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10 MINS ALONE WITH THE PM...

Creative Productions' Dave Jackson Speaks For All Of Us

THE HOME GROWN ISSUE

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- > REDBACK AND ENTTEC – MADE IN AUSTRALIA
- > AUSTRALIA'S FIRST LIVE STREAMED MUSICAL
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Tech Talk

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Jenny Barrett covers NZ

Dunc's World by Duncan Fry

ROAD TEST

Highlite Infinity Furion Beam, Spot, and Profile

dBTechnologies VIO-X205

LSC Lighting Systems MDR-DIN and LED-CV4



MORE INFO ON PAGE 9.

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Photo Credit: Adam Taylor, office of the Prime Minister

Creative Productions' Dave Jackson gets 10 mins alone with the PM – what did he say?

by Jason Allen

On Friday 17 July, Prime Minister Scott Morrison, Senator The Hon Michaelia Cash and local MP Angie Bell, Member For Moncrieff, held a press conference in Molendinar, Queensland, announcing \$400 million in funding to attract screen and film production to Australia. With the Gold Coast a major film production centre, the advance team needed a location, and after deciding against Movie World, the PM's press secretary found Creative Productions through their network of contacts.

"The PM's office contacted me on Thursday night to see if I could provide some gear for a press conference at Movie World," said Creative Productions' owner Dave Jackson. "I suggested they just come to our warehouse; we already have a studio set up and the warehouse looks great. The advance team came Friday morning and said it was perfect."

After a press conference in which the Senator and Prime Minister announced the new funding, there was a 20 minute press Q&A. After they'd questioned the polities, they

descended on Dave. "All the press wanted to know my real thoughts on the funding announcement," Dave related. "Screen and film is not a huge market for us – most of their gear supply comes out of Sydney or overseas. But what this did mean for me was an opportunity to bringing attention to my industry; the live production industry. There's a lot of people and companies like us suffering and we're not recognised. If there's any public awareness of us at all, it's as a bunch of dirty roadies who smoke weed, and that industry is long gone."



Expressing the same frustration as the rest of us in an industry frozen out of state government grants, federal funding, and rescue packages because we don't officially exist, Dave decided to speak for all of us. "We've all sent letters to our MPs with little result, and I got 10 minutes with the PM, alone, without the press. I had to tell him how it is. He sat and listened."

"I said, Mr Prime Minister, look at all of the gear in this warehouse; this is what \$10 million going broke looks like. We need to hear more for this sector that's got nothing to do with artists. I haven't heard anyone talk about production companies and all the companies around Australia that spend millions of dollars on infrastructure like us. What do businesses like ours do after 30 years of work and millions of dollars invested? We're responsible for 30 full timers and 100 casuals; that's what I go home and think about at night – how to keep feeding them. All my staff are either young and starting out, or family people who are raising children and have bought houses. What are we going to do when things pick up a little, and the banks, landlords, leasing companies, and ATO all want their money? We certainly aren't going to be doing million dollar months."

"He listened, he took it all in. I hope something comes out of it."

THREE CITY ENTECH PIVOTS FOR 2021

More space, COVID-safe, Business Focus

Next March ENTECH tours Brisbane, Sydney and Melbourne, bypassing Adelaide and Perth to provide a more cost-effective roadshow. Now further details have been announced.

Floor space has been increased to allow each exhibit to be distanced to meet any social distancing rules applicable. The educational theatres return with social distancing, as does the cafe. The PA and Lighting demos are now extended with each manufacturer taking control for 15 minutes to show the gear their way.

ENTECH will exceed any new venue standards by adding floor space and changing processes. The Melbourne Convention and Exhibition Centre released new standards in July, which are easy to meet for the roadshow as currently planned.

Given the enormous reductions in activity, the show is refocussed and branded 'More

Business, Less Showbiz', with a new emphasis on installation and integration technologies. Visitor databases are sharper as the organisers align with their other roadshow for the security technology industry, SECTECH. The two shows have considerable data overlap.

A cancellation refund guarantee is in place for 100% of exhibitor payments to be refunded immediately if any shutdowns arise. The roadshows have been recapitalised and remain in the same Grafton family ownership.

More info:
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 Low latency is used to reduce the time delay between the input of video signal to the controller and the corresponding output.

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MCTRL4K **4K**
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MCTRL660 PRO **1080p**
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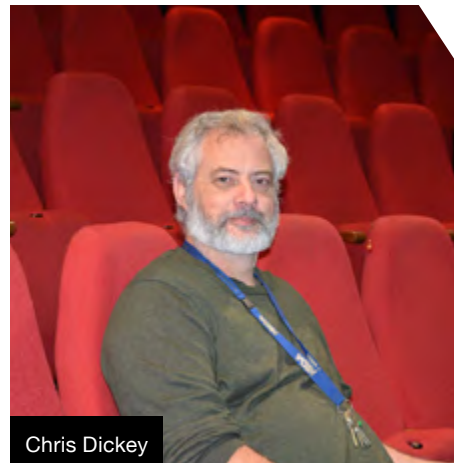
NovaStar's Low Latency Solution

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

EXPERIENCE THE BEST



NIDA



Chris Dickey

LSC Lighting Systems Offers Power and Protection to NIDA

They may not be as sexy as some lighting gear, but dimmers and power distribution are critical components of any lighting system, working tirelessly in the background. Power and protection are the keywords with dimming and distro, and Sydney's National Institute of Dramatic Art (NIDA) now has both thanks to LSC Lighting Systems.

NIDA is Australia's leading centre for education and training in the performing arts and features six professional performance venues, studios and rehearsal rooms. The largest of the performance venues at NIDA, the Parade Theatre, offers seating for audiences of up to 707 in its three-tiered, horseshoe-shaped auditorium. The Playhouse is a 155-seat amphitheatre designed for more intimate productions. NIDA has three smaller black box theatres – the Space, the Studio Theatre and the Reg Grundy Studio – that are frequently adapted to suit different production needs.

NIDA recently decided to upgrade its dimming and power distribution systems with LSC Lighting Systems GEN VI dimmers and APS power distribution. A total of 42 GEN VI dimmer/distros and an additional four Advanced Power Systems power distribution units have found a new home at this celebrated institution. The Parade Theatre, Reg Grundy Studio, and Space Theatre have all benefited from the recent LSC Lighting fit-out.

NIDA's previous dimmers were installed in 2003 and had exceeded their expected 15-year longevity mark, thus becoming electrically unreliable. NIDA began investigating replacement options.

