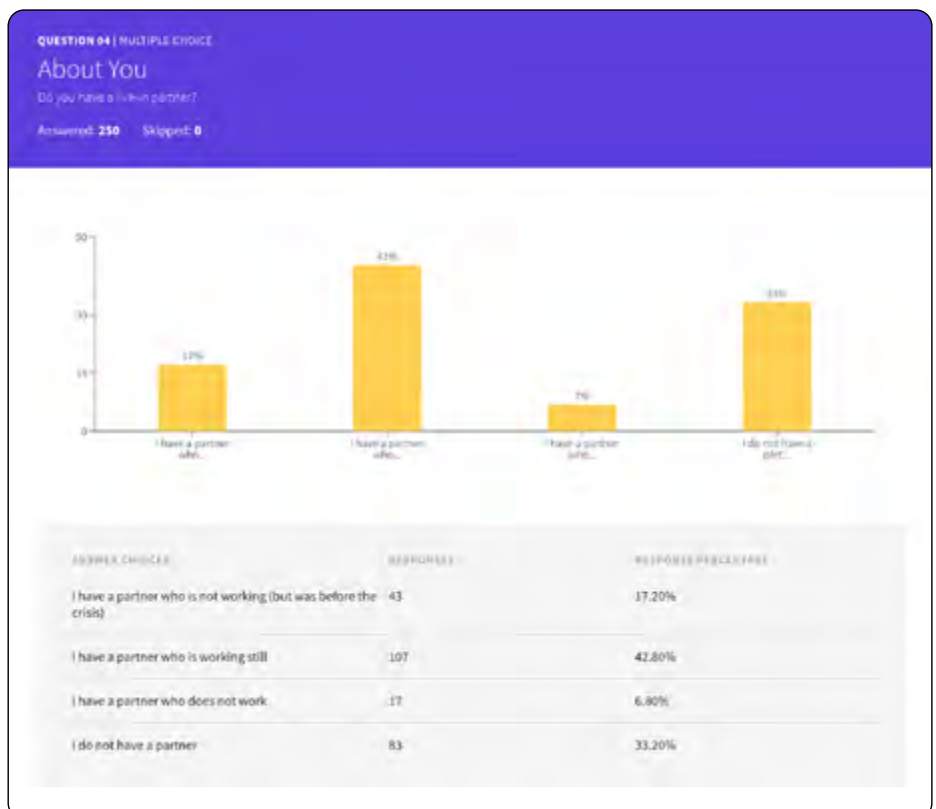
"Our company was in financial trouble prior to COVID-19, with invoices owed to my personal

company since September last year. It is unlikely I will see what's owed to me, same with other creditors. Morale is low in our workplace. They saw how quick management was to get rid of the workers that stand up to them and hold them to account. Our General Manager even openly talked about applying for government subsidy and pocketing it with one of our seniors."

"Before COVID-19, backstage crew were invisible because it was our job to be so, but now it feels like we never mattered, and our contribution isn't valued. The comments I see from the public on any article that actually mentions us in a call for industry support say something along the lines of "Not essential", "They should get real jobs", "Entertainment industry is all overpaid divas anyway"."

"As a sole trader, work ended in March. Initially I was very anxious as I have a mortgage and family. Once the government support was announced, it helped a lot, but as of now I am yet to see any of the funds. I have been educating myself with online courses and attempting to be ready for whatever direction the industry takes, I have strengthened my networks among fellow workers and clients and tried to support them and this has made me feel better. I know we will be the last to return to work but the chance of small events and venues opening up keeps me going."

"I no longer wish to do the job I have been doing for many years. The industry has changed."



Sometimes it all gets too much...



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



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Richard Sillitto

The clean sound of Dancing On Ice



Award-winning British TV show Dancing on Ice presents several acoustic and noise suppression challenges in getting a great sound for the viewer at home. Needing a large space to house the main ice rink, a training rink, the audience and the rest of the set, the show is shot in a vast hanger of a building on the disused airfield at RAF Bovington. There is minimal acoustic control on the walls, and the ice and video wall (which makes up the whole of the back of the set) present hard surfaces for any sound in the space to bounce off. Sound Supervisor Richard Sillitto of RS Sound told us how he coped with this to create the pristine sound that you hear on TV.

He said, "Fortunately, we have a very controlled PA and foldback system run by the careful hands of Josh Miles of Plus 4, so we can achieve good levels in the room both for the audience and as foldback for

the performers on the ice. But despite this, there's still a fair amount of coloration on the personal mics of the presenters, judges and dancers, and this is combined with background noise from the many fans in the

lights and video wall cells around the studio."

"With all of this unwanted noise there are two tools that are essential to allow us to get clean and tight audio to the viewer at home. We employ two CEDAR DNS 8 Lives to give us 16 mono channels of noise reduction, and these also serve to tame the coloration of the PA on the microphones. Deploying multiple channels of DNS enables us to reduce the noise at source before the channels are combined with other elements, and this gives the most effective results."

We asked him how he used the noise suppressors in such an environment, and he continued, "I tend to learn the noise floor and then turn the active learning algorithm off so that I'm dealing with a known quantity. This probably doesn't give the 'best' noise reduction in all circumstances, but it keeps the effects of the noise reduction predictable so that I can EQ for what I hear consistently."

He concluded, "All of this has to happen in real-time without any loss of lip-sync, and in this environment we couldn't obtain the same quality of results without CEDAR."

The CEDAR DNS 8D

CEDAR's Dialogue Noise Suppression technology is the standard for removing background noise from dialogue in studios. With near-zero latency, high-resolution processing, and a fast, intuitive user



interface, it eliminates traffic noise, air conditioning, wind, rain, babble and general background noise from audio signals. It will also help to compensate for unfavourable acoustic conditions and poor microphone placement, and will even suppress excessive reverberation.

The CEDAR DNS 8D has been designed specifically for broadcast and live sound. With eight channels of noise suppression, it hosts a new algorithm that marries the best of the machine learning and signal processing on which the DNS 8 Live and the DNS 2 dialogue noise suppressors are based. With its slick user-interface that includes standard and detailed modes of operation it offers better control than any previous dialogue noise suppressor, both from the front panel and from almost any web browser that can access its internal remote control software. With its near-zero latency and standard 4-pin 12VDC input in addition to universal mains power, it's suitable for use in all live situations - not just broadcasting, but also live sound in venues such as theatres, concert halls, conferences venues, and places of worship.

Dante is the de-facto standard for media networking, distributing uncompressed, multi-channel digital audio via standard Ethernet networks with near-zero latency and perfect synchronisation. The DNS 8D is the first DNS with a Dante interface in addition to its AES3 audio connections (DB25 using the AES59 pin-out). With fail-safe AES3 audio bypass implemented in the form of hardware relays that immediately connect the inputs to the outputs in the event of a power failure or other significant disruption plus support for Dante's redundant mode of operation which helps to protect against network failure, it can be installed with confidence in critical paths anywhere within the audio chain.

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MIDRANGE BIAS

by Andy Stewart

Photo by Sašo Tušar on Unsplash

Everyone talks about bottom-end punch, top-end clarity and sometimes even the stereo width of an audio production, but very few people focus on the one thing that never goes away no matter where your mixes get played – the midrange. Get that right and you're well on the way to achieving a well-balanced sound that translates across the widest array of systems.

I know we're all a bit stir-crazy at present, and the lockdown we've all endured here in Australia remains the focus of everyone's attention, but to hell with it. I'm not dwelling on that today. Today we're talking audio, and more specifically midrange. Oh the joy...

Finessing the midrange of a mix is one of the most crucial aspects of achieving a decent sonic outcome for your music, particularly one that translates out in the world. I know we don't go out much at the moment, but the music we produce still does. So it's vitally important to remember that it's not enough to have your mix sound epic in your own space; it has to sound good everywhere.

We all know this of course, but sometimes it's hard to face this reality. It's particularly demoralising when that epic mix of your newest bass heavy, uber-doo-fied folk song (that you're convinced breaks new ground)

sounds like crap when you flip the mix over to your NS10s or Auratone replacement speaker. Suddenly all your hard work vanishes into a low-end vortex, revealing a decidedly unbalanced, harsh, midrange-heavy version of the mix that's nothing like what you've been hearing through your big monitors. It's enough to make you never want to reference your music through small speakers again!

But that's the biggest danger – shying away from things that show your work in the harshest light is a slippery slope to Nowheresville. Really great mixes are only ever achieved when you regularly face the music – as it were – by playing your work through small, shitty speakers at tediously low levels. That's where the hard work gets done. It's not fun or glamorous, and it's often frustrating to be confronted by just how far away your mix remains from greatness. But

with a bit more effort and a serve of humble pie, mixes eventually punch through this barrier and come out the other side better off.

Middle Class

What most speakers outside your studio space have in common is their capacity to replay midrange information. Each speaker does it differently of course, but they all do it. To the great frustration of us audio folks, far fewer of the world's speakers produce 50Hz and below, or 12kHz and up with anything like the capacity of your control room's sophisticated 2.1 in-house system. And by the number of eye-rolls I'm anticipating by that statement, I suspect not many of us sophisticated audio guys have a system like that either!

So why the obsession with top and bottom end when most of the time that audio information diminishes to varying degrees once it leaves the confines of your workspace? Well, presumably because it sounds good, but also because not all systems lack bottom or top end (especially if we include headphones in this discussion). The important thing to realise is that great mixes cater to both. They sound fantastic on big kick-ass systems and tiny boom boxes alike. But we all know this already, right? A mix needs to sound great whether it's played in another engineer's million-dollar control room, or your Uncle Joe's garage on his new Aldi clock radio.

That's what midrange balance is all about.



NEXSTAGE
STAGING



NEXSTAGE
RIGGING



NEXSTAGE
TECHNOLOGY

But What Is It?

I probably need to define midrange before I go any further. Problem is, there is no defining it really. It's a subjective concept.

Like most things in audio, the definition of midrange varies significantly depending on to whom you speak. Speaker designers, for instance, argue the toss about it for hours, one defining it based on crossovers, the other by distortion specs etc... it's a minefield. Mix engineers are in similar disagreement. Good song arrangers will argue (quite rightly) that balancing the midrange is all about instrumentation rather than how things are specifically EQ'd, but it doesn't really matter how you frame it or where you draw the line.

Suffice it to say midrange is the band on the audio spectrum where human hearing is the most sensitive. It starts in the vicinity of where a tone first loses its bottom end 'weight', and ends when you start to define that tone as being about a sound's upper register.

If that all sounds far too vague to you, you'd be right, and I would agree! To me personally, the term 'midrange' conjures up a fairly narrow bandwidth in my head, particularly when I'm mixing, mainly because the three-adjective concept of 'bass,' 'midrange' and 'treble' used to define the 20Hz to 20kHz audio spectrum is far too simplistic a semantic scale in my opinion. For astute audio engineers, in particular, I would argue that there are at least seven easily defined regions, these being: sub-bass, bass, low-midrange, midrange, upper-midrange, high-frequency and super high-frequency.

My narrower definition of 'midrange' occupies a region somewhere between say 800Hz and 2kHz. The others are (loosely speaking, and without adhering to tonal octaves): 20 - 50Hz (sub-bass); 50 - 250Hz (bass); 250Hz to 800Hz (low-midrange); 800Hz to 2kHz (midrange) 2-7kHz (upper-midrange); 7-14kHz (high-frequency) and 14 - 20kHz (super high frequency).

But for the purpose of this article, and to get us back on track here, I would say that most people define midrange far more broadly as existing somewhere between about 400Hz and 4kHz. Some would argue it's a little lower, others a little wider, some narrower... hence the problem.

MIDRANGE IS WIDE!

For now, let's use the broader, roughly four-octave definition of the term, shall we?

This wide area of human hearing has many tonal aspects to it, ranging from 'dark' and 'mysterious' at one end of the frequency spectrum, to 'clear' and 'revealing' at the other. Of course, depending on the fundamental frequency response of whatever the sound under scrutiny happens to be at the time, these exact same frequencies might otherwise be described as being 'woolly' and 'masking' of a sound, or adding 'harshness' and 'bite' - different terms altogether.

It's therefore not so much about what frequencies you choose that defines a sound, but what these choices reveal in a sound. If an instrument is already harsh to the ear, adding 3.8kHz obviously isn't going to make it clearer, it's going to make it tear your head off! Conversely, 3.8kHz might give a sound that's perceptively dull and indistinct a new clarity in a mix that's perfect for that circumstance. It's horses for courses - obviously.

The Cure

Diagnosing what each instrument requires to sound good whilst simultaneously balance the ensemble of instruments is the real trick. After that, it's making sure that not every element in the mix gets the same treatment. Simply adding 3.8kHz to everything is going to make things get mighty harsh mighty quickly, especially if you're masking this harshness with huge bass through your huge monitors. Take that bottom end away - as so many small systems inevitably will - and the harshness will be immediately exposed.

It's this overemphasis of a narrow frequency band that's the real killer. Likewise, cutting too much low-end out of an instrument with high-pass filters can quickly undermine its tone, and for two interconnected reasons. Firstly, most instruments have some element of low-end in their sound, which, if taken away, quickly renders them thin and weak. High-pass filters are great tools, but used too severely they can quickly make mixes sound small and harsh. And of course, if that happens to your mix, when played through smaller systems it will only grow thinner again, whereupon you'll regret having put those filters on at all!

Balancing the midrange so that your mix still holds together when it's played through small, cheap speakers (where frequencies below 350Hz and above 4kHz disappear over a cliff), is thus all about spreading the focus of each instrument's tonal balance wider across the full breadth of the spectrum, whilst making doubly sure you don't take too much information out of each instrument's bass and low-midrange. That's why mixing exclusively on big speakers can cause translation problems when you switch to small ones - it's easy to filter out some of the lows from a sound on big monitors without it appearing to do too much damage... until you listen on small speakers and wonder where all your tone went!

Likewise, avoiding the trap of adding too much bass and treble to instruments like bass guitars and kick drums at one end, tambourines, cymbals and guitars at the other, helps prevent these sounds from changing radically in level (or disappearing altogether in some cases) when played at low volume through Uncle Joe's clock radio. Not only will these sounds retain their voice through a midrange-only system if their sound includes some portion of low midrange, they will help prevent the mix from losing its fundamental balance. If, for example, you

get seduced by a new sub kick sample and forget to add some element of midrange to the sound, on Joe's clock radio there will be no bass drum at all! What will that do to the instrumentation of the rhythm section? Nothing good I suspect.

Mixes inevitably sound different through different systems - none of us can stop that from happening. But as engineers we can certainly learn to minimise the impact different systems have on the music we produce. Remember, midrange information is far more easily replayed by even the worst audio systems than the extreme edges of the spectrum. However, filter out too much low end or extreme tops from instruments during the mix, thinking them extraneous to the sound, and the problems might get worse!



Andy Stewart owns and operates The Mill on Victoria's Bass Coast. He's a highly credentialed producer/engineer who's seen it all in studios for over three decades. He's happy to respond to any pleas for recording or mixing help... contact him at: andy@themill.net.au

INTELLIGENT MEDIA NETWORKS FOR VIDEO, AUDIO, DATA AND COMMUNICATION



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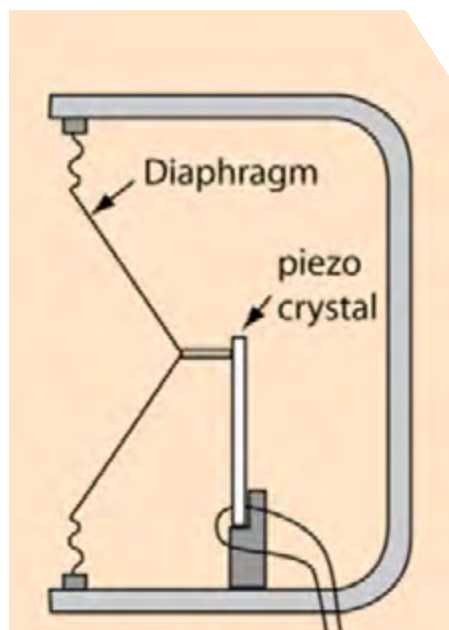
BOLERO
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The History of Crystal Microphones and Artifacts from the Shure Archives

by Shure's resident historian, Michael Pettersen

The genesis of crystal microphones began with the investigation of the piezoelectric effect by Jacques and Paul Curie in 1880. During the early 20th century, piezoelectric transducers were being created. By 1930, the Brush Development Company had improved the technology and held many patents for the Rochelle salt crystal, central to the manufacture of piezoelectric transducers. In 1933, the Astatic Corporation began marketing a crystal microphone for public address, home recording, and two-way radio applications.