"Once we found the money we went hunting for dimmers!" said Chris Dickey, NIDA's Technical Manager. "We wanted something that offered a bit extra in the venues and that was the LSC GEN VI range. I've had a fair bit of experience of LSC equipment and it's always rock solid."

The dimmers were installed in January and were successfully used on a handful of productions before the COVID-19 lockdown was enforced. Fortunately, NIDA's lighting crew managed to familiarise themselves with the dimmers in that short time and found the changeover very straightforward.

A GEN VI dimmer (available in rack-mount or wall-mount versions) uses TruPower, allowing configuration of any of its outputs to be an 8-bit or 16-bit dimmer or a direct power relay channel. This enables the GEN VI to dim traditional lamps or power moving lights, LED fixtures, video screens or audio power amplifiers – in fact, any situation where controlled power distribution or dimming is required.

"The way the relay channels in the GEN VI can be set to come to life and go to sleep when they do and don't get DMX has to be my favourite feature," said Chris. "The start-up and warm-down practice at NIDA has now

changed dramatically as we don't have to traipse around the entire building to wake the system up as it all happens automatically. Zero-point crossovers for power switching are amazing and have been faultless so far."

By using LSC APS modules to power the lighting and video systems – all LED fixtures, video screens and moving lights are automatically powered off at a set time after the lighting console is turned off. When the console is next turned on, the lighting and video equipment will be sequentially powered-up over a few seconds, without user intervention.

"This means there is less chance of some lighting gear being accidentally left on when not in use, ensuring the maximum service life of expensive equipment and a lower power bill," added Chris. "Both the GEN VI and APS units are also RDM enabled, which is handy. We can simply change the DMX address of the unit, adjust settings and view any faults from any RDM controller."

Features of the APS power distribution unit that impressed Chris were supply voltage and load-current monitoring, trip indication and a colour touchscreen for local data display and menu navigation.

Inrush currents of all the equipment power supplies and load lamps starting up at the same time can cause the supply breakers to trip, and transient currents drawn by the power supplies can cause earth protection breakers to trip. "The APS offers staggered start-up of each circuit, enabling sequenced load ramp-up while maintaining phase balance – and that's phenomenal," said Chris. "High current drawing devices such as LED screens can now sequence themselves up automatically." This staggering of the power-up sequence is programmable from the front panel – with a setting from 0.1s to 5s of delay between outputs being energised.



“Once we found the money we went hunting for dimmers!”

Reg Grundy Studio



NIDA



Fly Gallery

Chris commented that since the installation of LSC GEN VI dimmers and APS power distribution, tech life at NIDA has been made so much easier. “For example, during our festival season, we always have a mirror ball

in our standard rig and now we don’t have to have a special switch, as it can go straight into a dimmer (set to non-dim mode) and is triggered straight from the desk.”

Now, at the end of a long night when the crew simply want to go home, they can do so knowing the lighting gear can safely be put to bed with LSC Lighting.

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Novatech, CrewCare, & Support Act supporting mental health



The world of live events is full of passionate people working in a fast-paced, changing environment, around the clock and around the world. With the majority of companies in this industry grinding to a halt overnight in March, the toll on these workers has been heavy. Thanks to CrewCare and Support Act, companies like Novatech around the country have been able to add another way of looking out for staff with formal Mental Health First Aid Officer training for key staff.

Novatech Operations Manager Liz Schoemaker (pictured) recently undertook the accredited course in Mental Health First Aid training for CrewCare members, approved by the Mental Health First Aid body, facilitated by Paige Gaudry from PNP health, and supported by CrewCare, Support Act, and Griffith University. The training teaches about the signs and symptoms of common and disabling mental health problems in adults, how to provide initial help, where and how to get professional help, what sort of help has been shown by research to be effective, and how to provide first aid in a crisis.

This online certified training is intended for those individuals who are regularly in contact with crew members. Its goal is to provide them with the necessary tools and responses to ensure best practice, and to help the caregiver themselves deal with the stresses it can place on them. The four-day course has been

specifically designed for crew and delivered online in response to the COVID-19 pandemic.

CrewCare's local Adelaide representative, Peter Darwin, remarked, "It's great to see Novatech supporting CrewCare; in which this Mental Health First Aid training has become a major part of the whole scheme. Mental health has always been a major topic to CrewCare, regardless of COVID. We want to help all levels of business – from crew to management - and aim to have at least 200 people around the country trained by the end of the year".

Novatech have always had a comprehensive health and wellbeing program for their 100+ staff based in Adelaide who travel to deliver events to all corners of Australia. As Liz comments, "The recent COVID situation has heightened the need to support our staff during these uncertain times with added support, access to resources and ensuring there is a

general awareness around what is available. Being equipped to identify and handle various situations is crucial in being able to understand their circumstances and assist them seeking professional help as required."

Liz continues "With the work that they do, crewmates are their family. But since times are quieter, when they don't have gigs, they don't have their crew family, they go home by themselves, thus don't have the comradery that they may need. Foundation dissolves and they're left questioning and unstable as the norm is out of whack. This training has given me some really useful tools on how to deal with situations, approach staff and appreciate just how many types of mental illnesses exist. It's given me more perspective on just how serious and prevalent it is in our industry."

As a result of CrewCare's support, Novatech are now looking at training other people in their business, such as team leaders, on being more aware of their situation and people around them. Having a fully accredited Mental Health First Aid Officer in the organisation is another positive step forward in supporting their staff. Novatech are grateful to CrewCare and Support Act and strongly encourage all event industry employers to incorporate Mental Health First Aid Training in their business.



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College Hill Productions supplied an L-Acoustics K1 system

New Zealand's first post-isolation live concert

Marking the country's much anticipated return to live music events, chart-topping band L.A.B. played a sold-out show for 6,000 fans at Spark Arena in Auckland on Friday 3 July. Moved from its originally scheduled theatre venue, such was demand, this was the first major concert since lockdown. College Hill Productions supplied an L-Acoustics K1 system, bringing an energy to the group's audio that offered the enthusiastic crowd a celebratory performance.

L.A.B.'s label and management, Loop Media, is a long-time client of College Hill Productions, its preferred supplier for all things audio. Loop is headed by Michael (Mikee) Tucker, with Dan Clist and Scott Tindale assisting him. When the call came to supply a sound system for the world's first arena concert after the COVID-19 lockdown, the team at College Hill was thrilled to be involved.