The Operating Principle



All microphone cartridges – regardless of type – are transducers that convert sound waves into electrical energy. To understand how crystal microphones work, here is an excerpt from “Microphones Explained for Beginners”, an article that appeared in the August 1938 issue of *Radio-Craft*:

“The principle of operation depends upon the piezoelectric effect, i.e., voltage produced in certain crystals when subjected to mechanical stress, bending, stretching, etc. [Editor’s note: The original article also described the low-output sound-cell type.] The diaphragm type will give much greater output, eliminating in most cases the need for a preamplifier, but it has the disadvantage of limited frequency response. This type of crystal microphone is most used for voice work.”

Shure and Crystal Mics

In 1935, Shure offered the company’s first crystal microphones – the Model 70, the Model 71, and variations of these units. The

price range was \$22.50 – \$70, or \$423 – \$1,315 in today’s currency.

Shure and other mic manufacturers of the era licensed the technology first developed by the Brush Development Company. The 1935 Shure catalog stated, “Shure Crystal Microphones are the result of exhaustive engineering development by the technical staff of ‘Microphone Headquarters,’ working in cooperation with scientists at The Brush Development Company, the inventors of the Bimorph piezoelectric crystal unit.” Every Shure crystal microphone carried a label, often inside the product, stating that it was manufactured under a license agreement with the Cleveland, Ohio-based company.

Crystal microphones were popular in many of the same applications as the carbon mics that Shure first offered in 1933 – public address, broadcast, telephony – but also home recording applications. Unlike carbon mics, crystal microphones didn’t require an external power source (eliminating the hiss associated with the constant DC voltage running through the carbon granules) and offered a wider frequency response. But they weren’t as rugged. The piezoelectric Rochelle salt crystals were prey to heat, moisture and humidity.

During the 1950s, a “ferroelectric ceramic” material, barium titanate, began to replace Rochelle salt in transducers such as microphones and phonograph cartridges. Unlike Rochelle salt, barium titanate did not lose its piezoelectric characteristics when exposed to high heat or humidity. The first Shure ceramic microphone appeared in the 1957 catalog as the Model 215.

Dynamic and electret-type condenser cartridges supplanted crystal and ceramic microphones in the 1960s. By 1969, the Shure catalog listed just three crystal mics: the Model 715 (\$9), the Model 710 (\$13), and the Model 777 (\$27); \$63, \$91 and \$189 in equivalent costs today. In 1970, Shure discontinued the three remaining models.



Model 708A

In 1940, the Model 708A “Stratoliner” joined a family of the Shure microphones with fanciful names that eventually included the Spher-o-Dyne, Rocket, and Monoplex. The airship (or zeppelin, blimp, dirigible) – inspired design of the Model 708A crystal microphone was shared with the ribbon Model 508 that also debuted that year. In addition to its sonic qualities, the Shure 1940 catalog touted the 708A’s good looks, stating that it also improved “the appearance of sound set-ups.” Production of these mics was suspended from 1942-1946 to conserve materials for World War II. The 708A was revived after the end of the war.

Remains of the Day

In 1999, Hohner, the German manufacturer of harmonicas, melodicas and accordions, bought the molds (and the last existing piezoelectric salt crystals) from Astatic to continue production of the popular JT-30 Blues Blaster crystal microphone. Favored by blues harmonica players for its dirty, distorted Chicago blues sound, the rechristened Hohner 1490 Blues Blaster ended its production in 2013. Shure bullet-shaped mics first appeared in 1939. These Bullet mics, appreciated by harmonica players because the case can be comfortably cupped into one’s hands, were available with different elements: crystal, ribbon, controlled magnetic, and moving coil. In 2020, the Shure 520DX Green Bullet, a moving coil design, endures as a popular blues harp mic.

Crystal Microphones in the Shure Archives

Since Shure manufactured carbon microphones for over 35 years, there are dozens of artifacts – microphones and microphone parts – in the Shure Archive. Here are a few favorites:



Crystal
**HAND
MICROPHONES**

71 Series Handheld Microphones

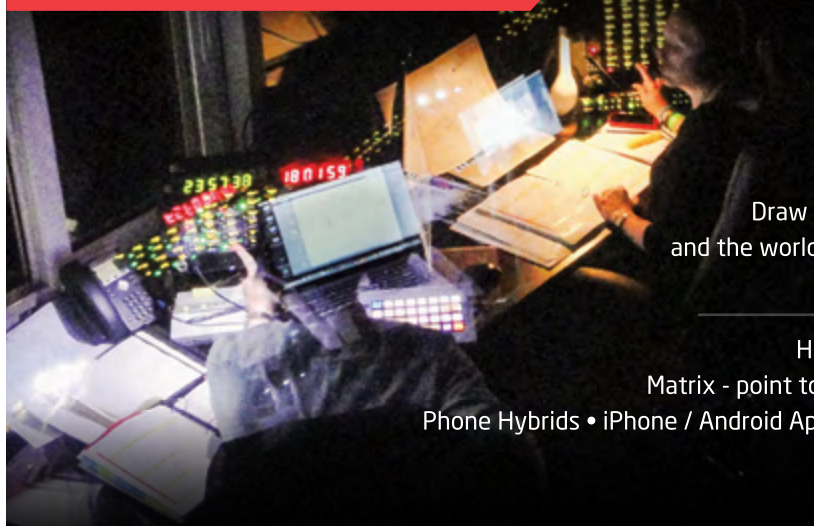
Making their debut in 1935, the Shure Models 71AS, 71A and 71H were promoted as “Close-Talking” crystal hand microphones, designed to minimize crowd noise in Public Address applications. Models 71AS (with a push-to-talk switch) and 71A (no switch), featured a screw-on “rubber-black-japan” (lacquered) handle, making these models among the first commercially-available handheld microphones. The 71BS, a non-“Close-Talking” model was added in 1937, but none of the Model 71 microphones appear in the 1938 catalog. However, the sleek appearance of the series lives on today in the Beta 181.



700A, 701A, 702A

The cover of the 1937 Shure Microphones and Accessories catalog reflects the popularity of the Streamline Art Deco design trend in the mass production of everyday products. These crystal microphones boasted the identical Shure-engineered “outstanding features” - “Ultra” wide-range reproduction, screen-protected cartridge, “Moisture-Sealed” high capacity Grafoil crystal, high output, curvilinear diaphragm – in Spherical, Swivel and “Grille-Type” designs. Used in military applications, a Model 700A could have changed the course of history when, on December 7, 1941, a radar operator radioed commanders at Fort Shafer in Honolulu, Hawaii of the presence of Japanese planes 132 miles north of Oahu. The lieutenant taking the message instructed area radar operators to “forget it”.

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Ensuring Consistent Conferencing Quality Around the World

by Shure's Paul Gunia

In recent years, conference rooms have evolved from formal, single-use spaces into multifunctional areas that can host everything from a large board meeting to an informal collaborative session between colleagues.

As the purpose of these spaces has changed and grown, so has the conferencing technology inside them and the demands placed on it. Nowhere is this more apparent than at large global organisations requiring effective and efficient communication at all of their locations.

Multinational companies are increasingly trying to manage and communicate across multiple time zones, however there are hurdles to doing this. Whereas many employees now expect to be able to walk into a meeting room anywhere in the world and know how the technology inside it works, a lack of standardisation and the need for custom solutions to optimise each space often mean that this is not always possible.

And it's not just the user interface that needs to be familiar: back-end equipment also needs to be able to guarantee the consistency of experience that has become so important these days. This is something that can be a real challenge for the integrator who has to design each installation.

While the IT world relies on common technology standards in situations like this,

it can be more complicated for AV. There are so many variations in terms of the size, shape and acoustic qualities of rooms that a one-size-fits-all approach is rarely successful. Fortunately, just as IT departments expect tools that can deliver consistency, ease of use and repeatable performance, a DSP processor designed for conferencing applications may make this possible for the AV world, too.

The IntelliMix P300-IMX Audio Conferencing Processor helps produce reliable, high-quality audio. When paired with the Microflex Advance Ceiling and Table Array Microphones or Microflex Wireless, the IntelliMix P300-IMX can aid sound consistency in rooms of all shapes and sizes, while also helping reduce costs due to its ease of setup and reduced installation time. This is achieved in a number of ways:

Fixed Architecture

A DSP platform with a fixed architecture provides a simple and intuitive setup. This results in less DSP programming and commissioning time onsite, which may decrease costs and means there is less

opportunity for human error. Unlike open architecture solutions, with the P300 you don't need to drag and drop blocks into a schematic; the blocks are static so there's a defined processing path.

While settings can be changed, the majority of the hard work has already been done, meaning you simply have to choose your mic and run with it. Templates for microphones and the ability to build in presets further reduce the pressure on installers to replicate rooms while helping to create a more consistent experience across locations. This too assists in lowering costs for the company, as well as installations that are completed more quickly and with less disruption to working environments.

Multi-room Installations

Larger installations with multiple rooms and buildings can be made more efficient by using system configuration software that allows the integrator to configure the microphone and DSP offsite.

The Designer 3.1 software application allows each MXA910 Ceiling Array or MXA310 Table Array to be pre-configured for the P300. These settings can be uploaded on the job site, fine-tuned and tested, saving the integrator time and effort and making the project less intrusive for the client.

Hardware and software such as IntelliMix and Designer are quickly becoming essential tools for organisations hoping to provide the quality and consistent conferencing experience users have come to expect – no matter where in the world they are.



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Deva installed in Florence, Italy



POWERSOFT DEVA – A TOOL FOR THE TIMES

For a company known for making power amps and their excellent Armonia DSP platform, Deva has always been a product a little left-of-field in the Powersoft range. It's a combination of a camera, a powered loudspeaker, sensors and web connectivity, all in an IP65 rated package, originally intended for civic control and surveillance. Now, with COVID-19 issues front of mind, Powersoft Deva is coming to the aid of communities in the fight against the virus, and the product has come into its own.

As AV and production companies pivot to provide any product or service they can to replace decimated revenues, products like Deva can be pitched to government, institutions, corporate, and venues. A savvy company with the smarts to set up the networkable features reporting back to control rooms and recorders would do well to have a look at Deva, and capitalise on its huge potential.

Deva Overview

As an advanced multimedia device, Deva is a convergence of multiple devices that can be easily deployed anywhere, enabling automated and direct interaction with the public. Its camera, high powered speaker and multiple sensors are designed to complement each other and to interact with third-party applications to offer several services spanning from safety, to information and entertainment.

SUPPORTING SOCIAL DISTANCING

Deva offers a series of functionalities that make it a powerful safety device capable of identifying the number of people in an area while responding in real-time when the number of people goes beyond set limits. This helps to prevent people from congregating and helps in the implementation of the social distancing regulations that are currently being introduced to combat the spread of COVID-19.

BODY TEMPERATURE DETECTION

Deva can be easily integrated with a body temperature measurement system to help security personnel screen employees or visitors. The ability to provide early symptoms' detection makes Deva a smart tool for preventing transmission from sick people and screening others who may not know they have a fever.

SOS AND PUBLIC WARNING MESSAGING

Deva can be used to achieve total coverage in any space, both indoors and outdoors, for real-time or recorded emergency messaging, thanks to the high performance, full-range speaker. Integration into existing evacuation systems is also possible thanks to its advanced connectivity options.



FENCE CONTROL CAMERA

Deva can be the first to witness an intrusion and trigger an audible alarm while informing the administrators. The administrators can create virtual perimeters and prevent access to a specific site while ensuring that the public

is kept safe and far away from danger.

ABANDONED OBJECT DETECTION

Deva can spot an abandoned object through its eye, and automatically alert the system administrators. With response time being

quintessential in safety matters, Deva ensures that quick actions are taken to quickly secure the area.

For more info, contact: PAVT

www.pavt.com.au or +61 (0)3 9264 8000

deva

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COVID-19 Security Support

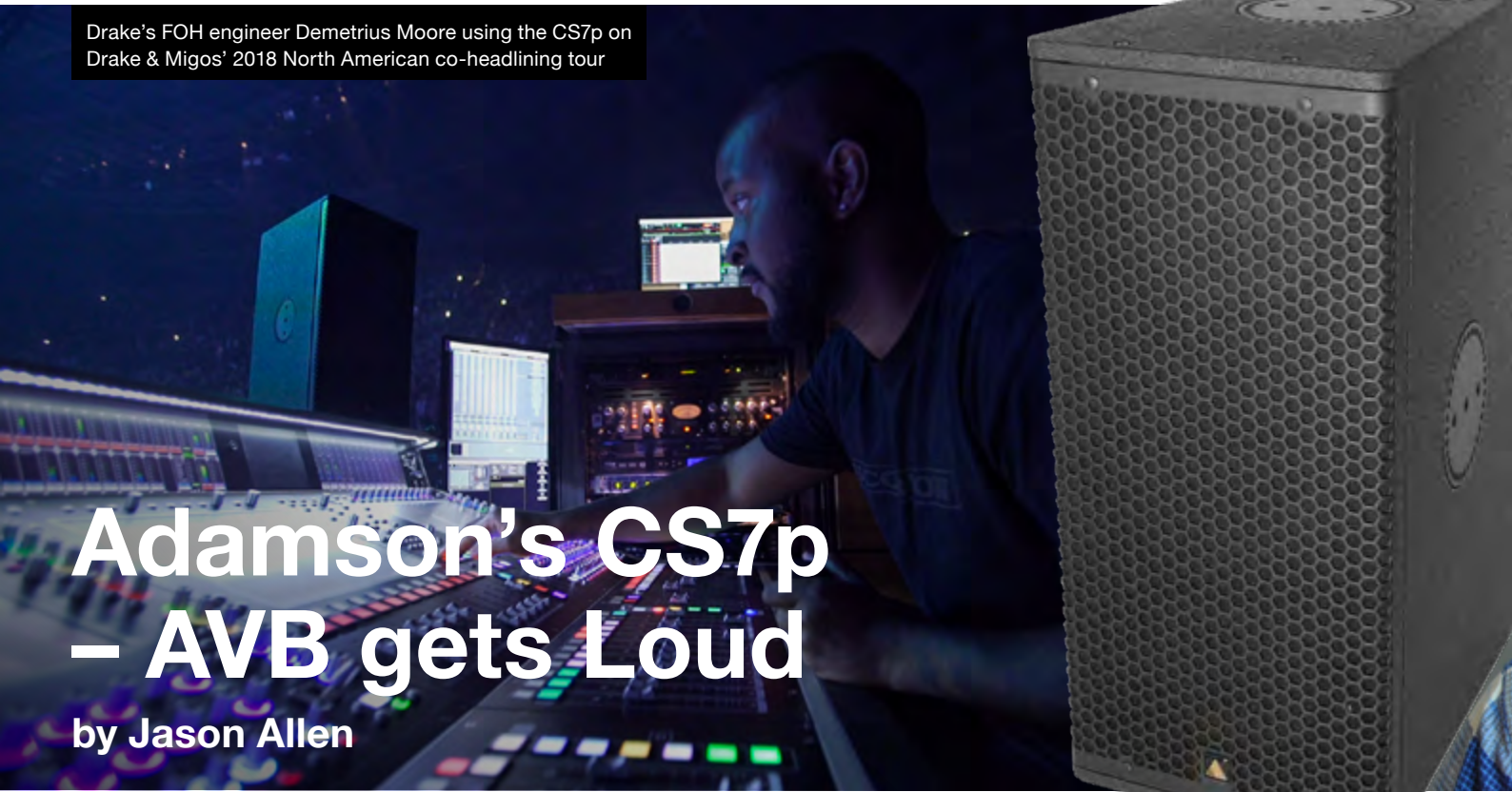
With social distancing becoming an integral part of our day to day life, Deva comes to the rescue. In-built technology solutions such as remote video monitoring, facial recognition, queue counter, and body temperature detection are accessible on and off-site to help to limit the outbreak.

infotainment entertainment safety data gathering



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Drake's FOH engineer Demetrius Moore using the CS7p on Drake & Migos' 2018 North American co-headlining tour



Adamson's CS7p – AVB gets Loud

by Jason Allen

Adamson's AVB-enabled dual 7" loudspeaker the CS7p was announced at last year's ISE, and has made waves globally. At the same time, the Avnu Alliance, the cooperative body working together to develop AVB, announced Milan, the deterministic network protocol that ensures interoperability of devices over AVB. The framework to give Dante a run for its money is now firmly in place. I talked to Brian Fraser, Head of Product and Technology at Adamson Systems Engineering, about the genesis of the CS7p, which is already being adopted in the Australian and New Zealand market

The CS7p is the world's first daisy-chainable AVB/Milan enabled loudspeaker. Why choose a dual 7" point source as the first - why not, for example, a flagship product like the E or S Series arrays?