"The show was originally scheduled as a smaller club-style show to happen later in the year. Once COVID-19 hit New Zealand, we weren't sure when the industry was going to pick up again," says College Hill's Audio Production Manager, James Thompson. "When Mikee contacted us to say he was planning on shifting the concert to Spark Arena, and making it the first arena concert back, we got our planning books out and waited until the all clear was given to host mass gatherings."

In the background, quotes, plans, and logistics were being formulated by Thompson, alongside the College Hill team which consisted of Front of House System Design and System Engineer Johnny Keirle, Senior Systems Engineer/Audio Crew Chief Kevin Bennett, Monitor System Engineer David O'Brien, PA Rigger and Patch Tech Tracey Dorn, and PA Rigger and Patch Tech Brooke Paterson from their home offices. Once

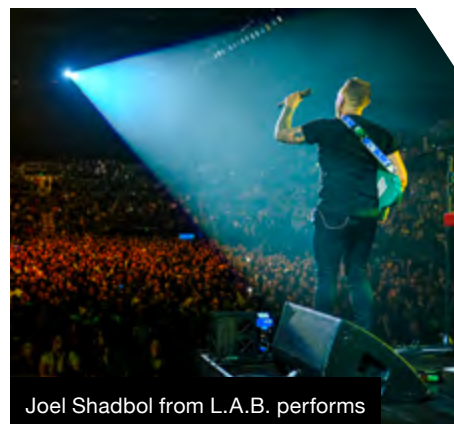
restrictions were lifted, they had approximately a month to pull everything together, working closely with the band to select the right equipment to cater for their needs.

College Hill's inventory has a full complement of products, from the flagship K Series systems, through to smaller coaxial enclosures and, as far as Thompson is concerned, it was a no-brainer to use L-Acoustics for the concert.

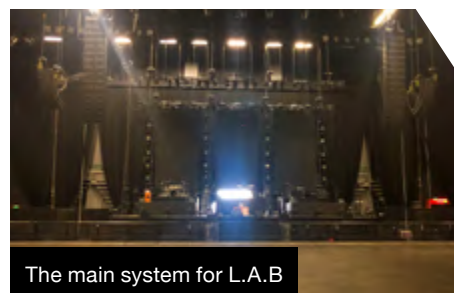
"We chose L-Acoustics because the products across the range offer superior coverage at greater distances, as well as having exceptional vertical and horizontal pattern control," he explains. "The K Series products are an extremely well-designed set of tools that allow us to fill large spaces with uniform coverage, whilst focusing that coverage at the audience and away from surfaces with low absorption coefficients."

Using L-Acoustics Soundvision 3D modelling software, a preliminary design was made to evaluate cabinet counts and configuration options, then refined on-site to a more detailed prediction for inter-box angles, as well as FIR filter and Air Compensation starting points. Using SPL mapping and probes, Keirle was able to predict in advance how the PA would respond in an empty, dry room, as well as where he foresaw any problematic areas caused by different atmospheric conditions during the show. Soundvision allowed him to verify his sub array design visually, again allowing him to see in advance any areas he might want to focus on when approaching alignment and optimisation of the system.

The final configuration comprised left / right hangs of eight K1, four K2 and four K1-SB subs. Eight K2 were deployed for side fill, with additional fill from 12 dV-DOSC and six ARCS, while 24 SB28 subs were floor stacked.



Joel Shadbol from L.A.B. performs



The main system for L.A.B

"The flown system was configured with a K1-SB extension to increase throw and directivity of low frequency energy in the array," says Keirle. "The speaker configurations were designed to maximise coverage uniformity both in terms of SPL and tonal balance, as well as frequency distribution and response. The side hangs of eight K2 at 90° (asymmetric) were required to fill just a small section of seating outside the coverage of the main hang."

L.A.B. front of house engineer, Ritchie Allen, and monitor engineer, Charlie Bronson, were relieved to hear that College Hill Productions was looking after them for their shows. "They complimented the quality of PA setup and told us it definitely lived up to the L-Acoustics reputation of being the finest audio system in the world," said Thompson.

Feedback from the audience was equally enthusiastic. "The crowd could really feel the energy of the band through the PA, which was a fantastic result. We were told by several attendees that it was good to be back at a concert with great sound," Thompson continues. "The buzz is real!" adds Tucker. "The sound was the best we have heard in Spark Arena, clear, crisp and controlled."

The College Hill team followed up their support of L.A.B.'s Auckland show with another sold-out performance in Hamilton, New Zealand a few days later.

"It was a great feeling for us all to be back in the workforce," concludes Thompson. "Whilst we adjust back to this 'new-normal', we do feel for our friends and family all over the world who are still coming to grips with the uncertainty of our industry. Stay strong, be kind and we can get through this together!"

Adder Technology ADDERLink XDIP

Adder Technology has announced a series of enhancements to its popular ADDERLink XDIP IP KVM solution. New functionality includes expansion for the receiver to access 16 sources and the transmitter to broadcast to 256 receivers, the introduction of a RESTful API, and support for PoE in the USA. These new features make Adder's highly successful XDIP platform even more powerful and give customers greater flexibility and remote control when managing their KVM matrix.

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NEW GEAR

ETC ColorSource Spot jr

ETC ColorSource Spot jr is the newest addition to the ColorSource family of affordable ETC fixtures. At only 5.5 kg, ColorSource Spot jr is nearly half the weight of a full-sized ColorSource Spot fixture. Spot jr is available in two array options - Original for subtle pastels and white light to enhance skin tones, and Deep Blue for more saturated, dramatic colours, both with 5,700 lumens of brightness and 25-50 degree zoom. Like all ColorSource fixtures, Spot jr includes ETC's colour integrity technologies including thermal droop compensation, third-party lifetime testing, and comprehensive factory colour calibration. ETC offers a 5-year warranty on the entire fixture, and a 10-year warranty on the LED array.

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Cameo Instant Hazer 1500 T Pro

Ready for the road, the Instant Series Hazer 1500 T Pro comes in a tough and durable touring case. With a huge output capacity of 1020 m³ per minute, extremely short pre-heating time of 45 seconds, and whisper-quiet operation, it is ideal for portable applications in TV and motion picture productions, fashion shows, theatre, and more. The efficient microprocessor-controlled haze machine features a long-life vapor tube of grade 316 stainless steel and automatic self-cleaning mechanism to prevent residue build-up and minimise maintenance. The unit's haze emission and projection fan speed are individually variable in 1% increments to suit stages and venues of any size. Fluid consumption at 100% output is a low 17 ml per minute.

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All models offer multiple analog input options, and the 2 channel versions feature line level outputs.

AD versions of Mezzo add audio networking capabilities with Dante™/AES67 and an internal Gigabit Ethernet switch with a second port so that multiple products can share the same network.

The smaller versions of Mezzo are sealed designs, therefore approved for hidden placement, such as mounted above the ceiling or tucked in a wall box.



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NEW GEAR



ChamSys MagicQ MQ500M Stadium

The MagicQ MQ500M Stadium is a new powerhouse that offers 256 universes of control direct from the console without the need for additional processing nodes. The MagicQ MQ500M Stadium incorporates a robust array of software features that support motorised playback faders, playback encoders and customisable illumination. Thanks to its motorised function, the playback section can be used for multiple purposes with shortcut buttons to change the function.

With 15 motorised faders and 15 playback encoders per bank, and up to six banks, a total of 180 playbacks can be accessed at the touch of a button. RGB LED illumination enables different colours to be assigned to each individual fader and playback encoder, enabling unlimited customisation.

With a built-in UPS, the console has two full HD multi-touch displays with adjustable viewing angles. The MagicQ MQ500M Stadium Wing adds a third full HD multi touch display and doubles the number of fader and encoder playbacks. Up to five additional touch monitors can be connected to the system via network using the simple Multi-Window PC application giving a total of eight monitors.

The MagicQ MQ500M has built-in plot and visualisation, audio timeline editor, and a multi emitter colour picker. Its 3D palette system and support for external XYZ trackers allow innovative features like Focus line, Focus Hold and tracking of artists and moving objects to be used.

Shows with all 256 universes can be previsualised and preprogrammed on a PC or Mac without additional hardware or dongles and then loaded into the MagicQ MQ500M console. All 256 universes can also be visualised within the inbuilt MagicVis visualiser or with a direct link to 3rd party visualisers such as WYSIWYG, Capture, Vectorworks, Depence and L8.

ChamSys MagicQ MQ70

MagicQ MQ70 is the latest offering in the Compact Console range of small and lightweight consoles that you can fly with. The MagicQ MQ70 fits within hand luggage carry on restrictions of all the major budget airlines. The console features a 10.1" multi touch display, with illuminated encoder and fader tracks.

The console supports 24 universes with an option to expand to 48. The console has 3 network ports enabling ArtNet and sACN direct from the console, whilst also having 4 assignable physical DMX ports supporting RDM. This feature packed console also includes WI-FI for quick connection to ChamSys MagicQ Remote focus application without the need for external networking hardware.



ChamSys MagicQ MQ50

The MagicQ MQ50 is part of the new generation of compact consoles, ideal for small to medium sized venues. The MQ50 features a 10.1" multi touch display and ten full Cue Stack playbacks in a compact format.

The console supports 6 universes, with 4 assignable physical DMX outputs supporting RDM and a network port for ArtNet and sACN output. This feature packed console also includes WI-FI for quick and easy connection to ChamSys MagicQ Remote focus application without the need for external networking hardware or any networking knowledge.

MagicQ MQ50 is simple and easy to use for installations, clubs and schools while still featuring advanced features such as MagicVis and MagicHD connectivity. It uses the same software and show formats, enabling compatibility between all products in the MagicQ range.



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



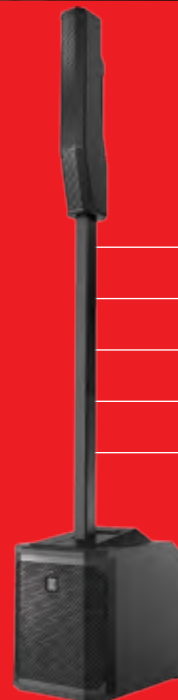
Electro-Voice

MIX IT UP!

The EVOLVE 30M is designed to deliver a significant step up in all-around performance for a column system in its size/price category – superior Electro-Voice sound quality and flexible functionality combined in a very compact package.

It is equipped with the most complete feature set in its class, including an eight-channel digital mixer, studio-quality onboard effects, and remote control of all audio, effects and mix functions via the next-generation Electro-Voice QuickSmart Mobile application.

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EVOLVE 30M
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Ayrton Karif-LT

Ayrton's Karif-LT, is an ultra-compact 300W LED beam-spot, and the first in Ayrton's brand-new line of LT (Long Throw) products. Karif-LT is equipped with a 168mm frontal lens offering a zoom ratio of 17:1 and a 2.8°- 47° zoom range. Overall output is 13,000 lumens at 7500K, with a centre-beam luminous intensity of 3,500,000 candelas. It includes a CMY colour mixing system, multi-position CTO wheel with 7 different colour correction filters, a wheel of 13 complementary colours, 9 interchangeable rotating HD glass gobos and a new wheel with 39 fixed gobos. Karif-LT also has a glass monochrome multi-position, bi-directional effects wheel, and a prism effect system comprising 4 combinable rotating prisms. Standard features also include light and heavy frost filters, and a dynamic animation effect with speed and fade adjustment.



Ayrton Domino

Producing 51,000 lumens from its 1000W LED source, Domino combines the output and optics of Huracán-X with the feature set of Khamsin, in an IP65-rated body. Fitted with a 178 mm frontal lens, Domino's proprietary optical system uses 13 lenses, producing a 10:1 zoom ratio and a zoom range of 6° to 60°. Domino has a subtractive CMY colour mixing system combined with a variable CTO and a wheel with six complementary colours. The framing section allows accurate positioning of each of its 4 shutter blades across 100% of its surface area. The image section includes 14 interchangeable HD glass gobos on two wheels. The effects section contains two dynamic effect-wheels with continuous movement in both directions, a CMY multi-layered wheel for creating multi-coloured effects, a standard monochromatic effect-wheel, a 15-blade iris diaphragm, two frost filters, CRI and TM30 optimising filters, two rotating prisms (one circular with 5 facets and one linear with 4 facets), and a dynamic sparkle effect with speed and fade adjustment.

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Shure AONIC 50

Shure's new AONIC 50 Wireless Noise-Cancelling Headphones boast the professional, studio-quality sound that the most discerning listeners demand. AONIC's ergonomic and sleek design pays special attention to exceeding the industry standard for exceptional comfort and durability, and folds flat for ease of portability. Listeners can activate Environment Mode to hear their immediate surroundings, and personalise their noise cancellation and Environment Mode levels by pairing with the free ShurePlus PLAY

App. Available for iOS and Android, the PLAY app is also a full-featured music player with EQ, supporting standard and hi-res music files. The PLAY app lets users customise tone and voice prompts for important notifications, like power on/off, connection confirmation and low battery, and can also be used to upgrade firmware.