While the CS7p is not the world's first AVB enabled loudspeaker (that honour goes to the Meyer CAL steerable column, which actually had Avnu certification quite early on. Meyer did a great job pushing AVB forward initially), the CS7p is the world's first daisy-chainable AVB/Milan enabled loudspeaker that also allows for redundant AVB streams. The history behind this project actually began before development of the E-Series, so

there's been a lot of R&D that's gone into this. The reason that we went with the point source first is that we wanted to bring this technology to the market as quickly as possible. The development of the CS7p was done, and we were comfortable releasing it to validate the level of interest in larger systems.

Dual 7": bigger than a dual 5", fractionally smaller than a dual 8" – it's a rarer size of loudspeaker. Boxes like these are often used as under balcony or front fill when they're smaller, or as vocal PA when a bit larger. What was the market 'sweet spot' you were trying to hit with this driver and cabinet size?

We've always been able to play with cone sizes because we make everything in-house. Because we don't buy drivers off the shelf, we can make things that don't comply to industry norms which means, among other things, optimising basket shapes to get the most radiating surface area out of our drivers. I would put our dual 7" loudspeaker up against some larger dual 8" products available today. You're right, in that it can be used as an excellent fill, but the power and presence that the box has means it stands out as a compact PA on its own.

Dipole designs have to take into account lobes, combing, or cancellation caused by two drivers working in the same frequency range. How did you address this?

We simply don't allow the two drivers to operate in a frequency range where these issues occur. By spacing the drivers properly and utilising the correct high-frequency component, we can make sure that destructive interference is highly limited. This is a design philosophy we follow in all of our products.

We're seeing more and more AVB/Milan product coming onto the market, with input devices like radio mics still lagging behind. At the moment, what's the advantage for, say, a corporate AV company to try and put all of their gear onto an AVB backbone?

AVB offers a much more stable platform than layer 3 protocols commonly available, especially as you move to much larger and more complex systems (which corporate



Adamson's Brian Fraser

systems tend to do). It guarantees interoperability as the user expands their toolbox. As we see convergence of technology, more media will be networked together, making the deterministic nature of AVB all the more necessary. On top of all of that, it's an open protocol rather than proprietary, which is always a better solution.

What's the biggest thing holding back the level of adoption of AVB as compared to Dante?

Time to market. Because it's open source, a lot must be taken into consideration when creating certification. This slows down development of essential items like switches which are necessary for a deterministic protocol like AVB. Legacy Ethernet is inherently non-deterministic and current media networks rely heavily on over provisioning, being alone on the network, and crossing fingers. Since the development of these took longer, time to market was delayed, allowing proprietary protocols like Dante to achieve market penetration. Much has progressed in the last five years and you will see AVB making major strides in the pro audio market moving forward.

AVB/Milan sees yourselves, L-Acoustics, Meyer Sound, and d&b audiotechnik working together in the Avnu Alliance. You are all the finest of competitors. What's it like fraternising with the enemy, so to speak?

It's been really great actually. When something like this comes up where we all recognise that a standard is beneficial to the industry as a whole, there is no conflict, no positioning. We all want the same thing, so we contribute as best we can to develop the standard in a way that will benefit not only our companies, but all users of Milan.

What is the next part of the AVB/Milan environment that you intend to populate?

Well I can't really discuss that, but it shouldn't be too difficult to decipher what may be coming!

The last word...

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Robots and Robert Juliat. How Highlite Innovates.

by Jason Allen



The Highlite factory and warehouse in Kerkrade, The Netherlands, is a masterpiece of automation. The 25,000m² facility has been fitted out with integrated order picking and warehousing systems by Dematic NV (formerly Egemin Automation), which uses robots, conveyors and the latest smarts to distribute their huge range of lighting, lighting control, LED and audio products, some 8,000 items in all.

John McKissock, managing director of Australian Highlite distributor Clearlight Shows, has visited the site and been awed by it. “Highlite’s pallet storage area alone can hold over 20,000 pallets,” reports John. “It’s 25 metres high, 47 metres wide, and about 85 metres deep. It’s all automated and robotic, and it’s awesome just to stand in it and watch the robots grab pallets and move them around at fantastic speeds.”

It’s all about efficiency and process automation, and the pallet warehouse is just one component. Next door is the ‘miniload’ component picking system, with its thousands of blue ‘totes’ – small plastic bins filled with components. Also completely robotic and automated, when an order is punched in upstairs in the offices, the parts are picked and placed on a conveyor belt, at the end of which a human operator assembles the order and sets it on one of many conveyors that go to different parts of Despatch; one line for Fedex, another for UPS, and so on.

On the other side of the logistics chain, incoming goods are also handled by automation. Highlite’s system can unload

an entire shipping container without anyone touching the goods. Incoming pallets are forklifted onto a conveyor belt, which weighs and scans the goods. The system recognises what they are and where they need to go and sends them accordingly.

All of this crisp northern European efficiency means great service to both distributors, customers, and end users. “The technical support Highlite can provide us and the speed and the turnaround is remarkable,” reports John. “Recently, we had a 10-year-old Highlite fitting in hire that failed. We identified the replacement component we needed, ordered it on Thursday, and the light was back on the shelf ready for hire on Monday afternoon. While the time zone and weekend was in our favour, I’d be struggling to get it out of Sydney that fast. This just reinforces the fact that we decided to partner with Highlite International because of their drive to bring innovation to their business and product offerings. They’re constantly driving to respond to market needs.”

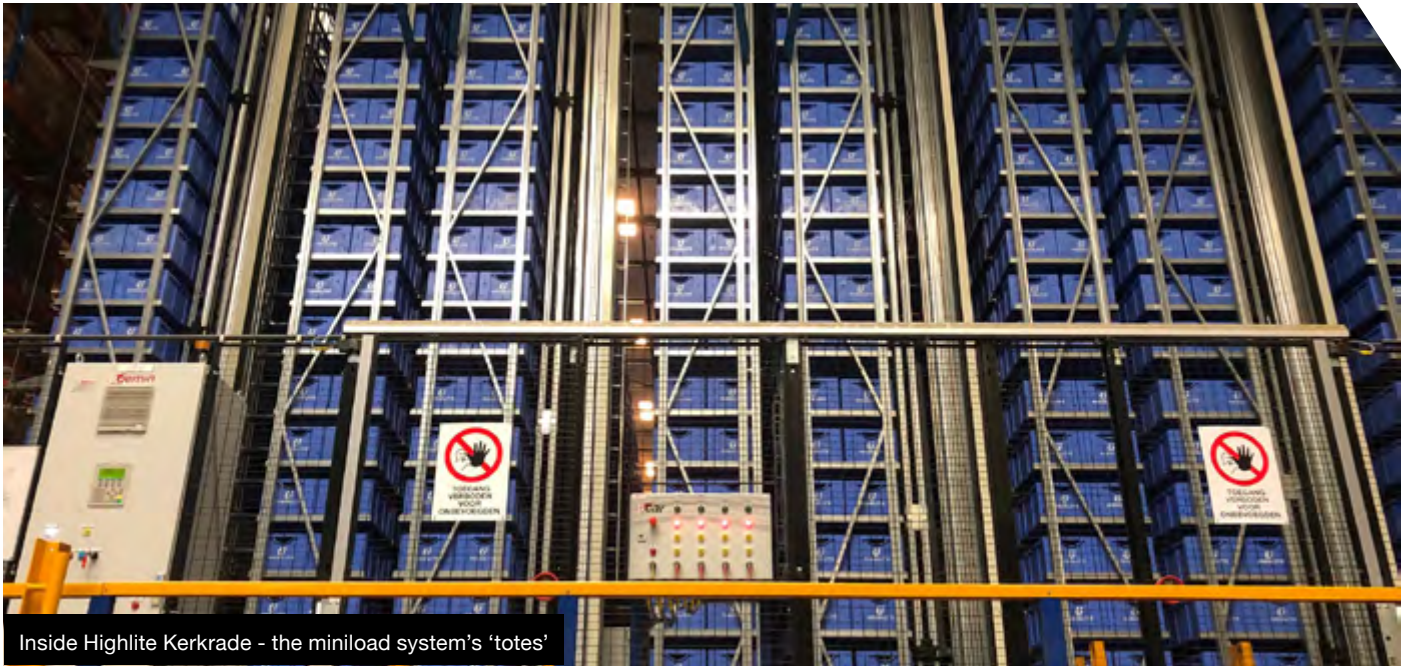
While the full 8,000 unit line Highlite offers was too large to do justice in the Australian market, Clearlight have decided to

concentrate on the Infinity range of high-end theatrical lighting products, which includes the Infinity Signature Series of theatrical fixtures, Infinity moving lights and the Chimp range of lighting consoles.

Developed in collaboration with Robert Juliat, the Infinity Signature Series of theatre fixtures bring the design ‘Spirit of RJ’ together with outstanding features, quality, and sharp pricing. One of the great features of the Infinity Signature series is their ability to operate at high professional functionality even on a basic lighting console. All calibration systems are on-board the fixture to ensure steady output, constant colour, and a seamless fade. 16-bit internal dimming ensures smooth performance, even if a DMX controller operates 8-bit, as the fixtures are smart enough to interpolate between the 8-bit source and the 16-bit internal dimmer and create dimming without any visible steps. Being able to use Selecon Pacific and SPX optics is another innovative feature that puts the Signature Series ahead of the competition.

“The development Highlite have done in partnership with Robert Juliat has been incredible,” states John. “Both manufacturers see it as giving them access to a market they didn’t have before. The Infinity Series is sold branded as ‘Spirit of RJ’, and Robert Juliat get their licensed technology into an affordable series. In turn, Highlite get access to the high-end theatre market. The software is developed in Germany, the R&D is all done in the Netherlands, and it’s RJ’s optics and design. The units are manufactured in China, but it’s all quality controlled in The Netherlands. They’re taking it to the top-end brands in terms of light output at an affordable price.”

While theatres are closed to audiences, Clearlight have been taking the opportunity to demo units to potential customers, and have



Inside Highlite Kerkrade - the miniload system's 'totes'

Infinity hire units out working on film shoots. "We're extremely happy with the product's performance so far, and everyone we've demoed it to has been impressed by the calibration, colour, output, and build quality. The onboard smarts are innovative – you can tell the fixture to act like it's a 3000K fixture with a piece of LEE 106 in it, put it on a single

channel of a dimmer, and it will behave like a Source4 Profile and do that beautiful dim to warm if you tell it to. You can run it on a garden variety console and still maintain the nice dimming curves, because it's all managed within the light."

For more info on Highlite International's Infinity range, or to arrange a demo, contact:

Clearlight Shows

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INNOVATIVE THINKING

“Finding a good way to land when falling from a cliff.”

by John O'Brien

2020: the rule book is burnt; the baby, bathwater, bath and plumbing fixtures are already listed on eBay; the applecart is not so much overturned as smashed; and the public teat is agonizingly too far away to suckle meaningfully. There is no better time to try something new, to reinvent or innovate. When you are in danger of losing everything, there is little alternative...

The word innovate comes from the Latin word *innovatus*, roughly translated as “to renew, restore” but also “to change”. Its etymological path has since evolved it more to: “bring in new things, alter established practices”.

We currently find ourselves in constant uncertainty, requiring daily adaption to updated versions of the Software of Life™. These are testing times indeed. We need flexibility, patience, and resilience as we take on new ideas, methods, imaginations ... and engage with creative thoughts ... to enable new products and processes or just find ways of staying alive.

If change has long been a constant in your existence, then getting innovative is probably part of your daily routine. Look no further. For the rest of us, let's explore some options.

Further etymology and concepts

Digging deeper into theories of innovation, you may find some common definitions. They are not exclusive, and often overlap, but can be broadly defined as: architectural, incremental, radical and disruptive innovations.

The first of these, architectural, refers to applying skills from one segment in another. A classic example is the repurposing of fancy NASA research into ‘memory foam’ pillows and mattresses. I sleep soundly every night with that clever redeployment under my head. In gig-world, an appropriate parallel would be my own career path through concerts, theatres, installs, distribution and now journalism. Where can you currently use the skillsets that you have acquired along the way?

Incremental innovation occurs in ongoing stages, with each version a little better than the last, slight variations being the norm rather than great upheavals. We see a lot of incremental technical innovation in AV - with releases of new hardware and software on a regular basis. How many companies in our field innovate their processes or thinking as well?

Radical innovation occurs when a breakthrough in thinking or product is released, transforming existing or creating new industries upon their release into the wild. The transformations from arc to incandescent to LED lighting are great examples of this in our industry. As are digital mixing consoles, steerable arrays, DMX, and digital in general.

Gig tech sure ain't the same as when I started with it 30 years ago. Imagine the consternation of ye olde theatre techies when the newfangled electricricker and light bulbs threatened their mad skills with footlights, candles and other pyro-tastic hazards. Virtual FOH is perhaps the next profound step. Are you developing a game changer?

It's arguable that these AV industry adoptions are also examples of disruptive innovation.