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

Lightware UMX-TPS-TX140K and HDMI-TPS-RX220AK

Lightware's TPS extenders allow users to seamlessly extend even 4K@60Hz signals over distances up to 170 m using a single CAT cable, making these devices particularly useful for applications such as conference rooms, educational spaces, control rooms and even home cinema applications. The new editions are now enhanced with USB KVM compatibility, allowing users to utilise controls via keyboard and mouse in a point-to-point extension between these devices. The new UMX-TPS-TX140K comes with an extra mini-USB port solely dedicated to the USB KVM controls, while the new HDMI-TPS-RX220AK comes with two USB-A type connectors for local KVM devices, and features one additional local HDMI input and one independent HDMI output.

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



Epson EB-L30000UNL

Designed for live productions, Epson's flagship laser projector, the EB-L30000UNL, offers the best and brightest performance of the Epson L Series. Ideal for rental, staging, and other large-venue applications, this projector combines a laser light engine with inorganic components for extraordinary brightness and reliability. It offers a virtually maintenance-free 20,000-hour laser light source with no lamps. Premium features include 30,000 lumens of colour brightness and 30,000 lumens of white brightness, 4K-Ready lenses, native WUXGA resolution with 4K Enhancement Technology, sealed optical engine, 3G-SDI and HDBaseT connectivity. Eight optional lenses are available with powered lens shift and lens memory (sold separately) which shares compatibility with EB-L25000UNL for easy upgrade.

Australia: Epson
www.epson.com.au or (02) 8899 3666
New Zealand: www.epson.co.nz
or (09) 366 6855

GEAR



Chauvet Professional Rogue Outcast 1 Hybrid

Rogue Outcast 1 Hybrid is an IP65 spot/beam/wash moving head ideal for small to medium festivals and events. Powered by a 400W lamp, Rogue Outcast 1 Hybrid delivers a 6500K output with tight beam angles of 2° to 14° in Beam Mode, a zoom range of 5° to 31° in Spot Mode, and 10° to 25° in Wash Mode. It offers 1 rotating and 1 static gobo wheel,

2 individually controllable 8 and 5-facet layerable prisms, and a 14-hue colour wheel for solid and split colours. Control is over DMX and RDM.

Australia: Showtools
www.showtools.com.au or (02) 9824 2382
New Zealand: M.D.R Sound & Lighting
www.mdrlighting.co.nz or (06) 355 5073



Neutrik speakON XX

Neutrik has announced availability of its new speakON XX-receptacle (2-pole and 4-pole) series of the company's iconic connector design. speakON

XX is the first Neutrik speakON chassis line to be compliant with the new IEC 62368-1 materials safety regulation, requiring any materials used in potential ignition sources to have a V-O vertical burn classification.

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



Event Lighting Lite ORBIT2

The ORBIT2 3-in-1 effect light features a 100mW Red and 30mW Green laser, in addition to bright 12W 4-in-1 RGBW multi-crossing beams and strobing via 24 x 0.2W white LEDs. Control is via the included IR remote, DMX with two selectable DMX profiles, auto-run, stand alone, master/slave, or sound activation.

Event Lighting Lite DARKSTAR2

The DARKSTAR2 is a 3-in-1 effect light, now featuring 100mW Red and 30mW Green laser, in addition to bright 20x3W RGBWA LED fat beams and strobing via 24x 0.2W white LEDs. Control is via the included IR remote, DMX with two selectable DMX profiles, auto-run, stand alone, master/slave or sound activation.

Event Lighting Lite M19W20

The M19W20 is the latest addition to the Event Lighting range of LED moving head fixtures. The M19W20 features 19x 20W Osram 6-in-1 (RGB+Amber+Lime+Cyan) LEDs with ring control, 6-36° Zoom, 16-bit pan, tilt and dimming control. There are 4 DMX profiles to choose from, and wireless DMX can be installed as an option. The M19W20 features RDM allowing the user to remotely change the DMX address. Comes with both 3 pin and 5 pin XLR connections.

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

MA Lighting grandMA3 onPC command wing XT

With the grandMA3 onPC software pre-installed on a built-in MA motherboard, the grandMA3 onPC command wing XT offers 4,096 parameters – just add one to four touchscreen monitors, and it's ready to go! grandMA3 onPC command wing XT is an extremely versatile solution for smaller and mid-sized installations and shows, streaming studios, or as a powerful pre-programming and backup tool on the road. With 10 motorised faders, 40 physical playbacks, 16 assignable x-keys and a dedicated master playback section. There are three choices for onPC solutions: the grandMA3 onPC command wing XT, which is the ultimate grandMA3 onPC console solution, the grandMA3 onPC command wing, which offers the ultimate grandMA3 mobile solution, and the grandMA3 onPC xPort Nodes, which offer the most cost-effective DMX output solution for software-only show control.

Australia: Show Technology Australia
www.showtech.com.au (02) 9748 1122
New Zealand: Show Technology New Zealand
www.showtech.nz (09) 869 3293





COVERT BAT DRIVE THRU RAVE

by Louise Stickland. Photo Credit: Christian Jackson

The wonderful world of entertainment technology is renowned for those who can think out-of-the-box, and this pandemic is seeing no end of creative and imaginative ways in which people and companies are trying to boost morale and support the soul of live performance!

Seattle, USA-based Joe Cole, owner of lighting rental company R90, was savouring some good conversation and a whisky-on-the-rocks over Zoom with his friend, attorney Neil Juneja of Gleam Law one Wednesday evening, and like most of us, missing shows, music and the incredible buzz and camaraderie of live events that has temporarily evaporated under lockdowns worldwide.

Musing about drive-in music events they had seen happening in Denmark, Germany, and other European countries, Joe and Neil had a flash of inspiration! The Seattle Governor's office had just issued a special guideline allowing drive-in religious services to commence in Washington State!

The next day Neil started drilling down into the stay-at-home laws and the new directive, discovering that 'religious affiliation' is a term open to dynamic interpretation in a court of law, so they decided that a drive-in religious service offering the 'gift' of music did not actually contravene any current laws.

The Covert Bat Drive Thru Rave was born!

Neil actually engaged in substantial and thorough legal due diligence which included communicating with countless city, county, and state officials. A few days into the mission, no-one had a problem with the proposed project or could find any legal reason for it not to go ahead!

The venue for the initial Covert Bat Drive Thru Rave – a smart scientific nod to the “noble winged mammal” in combination with the true spirit of underground rave that kept the first events strictly secret – was R90's shop on 1st Avenue South, Seattle.