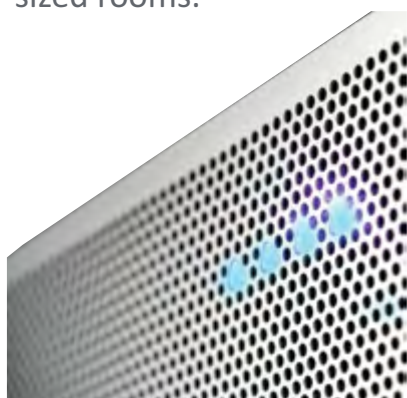
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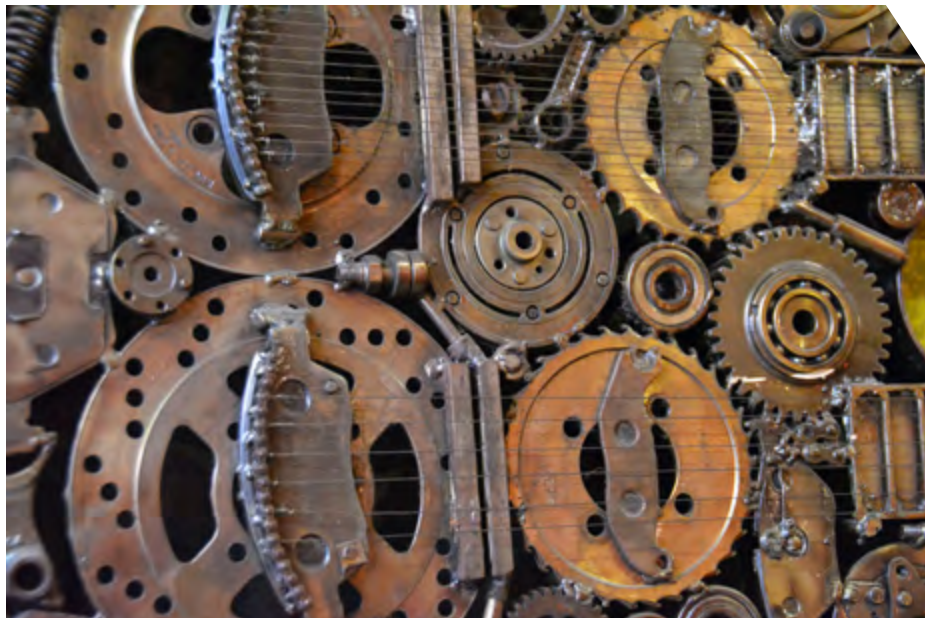
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Great Ideas Need to be Seen and Heard™



Here, the novelty comes through either a new value network or technology that disrupts the existing market. Sometimes it is obvious (like smartphones), other times the breach is stealthier (a la AV over IP). How long since you consulted a physical encyclopedia?

Consider moving lights: once upon a time, LX fixtures were just that - fixed. Then came Vari-Lite. Their disruption cornered the wiggly light market for a good long time until everyone else caught up. Their rent-only business model was solid for decades, but we don't see as much of them in the antipodean market anymore.

Agile Innovation Framework (and other academic constructs)

There has been much bluster over the last 15 years about agile innovation in business. In some industries with quick to-market turnarounds, such as software, it can be a saviour; in others, it can be counter-productive. For example, if you have cornered a market and have little competition, then why waste precious business time re-organising your processes?

The 'official' framework for this methodology consists of two distinct phases - a. Discovery, and b. Delivery. These are pretty broad terms but it comes down to a. looking at what you do, and b. working out how to do it better. Hardly rocket science but apparently worthy of an MBA.

I've seen many other business theories in my travels, such as Systems Thinking, or the Kanban Maturity Model, but have also seen a lot of waffle and time wasted when they are not embraced by key stakeholders or the company as a whole. If there is a concerted buy-in, innovation culture can be a powerful tool in your business' approaches, but it is not an overnight miracle cure and will take sustained effort over a long time period by everyone involved to make appreciable gains.

Our recent PM was often banging on about

agile innovation. Look where it got him! In the end, he was neither agile nor innovative enough to bring the whole team with him. Your mileage may vary.

"Innovate or Die" was a popular catchphrase 5-10 years ago. The mantra contained some truths, particularly for businesses impacted by the digital disruptions of that era and since, but is really a bit Gordon Gekko in approach. You'll know what changes to practice will work in your case.

When it's no good

Just because something is new does not necessarily make it better. Change for change sake is not an end in itself. I once had it out with a boss who treated his workforce with little regard. I put it that if he showed us more respect, we'd care more and give better service to his customers. He replied with: "I don't give a toss - I'm making a million a year. Why should I change?" Well, he's now worth that and a lot more and I'm on the breadline



again. I can see his point.

Although he did slowly change some practices, perhaps his business strength has been keeping with known knowns while minimising unknowns and risk. The formal term for this is "exnovation" ... but really it is just sticking to a winning formula. He focused on cheap and consistent delivery to his customers. Any innovations were minimal and cumulative over time.

Of course, the risk with slow and steady comes when the whole industry rapidly pivots around you. Think Kodak, MySpace, Blockbuster, Xerox and any number of ventures that missed the warning signs and failed to keep up with changes in their markets. Perhaps I could ride my Segway over to yours for some quality Commodore or Atari action - I'll send an invite with my Palm Pilot (I mean, Blackberry) via Yahoo. Maybe I'll just bring the Hummer...

Think laterally

Inspiration for new ways of thinking can come from unexpected quarters. As regional logistics manager for an AV hire and distribution company, I was always looking for efficiencies in deploying labour and assets. I didn't (and still don't) have any formal training in business, but I've studied widely and looked to outside interests for an angle. Having recently discovered PC gaming, I tried out some strategies (all resources on one job vs splitting resources across multiple jobs) in the sandbox environment of the RTS game-of-the-day, Starcraft.

To be honest, I cannot now recall any specific wins with this method but I remember testing the strategic approaches and seeing many parallels between gaming and management. At the time, I was also reading *The Art of War*, so that may have also coloured my thinking too. Either way, I did manage to refine many work practices, saving time and money while making the boss no end of happy.



Implementation, reiteration and renovation

Unless you are a mad inventor, radical disruptor-type of person or company, there is value in sticking to the known. And that's all good in a stable, slowly growing economic environment but when the whole equation gets re-written daily, it might be time to start getting creative with your products or services. Engage some right / left brain thinking and consider all options. Evaluate each choice and see if they might fit your business model and capabilities in this dynamic space.

Wanna buy an airline? How about a better mousetrap? Are you the next DaVinci?

By all means, stay abreast of high profit tech but play to your strengths and invest wisely in good value propositions. Don't forget to stay open to newer ways of delivering your professional offerings.

New approaches to a new world

While we are hanging on for dear life on this white-water rafting style of trip, we need to constantly rewrite or re-evaluate the rules. True to the allegory, we should hang on tight through the rapids (trying not to lose anyone

overboard), take stock in the eddies (while scoping the next rapid) and do our best to portage around the biggest waterfalls.

While we are bouncing along between the rocks, looking for a safe place in the torrent, what better juncture to renew than right now? We as individuals, as companies, and as an industry have little choice. We need to innovate our practices, revitalise our thinking, invent new paradigms and plan towards the next big show.

Then, when the inns reopen, we can do what we do best and put on a kickarse spectacle worthy of a standing ovation. Encore...

The 'Live In Ya Lounge' set



THE NEW NORMAL?

by Simon Byrne

All of us are grappling with what the new normal is going to be.

It is clear is that there will be no large gatherings for some time. Indeed the government's three step framework only refers to gatherings of up to one hundred people, but with the possibility of larger gatherings to be considered. That said, according to the plan, venues will only have up to one hundred patrons anyway, so it is unclear as to how a larger gathering is going to be possible.

According to the Federal Government, these are the arrangements that will be our 'new normal' while the virus remains a threat (exact words), and no one seems to be able to predict how long that will be.

So it seems that if you are going to see a band live, it won't be at a venue anytime soon, it will be streamed.

One company in Canberra is betting its survival on this and thrown themselves, and their dwindling cash into 'Live In Ya Lounge'.

Event Audiovisual Services (known as EAVS) is a corporate audiovisual provider with twenty four full-time staff. Like everyone else, their workload went off a cliff on Friday the 13th March when the government announced the ban on gatherings and suddenly they had no work.

Rob Cartwright, the company's Managing Director, wanted to keep the EAVS team

intact. They had a whole heap of gear and talented people so 'Live In Ya Lounge' was born.

Streamed on both Facebook and YouTube as well as the 'Live In Ya Lounge' website, it is a means for artists to deliver the live concert experience direct into people's homes. It isn't just an artist in their lounge room with a smart phone streaming online. It is a virtual concert with full production, professional audio and lighting, delivering the next best thing to attending in person. So far they have had Hands Like Houses, Groovy Daughter, Dana Hassall, Levi Jackson, Archie and Aya Eves to name a few.

At their own cost, EAVS hire a 770 square metre pavilion at EPIC (Canberra Showgrounds) to stage the events. Production goes in on Wednesdays, occasionally tech checks on Thursdays, soundcheck and rehearsals on Fridays with the show on Saturday. Demand is such that the shows are being extended to Friday nights this month as well.

Eighteen staff from EAVS, plus a host, stage the events. As well as the sound, lighting and video techs, the team also comprises streaming, graphics, social media operators as well as their own dedicated COVID-19 safety officer. Normally there are two acts, so that accounts for another ten or so people in

the building.

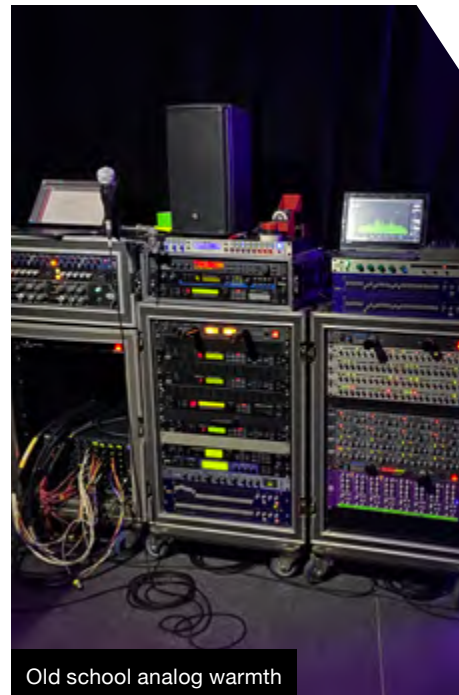
The performers are on in-ears and there is no PA system. Because of this, they are able to deliver very high quality sound to the streams. They have the performance stage covered by five cameras, as well as 'the lounge' covered by a further three cameras where performers are interviewed by the host, Lexi Sekules, again in a socially distanced setup.

COVID-19 health safety compliance and approvals is the new, big challenge. The ACT Government owns EPIC so special permission was required to allow the use of the pavilion due to the fact that venues are currently closed by law. Therefore EAVS had to demonstrate that the space was not being used as a venue, but a workplace to produce the streamed content in a manner that complied with current health regulations. This was difficult because there has been seven different versions of the ACT health regulations to which they must comply. Rob said he worked "really hard" with ACT Health and other departments to get an approval process to ensure they could operate.

Rob and his team developed a comprehensive thirty-eight page COVID-19 health safety plan. It sets out the procedures that they use to ensure that the virus is not transmitted between the thirty or so people on the site. It starts with only allowing pre-approved essential workers into the building, all of which are logged in and out. Then there are procedures to ensure that the one person per four square metres is maintained, an example of which is the change rooms. If you have two



The Archies perform at 'Live In Ya Lounge'



Old school analog warmth



The lounge where the performers are interviewed

bands with five members each, that means you need at a minimum two, twenty square metre change rooms. EAVS make the rooms with push up poles and drapes. The floor is marked up for the operator zones too, thereby ensuring that the operators maintain the required separation.

The equipment is disinfected very regularly, certainly when they do an act change, and the team use checklists to ensure nothing is missed. The COVID-19 safety officer documents that everything is done correctly should ACT Health require proof of compliance. Indeed, the first hour of the crew call on show day is solely taken up by carrying out their cleaning and disinfection procedures.

A vocal microphone is only used by a single

performer and replaced for the next act. After the event, they are partially disassembled and disinfected using Isopropyl alcohol. Rob comments "I don't think anyone had ever written a sanitisation policy for a microphone before." If there was ever an argument for vocal performers to purchase their own microphones, it is now!

Equipment such as audio and lighting consoles are difficult to disinfect. You cannot be spraying those with liquid disinfectants and expect them to keep working! In those cases, the EAVS team hand wipe the gear as best they can, and more importantly, don't share equipment. That way there is no transmission risk.

National level acts are taking notice of the high production standards and reach that

'Live In Ya Lounge' is delivering and they are booked well into June, but as you might imagine, it needs financial support to survive. It is a self-funded operation and they've had some limited success with local sponsors but at this stage they definitely need more to make it financially sustainable. However, Rob believes as more people realise that this format is the only way that live music will survive for the foreseeable future, government and corporate sponsors will come on board.

"We're doing a whole lot of learning very quickly but, like anybody, you're grateful to have something to do ... it gives you a sense of purpose."

www.liveinyalounge.com

www.eavs.com.au

FROM OUR HOUSE TO YOURS

The Sydney Opera House's Joan Sutherland Theatre goes Online

by Jason Allen

Photo credit: Daniel Boud

One of the most hallowed stages on Earth, usually catering to an audience of up to 1,507 seated, has been reimagined as a platform for digital broadcasts of live performances. While stages go dark, one House has kept the lights on.

The Sydney Opera House is no newcomer to digital broadcasting. Their in-house broadcast studio and team of recording professionals has been producing content since the studio went live at the end of 2013. Their archive is a treasure trove of Sydney Opera House presented performances by local and visiting international artists spanning genres and disciplines, alongside work from resident companies. Their digital methodologies are well established, and last year, The Opera House appointed Stuart Buchanan as Head of Digital Programming to map out a strategy to expand the operations and reach of the digital arm.

Then COVID-19 hit.

"I spent my first months in the role in 2019 defining a digital strategy that was going to be rolled out over two years," explains Stuart. "When the COVID-19 restrictions began, we rolled out that strategy in two weeks. We were in a great position as we'd already done the work, presented it to stakeholders, and been approved. The pandemic accelerated the plans we'd already set down. All that changed was how quickly it was implemented."

Out of The Darkness

The other thing that had changed was the House was now dark, its theatres and concert hall out-of-bounds to audiences. The 'From Our House to Yours' digital programme was born to bring life back into the building, and

to employ as many artists and technicians as practical. Creating recorded performances on Saturdays and live streaming at 8 p.m. on Saturday nights, the programme sees the Joan Sutherland Theatre become a Brechtian performance space, its infrastructure exposed and lit, and empty seats built into the broadcast. Since the programme began, it's hosted talks, stand-up comedy, contemporary music, cabaret, jazz, and dance, all captured with in-house gear and know-how.

"The first challenge in putting together the new programme was selecting acts," continues Stuart. "Partly the choice was pragmatic; comedy, contemporary music, cabaret, and talks are all suited to a black-box style performance space. They don't need much in the way of costumes, sets, or props, and can generally conform to a standard production spec. The other selection criteria for the digital season is to showcase the diversity of work that goes on at the House. While you might think of opera and ballet when you think of us, in any given week there's plenty of contemporary music, talks, and cabaret, its often just not as visible, so the season is as far as possible a 'regular week at the House.'"

Design Decisions

Shane Johnson, Head of Recording and Broadcast, worked with Production Manager Aubs Tredget to establish a technical design

and rig that would accommodate the widest of variety acts, enable fast turnarounds, and look good on camera, all while functioning with the overlay of physical distancing, and performer and crew safety.

"We're limited in the numbers of performers on stage," Shane outlines. "Between the performers, camera operators and other tech's movements, with physical distancing, we had design limitations to work around. The other big challenge was changing our mindset from lighting for an audience to lighting for camera. It's all about the softness of the light. Every single light is diffuse, because no camera likes hard light. We also have to light for the performer's eyes; a live audience's eyes have more dynamic range than a camera, so even if the performer's eyes are partly shadowed by light coming from above, they look great. With the same conditions, through the camera, everyone has black eyes because the angle of the light creates shadows under the eyebrows. So, we have side lights, front lights, and lots of backlighting to create depth."

Getting The Look

"One of the biggest challenges was coming up with the overall look and making sure everyone was happy with it," continues Shane. "We've gone for a dark state on stage, only lighting certain sections, with the rest disappearing into black. Backlighting stops the performers disappearing into this darkness and lifts them out of it."

"I applaud Stuart's bold aesthetic decision to use the bare walls and display the stage infrastructure," praises Production Manager Aubs Tredget. "It's drummed into us that you don't break the fourth wall; you hide the gantry and fly system. It's a tip of the hat to the times, acknowledging all the dark theatres where nothing is happening. But here's an opportunity to bring life back to



Photo credit: Prudence Upton



Stuart Buchanan. Photo credit: Daniel Boud



Emma Pask. Photo credit: Daniel Boud



Photo credit: Daniel Boud

the venues, audiences back into the House, and an opportunity to share our love of live performance.”

Ready For Your Close-Up

Working completely for the camera introduced considerations that normally don't cross a crew's mind. "While the tech is transferable, the big difference is understanding the audience and how the camera lens replaces them," observes Aubs. "It's a different headspace. For example, the presence of a camera on stage is normally considered intrusive; everyone's priority is the artist and audience, and camera works around that. But now, the camera takes a precedence that even the artist must acquiesce to. If the camera can't see something happening

on stage, the broadcast doesn't work. It's a different discipline, which is why film and theatre acting are rightly considered two different crafts."

The mindset of the entire crew had to switch from theatre to broadcast. "We're a theatre, the crew are mostly from theatrical backgrounds, and had to get used to looking at and lighting for a screen," reveals Shane. "We've rigged monitors everywhere. Lighting have monitors running both the live programme cut and feeds from individual cameras. We've put in concealed stage monitors for the stage manager, audio, and the lighting supervisor. There are monitors in the green room for the performers, and their make-up artists. The choices the vision director makes are a decision made for the

entire audience. We have to be engaging, or we lose the audience."

The audience's absence is both noted and used as part of the aesthetic. "We've set up a shot of the empty house, lit and visible," confirms Shane. "Every single performer we have hosted has thrown to it or joked about it in some way; they've really enjoyed it. It's counterintuitive, as you'd think performers need an audience to feed off, but the energy of their performances has been great. They really like to play on the fact there's no-one there."

Working With the Flow

With the Opera House already possessing an enviable fibre optic network that links all performance spaces back to the broadcast

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studio, getting the cameras and feeds set up was just a regular day at work for the crew. More difficult is adjusting to the compressed timeframe and rapid changes in style of performances.

“We’re effectively creating two new performances a day,” illustrates Shane. “We come in, there’s a camera rehearsal, the director works out a shot list and camera positions. There’s a one-hour rehearsal with all six cameras and audio. That’s recorded and played back so the director can take notes and refine it. Then there’s the record, which is released a day or two later, and then the live stream at 8 p.m. With two acts in the same day, we’ll set up the first upstage and the second downstage. While the workflow is really not that different to a regular gig, the challenge is delivering everything in the time allocated, while there’s enormous variation from day to day in lighting and shooting style as we change from rock, to cabaret, to tap, then talk.” And then there’s the virus to consider.

Staying Safe

“For me, the most challenging aspect of what we’re doing is the COVID-19 overlay,” states Aubs. “We were already experienced in broadcast and streaming, and techniques such as bringing in remote interviews; most famously Chelsea Manning, after she was denied a visa. To keep everyone safe, we’re working with the heads of each technical team to determine operational procedures, to

minimise the risk for individuals. The Opera House has a dedicated event safety team that works through all the information coming from WorkCover and the Department of Health. As guidelines are updated, we apply them. The Event Safety team are constantly monitoring the day-to-day activities of our crew; they work directly with the techs on safe work practices and risk assessments. It’s absolutely phenomenal the amount of work they’ve done in the last months.”

With the capacity of the stage and safe physical distances defined, what’s the biggest challenge for the crew? “We’ve found it’s audio that’s impacted the most,” relates Aubs. “They come into contact with equipment that comes into contact with the performer. Mics, mic stands, stools. Audio had to sit down and think through every aspect of their day-to-day and develop a mitigation. So now we do not encourage IEMs or headset mics in the digital stage environment. Our techs can’t physically fit them, so unless the performer is experienced and comfortable doing it themselves, we can’t use them. We encourage wedges for monitoring, and handheld microphones. Handheld radio mics are only used by one performer. Audio has set-up two long trestles tables with barriers around them. The mics laid out in a specific area, like a props table, and labelled. Audio take them out to the mic stand, and collect and take them back to their specific spot when they’re done. They wear gloves, and treat the mic as if it’s infected; they use a little plastic bag turned inside out to handle the



Aubs Tredget. Photo Credit: Daniel Boud

mic, like a food worker at a deli. Everything is then disinfected. It’s so much extra work. The preparation before and after is quite time consuming, and audio are carrying the load.”

Keeping The Lights On

“I’m incredibly heartened by the agility The Sydney Opera House has shown in developing and producing ‘From Our House to Yours’,” praises Stuart Buchanan. “The Sydney Opera House is an icon, and people look to us for ideas, direction, and leadership. We can use our position and the resources we have at our disposal to signal that, in one corner of Australia, we’re doing our utmost to keep the lights on.”

From Our House To Yours – Gear Spec

Cameras

- 2 x Sony HDC2400 Camera Chains
- 2 x Sony HDC-P1 Camera Chains
- 1 x Sony PMW500.
- 1 x Sony BRC-H900.

Lenses

- 2 x Fujinon XA 88 x 8.8BE SM
- 2 x Fujinon HA 42 x 9.7BE RD
- 1 x Fujinon HA 22 x 7.3 BRD
- 1 x Canon HJ14ex4.3 BIASE HD

Camera Control

- 2 x Sony HDCU2000 CCU
- 2 x Telecast Copperhead 3400
- 6 x Sony RCP 1500
- 1 x Sony CNA-1

Recording / Playback

- 2 x EVS XS Production Servers
- EVS IP Director Suit

Signal Distribution

- Riedel Micron
- Riedel Mediornet

Broadcast Audio Console

- Yamaha Rivage PM 7

DAW

- Pro Tools Ultimate

Lighting

- MAC Quantum Wash @ 860w x 12
- MAC Quantum Profile @ 565w x 10
- Martin MAC Encore Performance WRM @ 596w x 17
- Martin MAC 101 CT @ 123w x 8
- Robert Juliat Dalis 860 @ 300w x 10 (floor)
- Mac Viper Profile @ 1.19kw x 4 (side / pan position)
- Strand SL 15/32 Zoom @ 575w x 8
- Selecon Arena High Performance Fresnel @ 2kw x 20
- ETC Source 4 Lustr2 x 40

Up Stage Illumination Option

- 4 booms of 4 x 1.2K fresnels
- 4 rolling booms with 2 1.2k fresnels
- 8 x Dalis footlights
- Single Dalis Booms x 4

Lighting Control

- ETC EOS T + ETC GIO Back-Up

Audio

On Stage Monitor Console

- Yamaha QL 1
- Yamaha 3224d2 Stagebox

Monitoring

- d&b m4s as required
- d&b e8 for presenter foldback
- Shure PSM 1000 In Ear Monitors
- d&b D20 amplification

Microphones

- Range of microphones available from Shure, Sennheiser, Neumann, DPA, B&K
- Shure Axient Wireless Microphones and transmitters

Tascam VS-R: A new benchmark in streaming over IP



Since the days of reel to reel recording, Tascam has been bringing innovation to the world through their focus on providing solutions rather than just products. With the launch of Tascam’s new VS-R series of video encoding, streaming, decoding, and recording devices in early 2020, Tascam’s legacy of game changing products couldn’t have come at a better time.

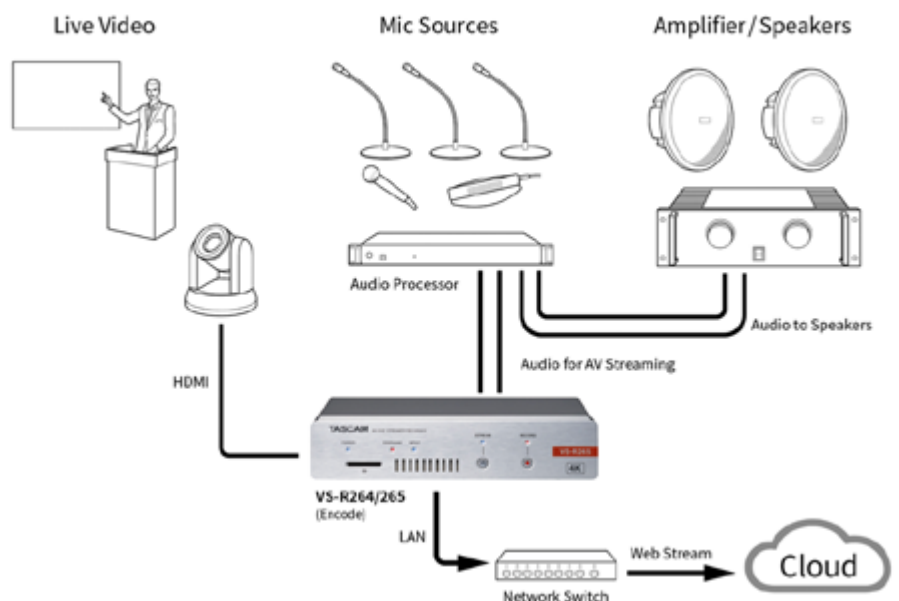
To provide flexibility, both units are compatible with key streaming protocols such as HLS, RTMP, RTP/UDP, and RTSP, but with added capability to simultaneous stream multiple video formats/protocols. This flexibility gives the user the possibility to stream across several of the leading platforms, such as YouTube, Facebook, Wowza, Diecast, Switch, Safari, Microsoft Edge and Google Chrome, to name a few.

Unicast and Multicast streams are both supported, to provide various streaming options, including, one to one connection between a stream transmitter and receiver, two simultaneous streams to separate

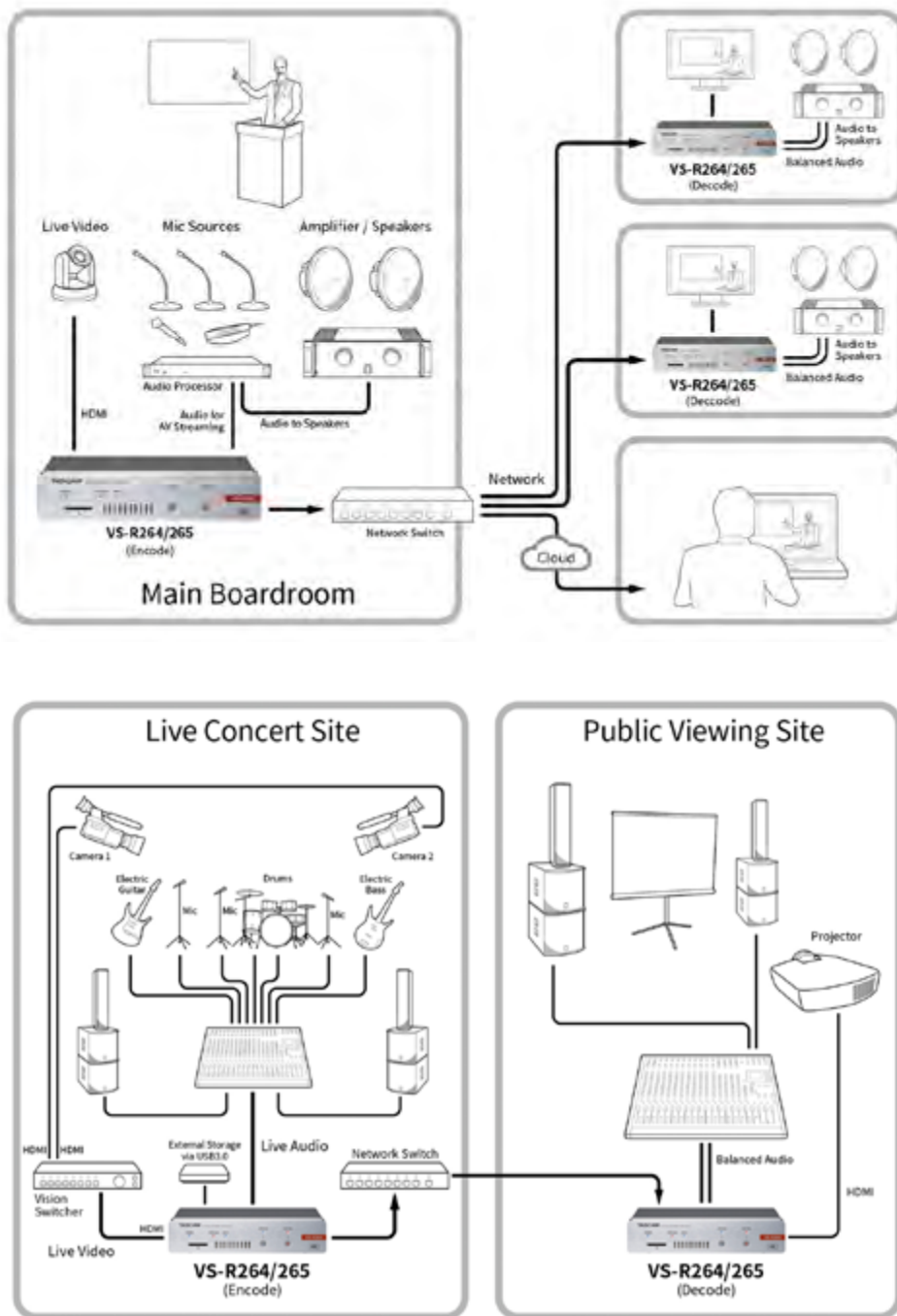
With society, governments and entire industries having been forced to swiftly transform and revolutionise how they communicate and connect with people, there is increasing demand for the AV industry to be ahead of the game and meet these necessities with proficiency, innovation, and new technologies.

Tascam’s VS-R series of AV Over IP Encoders and Decoders are products that break new ground in live video streaming and are a comprehensive solution for a variety of applications from the corporate boardroom to local government, venues, house of worship, education and just about any environment requiring live video streaming.

The series initially consists of two products, the VS-R264 and VS-R265, providing full HD (1920x1080p) using H.264 video codec and 4k/Ultra HD (3840x2160p) using H.265 HEVC video codec, respectively.



“For those integrated environments, the recorded files can be automatically uploaded to an FTP server, in multiple timestamped files, then with the option to remotely delete the files from the VS-R to avoid the local drive from becoming full.”



destinations, one to many, or many to many connections, allowing a network switch to receive one stream and distribute to multiple locations.

Tascam, universally recognized for the quality of their recording products, have provided the VS-R units with a host of onboard recording functionality. Content can be recorded in H.264 or H.265 compression rates, either by the SD slot positioned on the front of the unit, or direct to a hard-drive via the USB 3.0 port on the rear, perfect for a quick corporate event set up. For those integrated environments, the recorded files can be automatically uploaded to an FTP server, in multiple timestamped files, then with the option to remotely delete the files from the VS-R to avoid the local drive from becoming full. Recording as well as streaming, can be

either triggered via the front panel, the local network GUI, or by a Media control system, like Crestron, Extron or AMX. Making it simple for programmers and users alike to use and understand.

On many video products currently in the market place, audio connectivity is low on the agenda, Tascam however believe audio is as important to the client, as the quality of the video streaming. Utilising their heritage and understanding in audio, the VS-Rs offers fully balanced analogue I/O via Euroblock connectors, with selectable sensitivity levels providing up to +20dBu for integration into professional environments. Audio can also be embedded and de-embedded to and from the HDMI I/O. There is also a 3.5mm stereo jacks for -10dBV for consumer grade equipment.

If you're working in a Dante architecture, the VS-R products are designed to complement the Tascam MM and ML Dante convertors, which all come in the same compact form factor, a 1RU ½ rack space, and with the option to power over PoE+ to save on PSU requirements. For example, paired with the MM-2D/IN-X, which offers two Mic/Line inputs and with full DSP and mixer, you could have the two balanced inputs and two balanced outputs from VS-R which could be then integrated into your Dante network.