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“The first raves were limited to 50 minutes because if people stepped out of their cars without being home or on an ‘essential’ journey they immediately broke the lockdown regulations.”

This has a large loading bay area and a series of roller shutter doors where trucks back up to load gear and sufficient room to socially distance 21 vehicles so they could have the windows down!

Then Joe, lighting designer Erik Mahowald from Bending Lite Productions and Christian Jackson, lighting programmer and another R90 regular who owns a lot of sound kit – started thinking about the music and production.

Erik’s lighting design was based around how to fill three loading dock bays with flexible lights that would work from the available power supply. All the kit including the sound system – supplied by Christian for the first events – had to fit inside the bays, so they could simply flip up the shutters – improv style – and let the fun begin!

With a warehouse full of lighting gear and determination to produce something special for what would be the first proper show since the industry shut down, Joe, Erik and Christian measured the bays, built the venue as a 3D visualisation model and chose lighting positions in a stunning design that “looked great and fit the limited parameters,” explained Erik.

This included 15 Robe MegaPointes and 27 LEDBeam150s on the lighting rig. The MegaPointes were deployed on the downstage edge of the stage in the central bay for an even spread across the loading dock area, with one more fixture far back inside each bay for high-impact backlight looks and silhouettes.

Erik loves MegaPointes, especially the gobo and prism combination that “hits the outer aperture of the fixture to create amazing full looks and intense aerial effects as well as great eye candy,” and R90 has made some large Robe investments in the last couple of years.

Three lighting towers were deployed, one in the centre of each bay, each rigged with 9 LEDBeam 150s, and six additional fixtures, with all lights controlled from a grandMA3 console.

The first Covert Bat Raves were electronic and EDM-based, so this selection of lights gave endless options for creating multiple big, bold, bright, diverse looks that kept the energy pumping out and immersing the parking lot in the show.

A lineup of top-level local DJ talent included Darrius, Pezzner, Subset and Powermitten covering a range of EDM genres and creating superlative music, vibes, and a thrilling experience for everyone.

An experimental acoustic set with singer / songwriter / guitarist Glen Cannon enabled them to ‘test drive’ a different genre, and Joe notes, for this set up in general, DJs and acoustic sets are more practical for social distancing and to load in / out than full bands would be!

This also leaves the possibility of presenting music lovers and artists with some truly unique solo performance opportunities!

The first Covert Bat events – in tune with the heartbeat of the underground – were promoted only by word of mouth, a move to keep them cool and peripheral on one hand but also for several sensible reasons including safe delivery and, with that in mind, keeping it legal for everyone’s protection.



DJ sets for the first raves were limited to 50 minutes because if people stepped out of their cars without being home or on an ‘essential’ journey they immediately broke the lockdown regulations.

Secondly, they didn’t have bathrooms, so guests were advised in advance and asked to “plan ahead” on the ablution front!

There were no limits to the number of people per car – provided the vehicle had the corresponding sets of seatbelts – and the occupants had to be from groups or families who were directly quarantined together. Masks and face coverings were also compulsory.

In keeping with religious service customs, audience members could make ‘donations’.

The concept was a massive success, many faces smiled, word soon spread, and the events were hugely appreciated by a live music starved audience.

While Joe and his R90 team are experienced lighting and production professionals, they are also the first to admit that promotion and ticketing is not their forte, so going forward they have now teamed up with some local promoters and started upping the scale and organisation of the events and sourcing larger venues.

The aim for the immediate future is to continue spreading the great vibes on a slightly larger scale whilst maintaining the special essence that has seen Covert Bat evolve as an alternative grass-roots musical movement of the moment.

by Andy Stewart

SILVER LININGS >

We've all experienced some pretty surreal, head-shaking moments in recent months, and the audio industry as a whole has had its fair share of trauma. But for some of us at least, the dire economic circumstances we're in have generated some unexpected opportunities that none of us saw coming. So it has been with a song I'm currently producing – a homegrown classic in the making!

The song is called 'We Sing' an epic rock ballad by Kutcha Edwards that will be the first single off his forthcoming album, 'Circling Time' which I'm currently producing here at The Mill. It's already shaping up as a beautiful record, in no small part because Kutcha has one of the most amazing voices in the country... but I digress.

To explain how the global pandemic has, in some twisted way, benefited the production of 'We Sing' let me backtrack a bit.

The Red Light

About four months ago now (pre virus – which feels like a lifetime ago!) I started organising

a backing vocal choir session for 'We Sing'. It was still early in the song's production back then; I'm not sure exactly when it was now, to be honest. All I remember is that on the very day I rang Brian Nankervis to book a session at the ABC Southbank Studios, as luck would have it, the place shut down to all but skeleton staff!

'Perfect,' I thought. 'Now what am I gonna do?'

The next five weeks were a blur of home-schooling a six-year-old, wrestling a dodgy NBN system, keeping Kutcha's album afloat and making ends meet.

Somewhere in amongst all that drama I made the decision to keep the choir idea afloat, musing that maybe it could still work if everyone sang his or her parts from home. Sonically, this plan wouldn't be ideal of course – gone would be the sound of a big acoustic space for starters – and I would have to make it crystal clear to everyone individually, rather than as a group, what it was I wanted each of them to sing. Otherwise this whole escapade was going to be a slow moving train wreck.

Organising somewhere between 50 and 70 individuals to record two performances each (there are two harmony parts) was going to take some doing: countless emails, phone calls, as well as technical and musical guidance.

To add to that complexity – given that I had originally planned to film the ABC Southbank session in all its glory – I wanted each singer to capture video footage (where possible) of his or her vocal performances. This would be the video equivalent of a consolation prize, given the circumstances; the homespun visual equivalent of the original idea – which we intend to use in the song's film clip.

The Green Light

As you might appreciate, for a while there I was reluctant to hit 'go' on this crazy idea, but once it became clear that a human choir wasn't going to convene physically anywhere





on planet Earth for the next couple of years, I finally put my 'Plan B – Remote Choir' concept into action.

Myself and Dean Roberts quickly threw down a fairly simple sketch of a mildly anthemic, two-part harmony backing vocal idea, and that night I made two confidential guide mixes: each one containing a single harmony, so as not to confuse the musicians – most of whom would be receiving this correspondence out of the clear blue sky. I uploaded these to my Dropbox and embedded links to the two mix files inside the email each singer would receive.

Next, I opened an Excel spreadsheet (which isn't very Rock 'n' Roll, I'll admit) and typed in the names of some of the people I, or Kutcha, thought might be happy to add their voice to the song, via whatever equipment they had at hand.