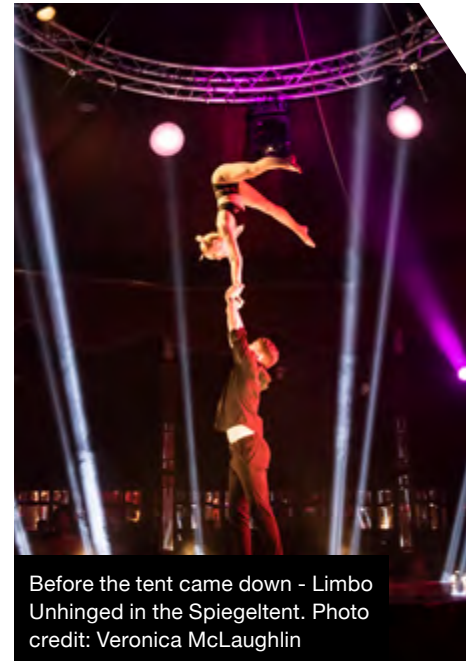
For an in-depth product overview, tips and tricks or a live demo, contact audio@cmi.com.au



Festival Opening - Tira in Aotea Square with Hollie Smith, Hātea Kapa Haka and choirs from around Auckland singing a playlist of iconic waiata. Photo credit: Eu-Lee Teh



Festival Opening



Before the tent came down - Limbo Unhinged in the Spiegeltent. Photo credit: Veronica McLaughlin

A FESTIVAL LIKE NO OTHER

Auckland Arts meets Global Pandemic

by Jenny Barrett

Auckland Arts Festival 2020 was years in the planning, with forty-nine shows and events involving artists from all over the globe, attended by audiences in excess of 100,000 and involving one hundred and fifty staff, including sixty technical crew members. This year the Festival opened to rave reviews and full houses, but as COVID-19 impacted, it was the people behind the scenes who deserved the limelight.

Something In The Air

As early as mid-February the Auckland Arts Festival (AAF) felt the first impact of COVID-19 as air cargo flight cancellations pushed the cost of air freight up four-to-six fold. As a result, on 26 February, two weeks out from the start of the Festival, management had no option but to cancel the headline show *Place des Anges*, an outdoor aerial spectacle set to be performed at Auckland Domain. Nick Tomlin, the Festival's Technical Manager,

recalls the feeling at the time, "We could see the Artist Liaison team working flat out, rerouting people's flight plans and dealing with hold ups, and we began to wonder what would happen next, but it was still very much a case of the show must go on."

Two weeks later and coincidentally the day before the World Health Organisation declared the virus a global pandemic, the Festival opened, "By then we were very concerned. We were watching the performing

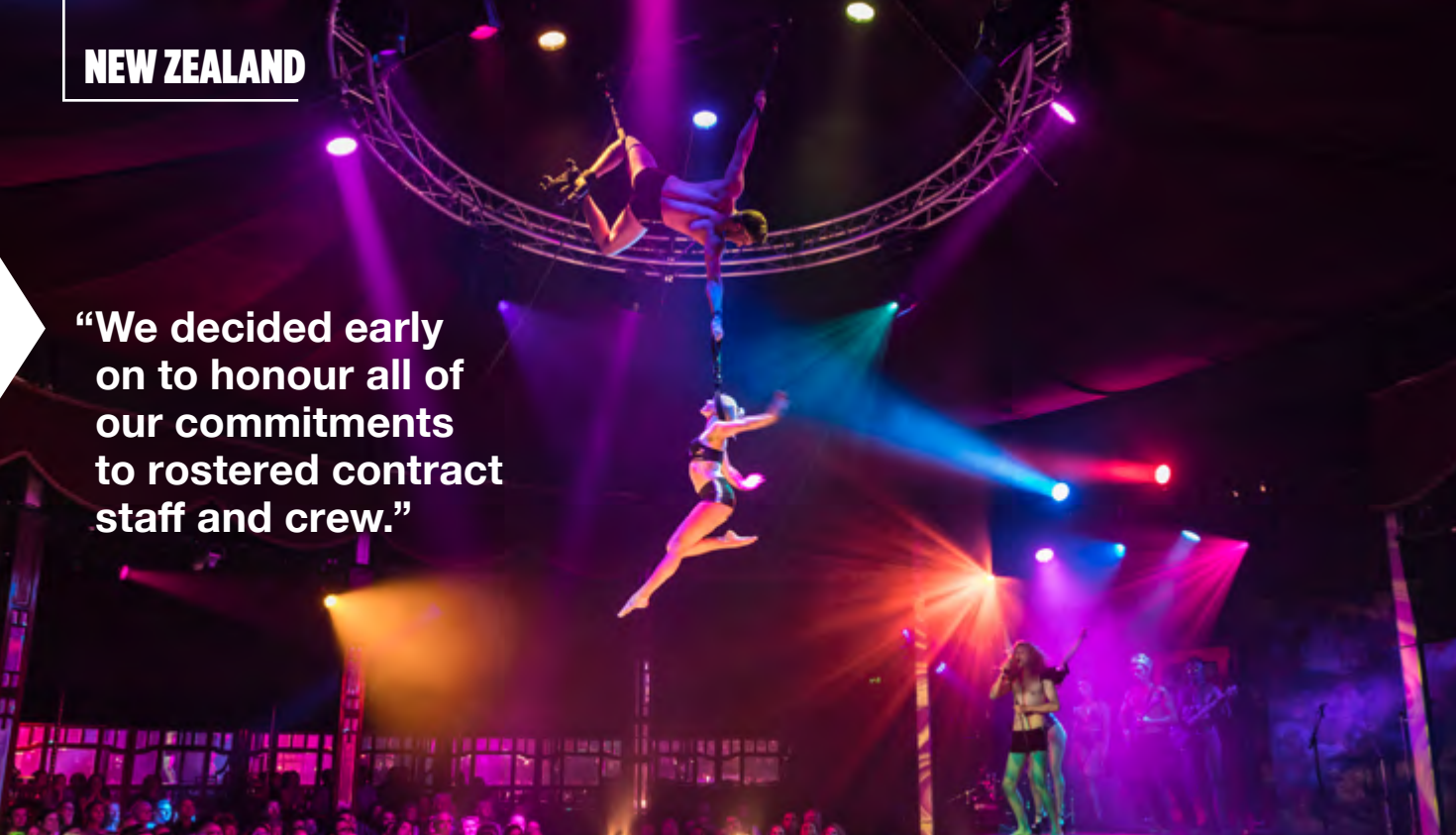
arts industry shut down all over the world. I remember they announced that the Black Caps would be playing in an empty stadium and I thought what is happening? I think there were five or six COVID-19 cases in New Zealand at that point, and the situation globally seemed to be escalating by the hour."

The executive management and communications teams worked relentlessly to try and pre-empt whatever would happen next, "When Auckland Council decided to cancel the Pasifika Festival, we began experiencing an increase in enquiries about that status of AAF shows and events," remembers Chief Executive David Inns. Nick describes how the management team kept in constant contact with all the staff and venues, "We were under no illusion by then that we were working in unprecedented times, and that communication was critical. We shared all the information that we had and what was under discussion, so that staff were as prepared as we were for what might happen next."

Carrying On Carrying On

AAF remained determined to continue with all shows that had not been impacted by performers having to self-isolate on arrival,

“We decided early on to honour all of our commitments to rostered contract staff and crew.”



Before the tent came down - Limbo Unhinged in the Spiegel tent. Photo credit: Veronica McLaughlin

and the restriction of mass gatherings to five hundred. David says all shows were reviewed on an on-going basis, “Spiegel tent shows were immediately limited to three hundred people, and we worked with the Auckland Philharmonia Orchestra on livestream options for their four concerts. We also anticipated the need for contact tracing in general admission venues and quickly worked to put in seat numbering and audience cards to enable contact tracing if required.”

Meanwhile Nick, in his role as Technical Manager, had the job of cancelling equipment bookings and crew calls for those shows cancelled or postponed, “We decided early on to honour all of our commitments to rostered contract staff and crew, so they at least had some surety no matter what happened, and I have to say in light of all that was happening – and the complete lack of sleep – morale was still positive. The Technical Team’s office became the place where everyone gathered, and the atmosphere was open, nurturing and supportive. Not to mention we had a well-stocked beer fridge.”

A House of Falling Cards

The next few days saw international border closures and cancellation of flights to various destinations meaning it became critical to get international artists home to their countries of origin, and the limits for internal mass gatherings fell to one hundred, effectively shutting down the remaining shows.

“It was like a house of falling cards. They were really difficult days and absolutely heart breaking after all the effort everyone had made,” reflects Nick, “We spent one day packing in *Mouthpiece* and my job the following morning was to pull it all down. One company, Estère were actually doing

the soundcheck when we had the difficult conversation.”

Only Massive Company (*Babble*) and NZ Opera (*Eight Songs for a Mad King*) opted to go ahead with performances, with limited audience numbers to ensure compliance. Even they admitted defeat after a few days as venues closed all over Auckland and the Auckland Philharmonia Orchestra announced that they could no longer continue due to concerns for staff and artists, even though they had planned to stream the concerts without an audience.

Packdown becomes Lockdown

Already exhausted after two weeks of crisis management, AAF’s staff still had people to repatriate, equipment to pack out, and a massive tent to pull down. Laughing about it now but not at the time, Nick recalls, “I thought I had a week to sort out all of the technical infrastructure and that the priority was giving the staff a couple of days off after such a volatile time, just to recalibrate with family and whanau.” Nick had grand plans to take everything down methodically, clear out all the storage, maximise crew hours and give everyone an enjoyable week together as he figured it would be their last for a while. Luckily for Nick, the Production Manager thought otherwise and suggested that they return to work on the Sunday, “My plans for a slow working week were thwarted on Saturday when the Prime Minister announced the alert system and that we were at Level 2. Fortunately, with everyone back on the Sunday we were able to get a head start.”

Sunday and Monday were busy, “Everybody on the Festival staff came to help, with office staff tidying up dressing rooms. The technical team from Q Theatre and a couple of other

venues turned up. Even Phil Sargent from Jands lent a hand. There must have been over thirty of us.” But keeping to the new social distancing rules, they found time for a social catch up, “Traditionally we have a barbecue at the end of the first day of pack up so we went ahead, with delivery pizzas to avoid food handling, and it was lovely to connect at that moment, as we all stood on a precipice of the great unknown.”

With the announcement at midday on Monday that Level 4 Lockdown would begin in forty-eight hours, the team scaled down so people could travel home, “We prioritised family and people’s personal lives, and then everyone who was left rallied to get the Spiegel tent down. Incredibly, by the end of Tuesday we had taken the technical infrastructure down, got the equipment into roadcases, removed the scaffold base and got most of the stuff into storage. Suppliers were great and just came and collected their gear.”

On the Wednesday, all that was left was the fencing, removing the rubbish and two containers for the tent to be picked up, “This gave us all time to empty out our Auckland Live offices so we could set up our home offices, with a quick trip to Mitre 10 thrown in for some furniture!” The two containers were picked up at eleven pm, one hour before lockdown commenced, “We did run it down to the wire.”

“For us as a Festival, the most important things throughout were open and honest communication and managing the welfare of the staff, crew, artists and audiences. And they repaid that over and over again. It would be remiss to single out anyone for special mention, because everyone played a part.”

Kayla Burrett – Freelance Live Theatre and Events Professional

by Toni McAllister

Right now, Kayla should be in Dubai working at the World Expo. But like so many people in the events industry during the COVID-19 pandemic, she finds herself with spare time on her hands, so we took the opportunity to chat with her about her experiences in the AV industry.

Let's go back to the beginning, how did you get your start in AV?

I did a Cert III in Live Theatre and Events when I was in Year 11 and 12. My teacher was incredible and pushed me to do it. I wouldn't be in this industry if it wasn't for her. From there I went to NIDA and did the three year bachelor degree in Technical Theatre and Stage Management. I graduated in 2016 and haven't looked back.

When I was talking about applying to NIDA my teacher said "You have to apply. What's the worst thing that can happen, you get in?" I thought what does that mean? Then you do your three years at NIDA and you realise it's a hard slog. But it's been worth it. I don't know what else I'd be doing if I wasn't in this industry.

What was it that sparked your interest in AV?

It's the fact that it never feels like a chore. I can work a 70 hour week and I don't feel like it's a pain in the arse. Also, I love bringing joy to people. I grew up going to musicals with my mum and that's a cherished memory of mine. I love being able to bring that joy to other people through the projects that I work on.

What was it that attracted you to lighting in particular?

It's really cliché but I'm a visual learner. I enjoy how lighting sculpts a scene or what you can achieve in terms of the intricacies of the angles or the colours you can add. I read a quote that says "You don't notice lighting in a play but you'd notice if it wasn't there." I really like to be able to contribute to something and make it look beautiful but no one really knows why.

Tell us about some of your most memorable productions?

My third year lighting design at NIDA. I don't call myself a lighting designer, I'm more on the technical side. But my third year design, it was a really tough space - a 3m x 9m perspex box, and we were in traverse. There were all sorts of crazy angles, but it somehow ended up really beautiful.

Also, my first gig as Head Electrician on *Accidental Death of an Anarchist* at STC with Trent Suidgeest as LD. That show was so fun. We had something crazy like 250m of LED tape in it. We made custom cloud gobos and designed a city skyline. I love doing all the little things that people don't notice but they really add to the scene. I was in my happy place making that.

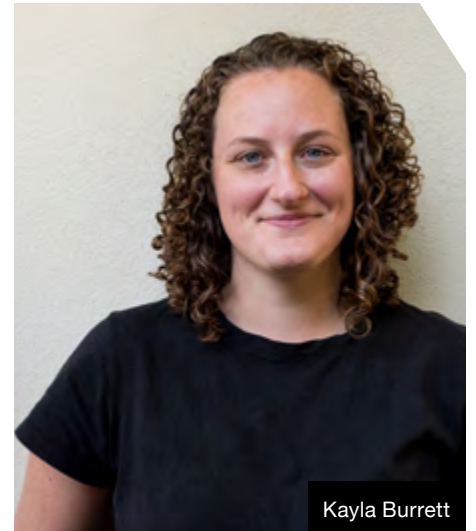
I was so proud of myself for both of those shows for different reasons, but they both come back to that they looked really beautiful and I contributed to that.

What was your first job in the industry?

In my third year at NIDA I took a contract as a lighting tech at the Sydney Opera House. I worked full time there for two and a half years. While I was doing that, I was also working a whole bunch of other jobs. It took me a while to learn how to say no. I would work show call at SOH in the evening and be working somewhere else in the city during the day. It became an issue in the end, and I eventually learnt how to say no.

Was that because you wanted to get different experiences or because you didn't know how to say no?

It's a bit of both. You feel like if you say no to



Kayla Burrett

someone you don't know whether it's going to affect you getting the next thing. Especially fresh out of uni and I didn't have a name for myself yet. But at the same time, it was also companies that I loved working for. So, it kind of became my passion project outside of my fulltime job.

Let's talk about the transition from theatre to events.

I worked in an Operations role for Vivid in 2019, which was my first event. Operations was a good way to break into events. You have an involvement in the creative process but you're not bogged down in it. I love the high-level management that you get to do more so in an operations or production management role.

Although I loved working on Vivid, I walked away exhausted and thinking maybe events aren't for me. I'd never really realised that major events come with an adrenalin, an event rush. But then I went back to a theatre show and I missed the high pace and the high-pressure environment. The event control room of Vivid is a good example of that kind of environment, but I thrive best in those situations.

Most recently you were working on the Gluttony Festival?

Gluttony was probably the perfect role, because it's a combination of the two things I love. It's a major event. The festival runs for a month. It's a two-week bump in, four day bump out, it's crazy. I was essentially head of lighting onsite. I operated a couple of shows, assisted with changeovers and we run as the response team for problems during the evening. It ticked all my boxes. It's the major event adrenalin and it's lighting. Plus, it's a great social environment.

Have I read Gluttony was a female production only?

We were an all-female production management team this year. Which was great and also just a coincidence. When the Head of Production booked me, she said "We didn't choose you because of this, it's just a happy



NIDA Eldorado 2016

accident.” When we worked it out on site, it was something like 80% of our technical crew were female, and it wasn’t a thing that they had sought out to do. It just happened that way.

That’s a lot of female crew – were they all locally sourced?

No, we had quite a lot of internationals, which got really interesting when COVID-19 happened because a lot of our staff thought “I don’t know if we can get home.”

Do you think women are drawn to working in that festival or theatre type of environment because there are more females and it feels more inclusive?

I think so. Sometimes I find it’s quite hard to throw yourself into a gig if you know you’re going to be the only female. You’ve got to go into it with a different mindset.

Let’s talk about that mindset. Is it a defensive thing?

Because I’m a young female, people often look at me and think I don’t know anything. So, you’ve got to stand your ground and have your own back. You’ve got to believe in what you’re saying.

When you develop a relationship with crew it obviously changes. But you’ve got to go into that first day and put down a good solid foundation from the beginning. I find that people often don’t realise that there’s a thought process behind why you’re doing something. So, in a way, you have to prove yourself. It’s become better and people

challenge me less now. I find once people understand that you know what you’re talking about, it gets a lot easier.

Is there any way to change this?

It’s all about working with companies that will support you. I think a big part of it is if you do make a mistake, you have to own it. If people can see that you’re human, they will trust you a lot more. I think if I didn’t have the support from people that I had early on, I might have changed industry.

And do you think this just relates to women or do young men coming into the industry also feel they need to prove themselves?

I think it relates to young people in general. In general, there is quite a lot of ageism in the industry. It’s changing as more young people get into management roles. But my age shouldn’t be the reason you treat me differently. It is all about my experience. You can’t make assumptions. And that applies to both males and females. Young men aren’t going to be the strongest people just because they’re male. But, females still struggle a bit more I think.

Do you think that women need a leg up?

I don’t think it’s a leg up. I don’t think you should ever get a job just because you’re female. I think that it should come down to merit all the time. It’s more about making sure that there is that support network there for them. And that support network doesn’t have to come from females, a lot of my support network, and a lot of my mentors, are men.

You have the opportunity to travel with your work also?

I’m the touring Lighting Designer for *The Second Woman*, which is a 24-hour exhibition performance piece created by Nat Randall and Anna Breckon. The basic concept is it’s the same seven minute scene, performed 100 different times over the course of 24 hours with 100 different men and it’s the same female performer for the whole time.

It is one of the highlights of my career. It’s such a powerful piece. The first time I saw the show was in Taiwan and it was performed in Mandarin. I’d just come off another show and was so tired. But I still watched about 14 hours even though I had no idea what they were saying. You can read so much in people’s facial expressions. It’s an incredible experience. It’s a cult phenomenon.

To work on the show, you have to identify as female, right?

It’s really all about supporting females in positions of power that they may not normally get the opportunity to do, which is really exciting. It is an interesting process. We quite often have women that may not have ever worked together before, but they come together and we make this 24 hours work. And it’s amazing. I love it. Every time we do the show, I find something new and it brings me great joy.

This month’s CX is all about innovation. What does innovation mean to you?

To me innovation means forward thinking and thinking about problem solving in a new way.



The Second Woman

“We had quite a lot of internationals, which got really interesting when COVID-19 happened because a lot of our staff thought - I don’t know if we can get home.”

It doesn't necessarily have to be worldwide or industry led. I think it can be more personal. Personal innovation can be something different and can still have quite a big impact.

Like a trickle-down effect?

Yes, if you come up with a new innovative way of doing something and then you think about the amount of people that you work with on a gig and if you influence them, then you can make quite a large change in the industry, just in that six degrees of separation. I've

learnt quite a few innovations from my friends, mainly around how they handle themselves in control rooms.

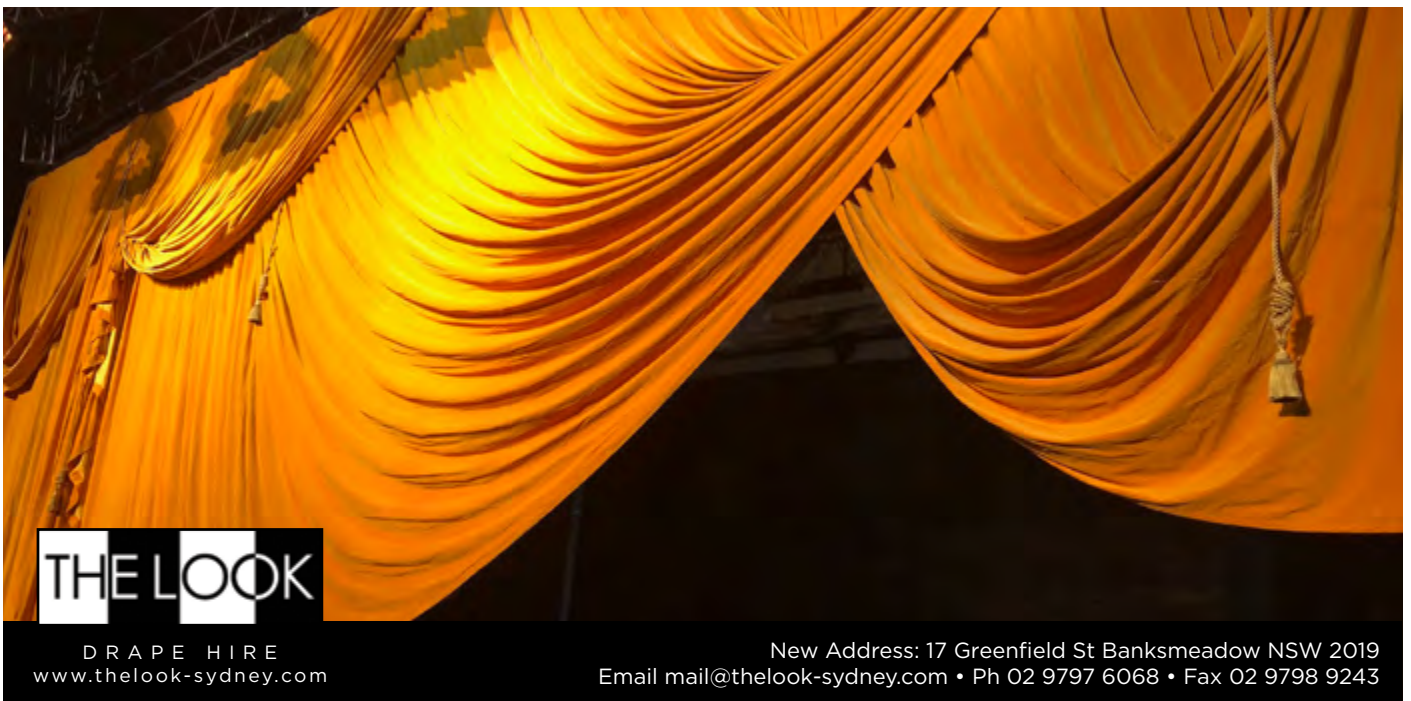
What about innovation in technology?

I think this is really important, something we should really be pushing. I enjoy seeing how the industry is handling the change to LED. I'm excited about the day that they make a tungsten LED that is good enough to swap out a Source 4. They're just not comparable at the moment.

Have you kept in touch with that teacher who first encouraged you?

Yeah, we're still friends on Facebook. She reached out last year on my birthday and I said "Thank you so much, this is where I'm at now and it's all because of you".

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RØDECASTER PRO

by Jimmy Den-Ouden



As I write this review, the COVID-19 virus has changed the way society functions around the globe. Social distancing and self-isolation are the new normal. The connections we once made with people in a face-to-face scenario are now virtual.

This means the need for good, accessible communication technology is more important than ever, and this has seen products such as the RØDEcaster Pro gain even greater relevance.

Podcasts have been around for ages now, and indeed RØDE has been a long-time supporter of this market with functional and affordable solutions. Products such as the original Podcaster USB microphone have endured because they work well. But sometimes you need more than one mic for more than one presenter...

Enter the RØDEcaster Pro, touted as the world's first fully integrated podcast production studio. It's a mixer. It's a processor. It's a digital recorder. It's a USB interface. It's a headphone amp. It's portable. It does multitrack. It's ridiculously straightforward to use, and yet simultaneously powerful enough to satisfy the needs of professional users.

I mention accessible technology at the start of this review, because virtually nobody making podcasts is making podcasts about the technical aspects of making podcasts. People make podcasts about cooking, or cars, or fishing, or clothes, or gaming. One of my mates does a regular podcast

about craft beer. None of those topics has an inherent requirement of knowing how to do good audio. None of these people really care how the technology works, so long as it works for them.

From the moment you open the box, you're met with nice sturdy cardboard sheets which detail what each part of the RØDEcaster Pro is and does. Getting up and running is literally as simple as plugging in power, mics, headphones and a microSD card, then switching the unit on, tapping on each channel and choosing a mic type, then pushing up the faders and hitting the big record button. That's it – all the instructions



you need to get started can fit into five lines of text (at least on my screen).

Up to eight sources can be mixed and recorded – four mic inputs, a TRRS line, a Bluetooth connection (which is really easy and fast to pair), a USB feed from a connected computer, and a bank of sound pad buttons into which various stings, effects and music can be loaded. 512Mb of internal memory is included to store sounds, so you can even load a decent sized segment onto a button! Sounds can be loaded in via computer, or you can record the output of the RØDEcaster Pro directly into a pad. Up to eight banks of sounds can be setup (64 different sounds in total), with different playback options and button colours.

There's a fader for each input as well as a solo and mute button. Four headphone outputs each have independent level controls and there's a monitor output too, with optional automatic muting. Additionally, the mic inputs each have a setup button above the fader, which allows you to adjust parameters on the touch screen. Pressing the "Mic" button

allows each channel to be instantly optimised for one of several RØDE microphones, or set to use generic dynamic or condenser mics. This setup automatically activates +48V as required. For more detailed control, you can go into the level setting and adjust gain. Additional channel processing options include compressor, de-esser, HPF, and noise gate. Channel 1 also includes a ducking function, which attenuates all other channels when the host is speaking.

I've always thought of APHEX processing as a bus level thing, but the RØDEcaster Pro offers independently switchable Aphex



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Aural Exciter and Big Bottom on each mic input. It works well too, again illustrating that point about enduring technology.

The Bluetooth and mini-jack TRRS channels can be used to bring remote interviews into your podcast via phone, and there's even a mix-minus feature. You can multi-track record to the microSD card or to your laptop via USB. Literally my only gripe is that I'm not a huge fan of the USB-C connector RØDE has chosen for the computer interface because I think that tiny small connectors are fragile and prone to damage. It's quite likely there's a reason for the choice, I just haven't thought of it yet. In any case I was pleased with the locking DC connector.

You're meant to shut the unit down by holding the power button, so I did a few brutal power-downs (you know, for real world user simulation and all) to no apparent ill effect. The RØDEcaster Pro uses a 12-15V 1000mA power supply, so you can conceivably take it on location and power it via a USB pack with ease. In fact, RØDE have released a USB power cable for this purpose exactly.

Literally every aspect of this product has been well thought out, from the touch screen interface arrangement to the omission of a master output fader. That might seem weird, but the reality is that it doesn't need to be there, and you can't forget to turn it up if it doesn't exist. In case my five line instructions above are insufficient, you can refer to the included quick start guide which is excellent, or review the substantial library of resources on the RØDE website. There are videos and even guides for integration to common DAW software packages. RØDE does their own in-house media production, and they do it especially well.

The home screen on the touch panel shows post fade metering for all channels plus main output. When you use the playback pads, a

countdown with visual indicator appears on the screen. You can switch the channel solo function between AFL and PFL via the menu. Interestingly, there are no level markers on the channel strips or the VU meters. However, RØDE recently released a beta version of a new firmware update (2.1) that gives you the option to enable broadcast-style metering with precise dBFS markers on each channel. The fader resolution seems to be well scaled to provide good control of where levels sit in relation to each other, and the faders themselves feel tactile and solid. Everything about the machine as a whole feels solid, and at just under 2kg it's an easy thing to carry about (even in a Pelican case with a couple of mics and leads).

Remembering that it doesn't matter to me how the thing works as long as it does, I didn't bother trying to find out what the levels on the meters meant, I just aimed to sit my signals between green and yellow. The specs are all on the website, but honestly when a piece of gear works this well I don't care too much about reading the spec. For me, the device being fit for purpose is much more important.

I'm sure a few purists out there might complain it doesn't offer enough control, but they're not the people this product was designed for. It exists for the content producers who are actually more interested in getting professional content online quickly, rather than learning fanatical nuances of audio production. RØDE are also continually updating the RØDEcaster Pro to include new professional features. In addition to the metering update, the beta version of firmware 2.1 includes full control over all audio processing parameters, plus a master bus compressor and more. Keep an eye out for its official release.

I haven't mentioned it yet, but being a USB audio interface, the RØDEcaster Pro is a great way to interface multiple sources to a

The Specs

Input Impedance: 600Ω
(Mic Preamplifiers)

Equivalent Noise: -125dBA
(A-Weighted, measured as per IEC651)

Maximum Output Level: +3dBu
(Monitor Outputs)

Headphone Output Power:
Max output power at 1% THD: 32Ω → 220mW | 300Ω → 31mW

Dynamic Range: 100 dB
(Mic Preamplifiers)

Gain Range: 0dB – 55dB
(Mic Preamplifiers)

Power Requirements: External DC power supply 12 - 15v DC, 1A

Output Connection: USB-C, 1/4" Balanced TRS STEREO (Monitor Outputs)

Computer Connectivity: USB

Bit Depth: 24-Bit

Sample Rate: 48 kHz

Storage: microSD card slot, 512MB internal memory for storing sounds for programmable pads

OS Requirements: macOS 10.11, Windows 10

computer for a live video stream. Also worthy of mention is that RØDE has released several firmware iterations since the product came to market, each time adding useful features to the product in response to actual customer feedback. That's worthy of acclaim.

The RØDEcaster Pro really is an innovative product, born out of genuine market need. It does everything it claims to on the box, and does so very competently. Now all you need to bring is the talent.

Product Info:

www.rodete.com/rodecasterpro

Distributor: www.rodete.com



ShowPro LED FusionPAR Q XII – The Specs

Lamp Source: 12 X 10W RGBW LEDs

Power Supply: 100-240V AC, 50/60Hz

Power Consumption: 104W

Ingress Protection Rating: IP65

DMX Connection: Seetronic IP65 5-pin XLR In/Out

DMX Channels: 4 / 6 / 11

Beam Angle: 24 degrees

Output: 912 LUX @ 5 meters

Dimensions: 322(L) x 305(W) x 177(H)mm

Weight: 6kg

The LED FusionPAR Q XII have a diecast alloy body and are rock solid. If you were so inclined, you could kick them like a footy and they'd survive.

The onboard WDMX makes life easy for us, particularly when we are outdoors and using the LED FusionPAR Q XII to uplight trees, for example.

Support

With a lot of these types of fixtures on the market, it's the sales and support that makes the big difference in what we choose to invest in. Show Technology are proactive when it comes to looking after our stock, and always help out with firmware upgrades and the like. That goes a long way when we're turning over fixtures in volume.

Product Info: www.showtech.com.au/product/led-par-quad-12qx-ip65

Distributor, Australia and New Zealand: www.showtech.com.au

Simon Finlayson is the General Manager of Harry the hirer Productions, Melbourne, and is responsible for the provision of lighting, rigging, LED screens and high-end audio and visual production equipment to the largest of shows and events across Australia.