It was a long list, including some 'hopefuls' but I figured if ever there were a time where people might want to add their voice to something a little different, this would be it. I fired off the email and sat back to see what the response might be, hoping like hell that what I had written was clear, and to the point.

What I got back was a deluge! I've never had so many emails from so many people about one song in my life. It's been quite touching to see so much positivity come back from the wider musical community.

Most respondents have recorded at home, a small handful have recorded their performances here at The Mill, while others have displayed an almost superhuman commitment to the song, in some cases travelling hundreds of kilometres from remote aboriginal communities to record in towns like Katherine and Broome.

A couple of weeks later and I now have about 70 backing vocalists aligned and edited in the song's Pro Tools multitrack session (including Paul Kelly, Archie Roach, Emma Donovan, Darren Middleton, David Bridie, Lisa Miller, and Rebecca Barnard – to name a tiny few); a much bigger choir than I could ever have hoped to convene in the Iwaki Auditorium at the ABC! Almost everyone involved is singing both parts, and by the back end of the song there are about 120 voices, give or take! Needless to say, the results are spine tingling!

Today I'm about to add some horns, yet another backing vocal, and a lead guitar part. Hopefully, by this weekend I'll be onto the mix!

Before I start that though – the moment I finish writing this article, in fact – I have to setup to record none other than Judith Durham from her home in Melbourne! This minor detail has been quite the sub-plot of this hilarious, twisted saga. Judith – who I'm sure wouldn't mind me saying – finds computers a little challenging, and unfortunately is in no position to take visitors right now, whether they be recording engineers, the Prime Minister or the Queen. She can't really work the internet or her phone that well either, so this arvo, with her listening to the song in headphones via a CD I sent her in the post last week, Judith is going to sing her part down the landline! I'll be in the studio recording it straight into Pro Tools via a Neumann U47 – I find the 47 the best mic for recording the dulcet, high-fidelity tones of a telephone handset...

Truly bonkers this is... nearly as bonkers as the experience I had last week of explaining to Judith the backing vocal idea over the telephone, as I simultaneously picked out the notes for her on the piano. It was old school... very old school.

The Mix

By the weekend I suspect the mix window inside Pro Tools (including Judith's part, the horns and the new lead guitar) will total about 180-odd channels of audio (not including auxiliary returns)... most of these being backing vocals of course, so it's less complicated than that number implies.

But it's going to take quite a bit of organising nonetheless, a fair hunk of computer power and a clear head for what takes priority at any given point in the song.

Everything is sounding pretty sweet in the production already actually, and I've done a LOT of work on the two separate backing vocal parts as the performances trickled in: editing each one where necessary and even adding quick EQ setups, compression and de-essing per person as I instinctively saw fit. Having to make those decisions all over again a second time would have added a solid day to the mix, and been a pretty tedious task if faced in one hit. This way the task has been broken up over a couple of weeks.

The Film-Clip

There's one other thing happening here tonight, from 5pm, just to add to the mayhem – the film clip for 'We Sing' is being shot here on the property! A local film director is setting up a tiny film crew on the hill in the far paddock

(which I can see from my mix position out the window!) with me acting as driver (driving my neighbour's Honda side-by-side ATV across the muddy paddocks). There will be a catering tent, meaning: a tent where people can get a Teddy Bear biscuit and a cup of tea whilst sheltering from the weather, and I might even take some chairs out there for people to sit on. No expense will be spared!

One thing's for sure, this whole process is nothing if not Homegrown...

Just saying...

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



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“It was no wonder that they had such great creative chemistry and locked in so well when it came time to record.”



Technical Audio Group: Capturing The Sounds Of Amata

The latest chapter in Technical Audio Group’s philanthropic arm TAG Cares comes in the form of new music from Musgrave Band, a musical collective from the remote Indigenous Community of Amata in the South Australian Anangu Pitjantjatjara Yankunytjatjara (APY) Lands.

Amata is a very remote community of around 350 people, situated approximately 200 kilometres south of Uluru. It can only be reached via unsealed roads, which are the last part of a 3,000 kilometre drive from TAG HQ in Sydney.

“When Tapaya Edwards, a local community leader, invited the TAG Cares team to bring some instruments and equipment for local musicians and the Amata Anangu School in early 2019, we were blown away by the wealth of local talent and the incredible level

of musicianship,” said Giles Brading, TAG’s National Sales Manager. “After a number of discussions, some of the musicians asked if the TAG team could assist them in capturing the sounds of Amata and record their music so it could be heard far and wide.”

In March of this year, the team returned to the Amata community for a two-day stint of recording, converting the community’s school gymnasium into a makeshift studio with the help of a QSC TouchMix-30 Pro, a pair of QSC K12.2 speakers and a wide variety of Audio-Technica microphones and headphones.

“The talent in Amata was astonishing. So many of the band members play multiple instruments and seeing them swap instruments and work together was amazing.

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It was no wonder that they had such great creative chemistry and locked in so well when it came time to record,” commented QSC Brand Manager Nicholas Simonsen.

The band set up in the round and recorded a number of tracks live directly into the TouchMix, utilising the mixer’s multi-track recording function. The ability to track the entire band live ensured that the energy and feel of their collective sound was captured on the recordings perfectly. “What you hear is the band with no bells and whistles, no click track, and only a few minor overdubs for vocals and lead guitar,” said Nicholas.

A number of songs were recorded during that weekend, and the stems were exported out of the TouchMix console and handed off to TAG team member/Mix Wizard Andrew Crawford to mix and master before delivering the final tracks to the band.

“Music is a big part of our lives in the APY Communities,” said Tapaya. “We practice & play music all the time, so we were ready to record

our songs and let people know about Amata.”

The Musgrave Band comprises eight super talented musicians; Liam, Darren, Jacob, Troy, Kieren, Luke, Amos, and Selwin. ‘Families’ and ‘Munganka,’ which are sung in the Pitjantjatjara language, are the first two songs to be released from this session and are the band’s first studio recordings.

“We were lucky to engage Tapaya’s cousin Nicole Klaer along with Chris Clark of Eluminate Media Production to film and produce two music videos,” commented Giles. “I think their connection with the community and their love of the APY Lands came through very clearly.” The videos capture the beauty of the APY Lands as well as a look into the recording sessions. The video views are already starting to climb, and the songs are receiving radio play thanks to a number of stations, including Triple R in Melbourne.

You can expect to hear more from Musgrave Band in the not-too-distant future, but in the meantime, you can enjoy these wonderful songs.