SHOWPRO LED FUSIONPAR Q XII

by Simon Finlayson

At Harry the hirer Productions, we have literally hundreds of this fixture and its predecessors. They are a workhorse for us. We've been using this latest model from the range for 18 months now. Prior to that, we'd been running their predecessor for five years. As we have evolved and grown the stock, we're replacing the older fixtures with this model.

Quite simply, they are tremendous bang-for-buck. They are a well-priced, simple fixture with a good output. As a lot of our events take place in ambient or low-level light, but not quite dark, we need fixtures with high output.

Applications

Because they're IP65 rated, the LED FusionPAR Q XII can be put to work on almost any gig; from a basic outdoor corporate event, to lighting the launch of a building, through to big gala dinners and incentive awards. We have found ourselves rigging hundreds of these fixtures through the roof of the Melbourne Convention and Exhibition Centre to cover the dinner tables of three thousand people.

Operation

It is really straightforward to set the colour temperature via the OLED screen on the back of the LED FusionPAR Q XII. If you are running them freestanding on a couple of uprights, not connected to a desk or controller, it's simple to match them at 2700K or 3500K, right up to 6000K, which makes it really easy to use them with other fixtures. Everyone understands the OLED screen with push button selection, and can jump into the colour temperature page and preset outputs.

When we're deploying them in big numbers, another thing that makes them easy to deal with is their robustness. When you're throwing around 300 of them very quickly on a three-hour bump-in, things get knocked around.



PROLIGHTS AIR5FAN BATTEN

by Simon Finlayson

Harry the hirer Productions Melbourne hold a stock of 30 Air5Fan BATTENs, and they have been surprisingly popular! They've done a lot of high-end corporate shows that don't normally have eye-candy effects. They can provide a simple, conservative beam look, or you can make them produce a full-blown AstroRaggi-type disco effect.

Applications

The Air5Fan BATTENs are a good filler for a rig, sitting somewhere between a full-featured moving light and a static Par. If you're looking to fatten up the look, rigging them across the back of the stage or on the side trusses works a treat, and they're very cost effective.

The mirror on the back of the fixture is a unique feature – we bounce beams from other fixtures off of them which gives us a 'double beam effect', which is great for our

clients because they appear to get twice as many beams as they hire. We also utilise this capability by running a line of Air5Fan BATTENs across the back of the stage, making them a reflective surface for other fixtures. They add depth and atmosphere, and they're a lot of fun!

Operation

With movement the key to its effectiveness, the Air5Fan BATTEN is responsive and super quick. With infinite tilt and pan, you don't have

PROLIGHTS Air5Fan BATTEN – The Specs

Light Source: 5x40W RGBW Osram Ostar LEDs

Lux: 27211lux @3m

Source life expectancy: >50.000 h

Beam angle: 2°

Colour mixing: RGBW/FC

White presets: 2700-10000K

Colour wheel: virtual colour wheel with presets

Pixel patterns: pre-programmed dynamic and static patterns

FX generator: adjustable foreground/background colour, index, speed, direction

Special features: Head pivot control, mirror reflecting beams

Pan angle: 540/630° with 360° continuous rotation

Control Protocols: DMX512, RDM, Art-Net

DMX channels: 17 / 27 / 43

W-DMX: optional, wireless solution receiver

RDM: RDM ready for fixture remote monitor and settings

Dimensions (WxHxD): 558x474x242mm

Weight: 16kg

to keep coming back to a home position, which is smart design. We find ourselves doing a lot of tilt, and making the individual beams move, fan wider, and go narrower. With all of this movement going on, we've found them very reliable, and haven't had a fault over the 12 months we've been using them, which is impressive given the wear and tear this amount of movement can cause.

Support

As usual, Show Technology are excellent in terms of their support of the product. We didn't have to develop libraries for the Air5Fan BATTEN, or any other fixtures we've got from Show Technology. They already have it sorted and we just load them up!

Product Info: www.showtech.com.au/product/air5fan-batten

Distributor, Australia and New Zealand: www.showtech.com.au



“...the call for the humble hazer is a little louder now than previously.”

SWEFOG K1 HAZER

by Jimmy Den-Ouden

For me, the distinction between haze and smoke/fog has always been a matter of subtlety. Haze is great because you don't really notice it until you shine a beam of light through it. It's like the tender whisper of sweet nothings from a lover. Fog is the atmospheric equivalent of receiving a collections letter. CO2 jets are more like a housebrick through the window.

Of course in the modern age there's a time and place for everything. That said, with the popularity of small venues, and more recently an emphasis on producing online content, the call for the humble hazer is a little louder now than previously.

Swefog K1 is actually a bit more than a humble hazer. First up the design – it's boxy but cool. The finish is nice. Boxy is easy to

make a case for. It's narrow so it fits easily into wings without becoming a huge trip hazard. Lights on the side of the reservoir shine through to the other side of the unit, so you can see how much fluid remains – don't worry though, for theatre use you can disable those and run it in stealth mode.

Speaking of stealth, the K1 is quiet. Not quite silent, but very quiet. No hazer is absolutely

silent. I did what would be considered a pretty unfair test of taking it to do a webcast in a house. We put the K1 into a 7x4m, reverberant, and completely silent room, and in the total absence of other sound in there we could hear the air pump running. I thought it might be a problem but once I added two musicians and singers, plus the audio return from the webcast host, suddenly nobody was even aware of the sound the K1 made. Subtle!

The OLED menu is very straightforward to operate. Left/right arrows swap between fan speed, fog amount, and run/stop functions. Up and down changes the value, OK runs the hazer from the run/stop screen or takes you to the setup menu from the other screens. The big X button makes it stop. Setup is a doddle, and you'd certainly be able to get the unit up and running without reading the handbook. I managed, and I'm an audio person!

We ran the hazer on a very low output mode – I think 10% from memory for the duration of the shoot. The fan speed can be varied from 10% upward, but I let the K1 do its thing and just set it to “auto”. This lets the hazer adjust

The Specs

Type: Water-based haze generator.

Fluid type: K1 molecular haze fluid

Operation: Continuous

Fluid consumption: Max 600 ml/hour at continuous operation 100% output.

Min 10 ml/hour at 1% output

Fluid container capacity: 3 litres

Power consumption: 1500 Watts

Dimensions & dry weight LxWxH
490x147x313 mm, 13 kgs

Service parameters:

Air pump filter: 250 hours

Air pump: 500 hours

Fluid pump: 250 hours



the fan speed in response to the requested haze level, and it seems to be pretty spot on. You can achieve a variety of effects by varying the parameters individually. There's a hinged waveguide on the front that allows you to direct the haze upward or forward.

On my test, the air-con saw the air in the room being constantly refreshed and yet the K1 held a nice level of haze; just right to pick up the movement of the light beams from my awesome "best ever sound-guy lighting rig" of two shimmers (thanks Wazza). I do love minimalist theatre.

There's a nice solid carry handle recessed into the top of the K1, set at the right position to balance the unit correctly when you lift it. There are PowerCon in and XLRs for RDM capable DMX connection. I didn't use the DMX connection because I didn't have a console, nor did I bother with the timer because I could dial the output down really low!

As much as light, delicate haze is wonderful, sometimes you just want to fill the room with dense haze really quickly. No problems for the K1 on the "brute force" front, it quite contentedly kicks arse and still remains quiet doing so.

While I am the type of person who would never forget to switch on the hazer, others will no doubt find it comforting to know that should this happen, the K1 takes literally a minute to warm up and be ready. It also takes a minute to shut down, and this is an important step in using it.

Choosing shut down from the menu causes the K1 to purge any fluid still left inside its workings so it won't leak during transit. I'm not sure but presumably this would help to avoid the problems of blocked thermoblocks that plagued the foggers of my early career.

The need to do the shut-down procedure is really the only weak point I can find about the unit, and to be fair I was told to read the manual before it arrived. So I knew. Now you know too, so shut it down as prescribed.

K1 uses Swefog Molecular Fluid which comes in a 3L "bag in a box" (think cask wine but non-potable). Comparing ongoing cost of operation is difficult, but I asked around a bit and did some loose calculations and it seems like the K1 is nominally no more expensive to run than other hazers. We probably used 10mL or some equally inconsequential amount of fluid on my gig.

The 3L bag in box is good for up to 75 hours operation, and the whole bag and box arrangement is completely recyclable which is super great. Better yet is that it doesn't leak. Yep. Turn the K1 anyway you want during transit, and it won't matter. Just make sure to set it upright before you switch it on.

The bag in box flips out from the back of the unit, and the nozzle connects to the K1 with a click on arrangement – just like your garden hose. There's even a little sponge inside to collect any errant drips when you click the hose off and on. Thoughtful.

Thoughtful is really the watchword for the Swefog K1. It's made in Sweden and equally at home on tour or installed. If you do install, there's a 25L or even 220L fluid option, which is good for about a zillion hours of webcast use.

Product Info:
<https://swefog.com/products/k1/>

Distributor Australia:
<https://clearlight.com.au/>

Distributor New Zealand:
<http://www.grouse.co.nz/>



Photo by De an Sun on Unsplash

JUST STAY IN AND DO IT

by Duncan Fry

As I sit typing this in the People's Democratic Republic of Victoria, the word has come down to us mere mortals from Chairman Dan that some isolation restrictions have been relaxed.

Why? Have we found a cure for the coronavirus? No. Is there a vaccine for it? No. Has it gone away all by itself? No it hasn't. It's still there lurking in the un-sanitised shadows, just waiting for someone to cough on you, and then Whammo. It's gotcha.

All that's happened is that people and the media have got sick of it. That's 'of' it, not 'from' it, something for which I personally feel very grateful. I'm not sick of it at all. If staying alive means staying home and not mingling with unknown Covid Carriers, then I'm all for

it. I'm more than happy to be home with my gf and Charlie the Wonder Whippet, churning out stuff like this!

But that's more than enough of the social commentary. I've had a gutful of weasel worded ads with simpering presenters telling me 'We're all in this together...' and 'We're there for you...!' Are we? Really? I don't think so. Instead, for the next few minutes, let's talk about happier things to do than add to the mountain of coronavirus op. ed. pieces.

It should come as no surprise that I haven't done half of the things I had planned on doing during the lockdown. I haven't learnt a new language, haven't learnt to play a new



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instrument, haven't finished the thousand or so pages of Haruki Murakami's novel 1Q84, Books 1, 2 or 3 (I'm guessing that less than 0.1% of the people who bought it have actually read it). It's a book to be seen to own, not to actually have read. A bit like James Joyce's *Ulysses* but better written. I got halfway through Book 1, then couldn't remember a single thing about what I had just read, so put it down promising myself I'd finish it someday. But as John Fogerty sings, *Someday Never Comes!*

"You can't just laze around doing nothing all day," says She Who Must Be Obeyed, who is working from home and loving it. "You've got to get some exercise."

Hmm. Need exercise - how about walking the dog? Uh oh - everyone and their dog is out walking the bloody dog. Never seen so many. In normal times it's the yummy mummies in designer exercise Lycra, the Scandinavian Urban Assault Vehicle/kiddie stroller, and designer dog (I'm looking at you, Groodles) sitting together at a table in the local cafes, keeping out of my way. Now it's the hubbies working from home doing the coffee and dog run as well, spread all over the footpath in 1.5 metre circles waiting for their over-priced soy lattes at the hole-in-the-wall coffee shops. The streets are more crowded than the MCG on Grand Final day. Although not, I suspect, on this season's Grand Final day!

"I'm missing my regular spin classes at the gym," I whined, hoping for some sympathy. Not a chance. "Get the wind trainers out of the shed," she ordered, "and we'll put them in front of the TV, find something to watch, and we can pedal away for 45 minutes or so and keep fit."

I had to admit that over Easter we had been taste-testing the various brands of Hot Cross buns - purely for research, of course, and it was a sad day when the supermarkets finally sold out of them for another year - but a happy day for my waistline! The winner? Well, no-one outright. The ALDI ones had the nicest spicy tasting dough, but were a bit erratic on the raisin count; the Coles ones were quite bland, and had a very low raisin count; the best all round were the Woolies ones that they baked in the store. The packs of nine mini ones had a very satisfying raisin count and a very tasty dough flavour. The best value though were ALDI, being at least a dollar per pack less than the competition. But I digress.

I found the wind trainers in the shed, brought them out and coaxed the colony of Huntsman spiders living inside them into moving house with the help of the garden hose, but I couldn't find my bike shoes anywhere. "When did you last have them?" asked my gf. "In Adelaide, I think," I replied. That was a couple of months ago - I couldn't believe we hadn't been on the bikes since then. Bike shoes are not something I'd wear if I weren't riding a bike. They've got cleats on the soles that click into the pedals. If you walk around in them they go clippy-clop like Peggy Bundy, from



Photo by LOGAN WEAVER on Unsplash

Married, With Children. Not an image I strive for, I must admit!

There was nothing for it but go down to 99 Bikes and buy a new pair, as it's very uncomfortable, and a bit unsafe, to ride a bike that has cleat pedals, without cleats. They push into the soles of your runners and make your feet slip off as you push hard to accelerate. Luckily the shop had a nice pair of medium-priced bike shoes. "You'll need a new set of cleats too," said the salesman enthusiastically.

Oops. I had bought my pedals about 10 years ago, made by a small US company called Crank Brothers. I chose them after much testing of the major brands, but found that none were easier to click in and out of than the Crank Brothers, which made them ideal for suburban riding.

"Have you got a set of Crank Brothers cleats?" I asked hopefully.

"No, sorry, we don't keep them in stock. I could get them in for you, but it might take a while ..." he shrugged his shoulders.

So did I. "I don't suppose Shimano make some compatible ones, do they?"

He smiled sadly and shook his head. I was waiting for him to say 'Cleats ain't cleats mate,' but he wisely abstained. This simple act of riding the bike was taking on a life of its own, and so far taking up a whole day.

"I tell you what," he said optimistically, "why don't you get a cheap pair of adjustable Shimano pedals, which come with their own set of cleats, and the whole lot'll probably cost you less than just the Crank Brothers cleats." He was right, too. I hate that!

I fitted the pedals when I got home and set them on the loosest 'click out' setting. After all, I wasn't going to be climbing up the Alp d'Huez or Mont Ventoux again anytime soon. I set up the bikes; we climbed on, clicked in and turned on the TV, ready for the first testing of the concept by watching the midday movie, or whatever it's called these days.

It was then that we realised a major problem - we couldn't hear the TV sound above the whirring of the bike gears! Cranking up the TV sound made little difference, and then my gf made a brilliant suggestion. "Why don't we watch the World Movies on SBS? We'll find something French, turn the sound down, and just read the subtitles. That should work."

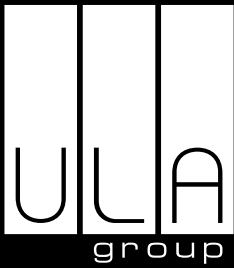
We tried that, and it worked well. Much cheaper than shelling out a couple of grand for a Zwift compatible Internet connected setup, like one of our friends had done. It lets you watch a video of any major mountain pass climb around the world and feel all the bumps and the gradients. Fun, it's true, but at the end of the day you're still just riding a bike. If this goes on much longer, depending on the movies, we'll soon have an 'intimate' knowledge of bedroom French, and be fit enough to ride up any mountain 'no hands'!

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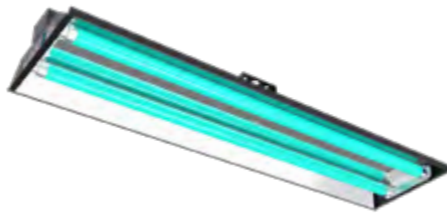
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