‘Families’ Music Video
<https://tinyurl.com/yadwaezf>

‘Munganka’ Music Video
<https://tinyurl.com/yapoflls>

TAG Cares acknowledges and respects Aboriginal peoples as the state’s first peoples and nations, and recognises Aboriginal peoples as traditional owners and occupants of land and waters in South Australia. Further, that their spiritual, social, cultural and economic practices come from their traditional lands and waters, that they maintain their cultural and heritage beliefs, languages and laws which are of ongoing importance, and that they have made and continue to make a unique and irreplaceable contribution to the state.

We acknowledge that Aboriginal peoples have endured past injustice and dispossession of their traditional lands and waters.

We thank the people of the Amata Community for their invitation, welcome and friendship.



“Amata is a very remote community of around 350 people, situated approximately 200 kms south of Uluru.”

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by Michael Goodyear



1

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Australia's First Live- streamed Musical



My company, Locimation, was engaged by producers Curveball Creative Pty Ltd to provide technical services for Australia's first live online musical theatre performance.

The show was performed live five times, by a cast of eight, from the 24th to the 28th June. Originally intended to be staged at the Flight Path Theatre in Marrickville, the musical's conceit of an "AA-style" support group meeting was adapted (as many real-world support groups have) to the format of a live-streamed Zoom call. The show – *Who's Your Baghdaddy (Or How I Started The Iraq War)* – was directed remotely from New York by Neil Gooding.

Musical theatre productions have, thus far, been largely unable to be performed during COVID-19, due to the requirements

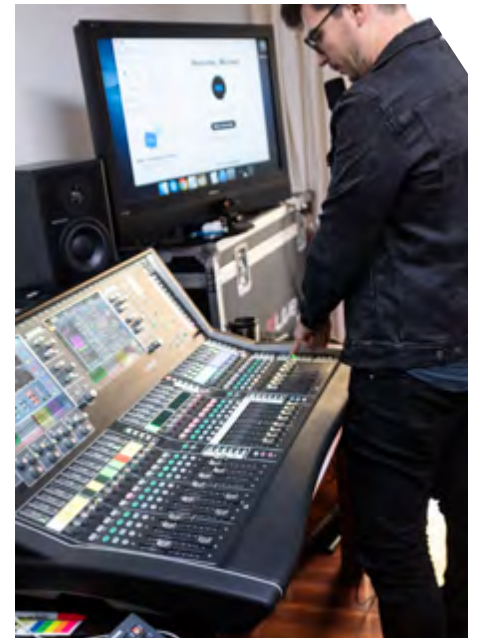
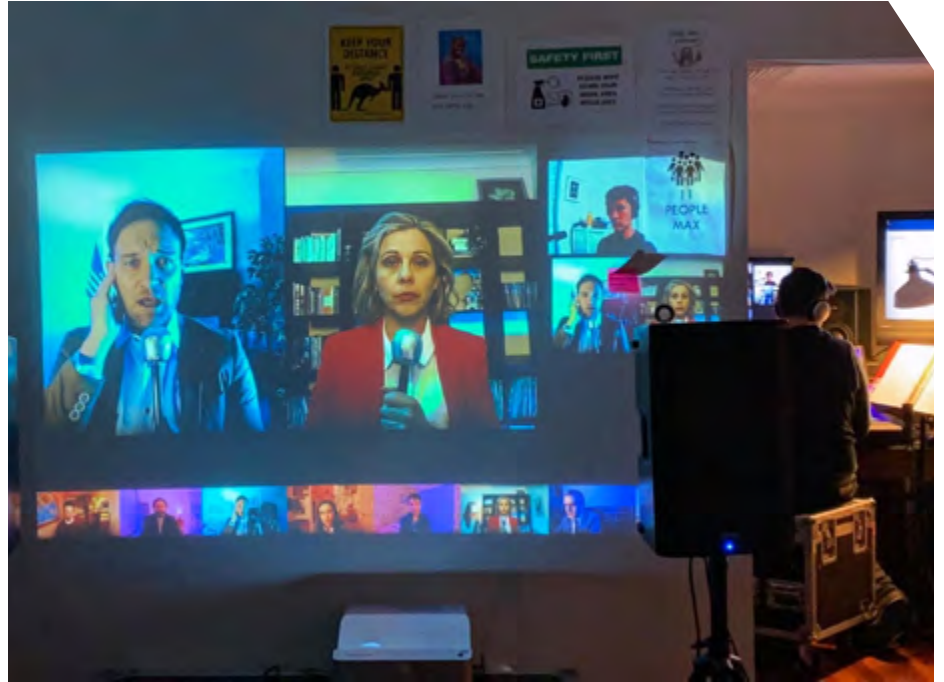
of physical distancing, and the prohibitive latency introduced by video call platforms. To meet both challenges, Curveball Creative hired an AirBNB in Roselands – able to accommodate all cast members in their own isolated rooms, and provide for direct cable runs to each – which was principally split into three zones: individual cast rooms, a central server location (akin to back-of-house), and an ops room (FOH – albeit, ironically, at the back of the house).

The largest challenge for the production was an economic one – in uncertain times and an experimental production, the technical budget

was understandably constrained, turning the economic challenge into a technical one. Consultations with industry heavyweights offering disguise, Watchout, or E2 systems came in at double to sextuple the production budget for the media server component alone, forcing a need for innovation, thrift and networking. Curveball Creative's production would not have been possible if not for the generous support of driveway hire vendors and the broader theatre community.

Video

Each room was outfitted with a GoPro Hero 8 (configured with Linear view and ProTune for fixed exposure and white balance) from RENTaCAM, an LCD monitor for video foldback (Beaches Productions), and Decimator MD-HX cross converter (Scene Change) to extend both the monitor and GoPro signals over SDI cabling (Action Sound) back to the media server. Custom



GoPro mounts were designed, 3D-printed and iterated onsite by Locimation using Fusion 360 and a CreaLity Ender 3 Pro.

The media server itself was custom-built by Locimation for Beaches Productions, with a Blackmagic Quad 2 (8-input) SDI capture card – supplemented for the duration of the show by an additional Blackmagic Quad SDI card from Videomax. Several server software options were evaluated for capability and cost.

Ultimately, we settled on Arkaos MediaMaster Pro, utilising all 36 of its video layers for background and foreground camera layers, a constant camera multi-view, pre/mid/post-show slides, effect overlays, sound effects and video credits. Its output groups were configured to provide for independent programming of an audience output (including countdown slides), foldback output (including standby messaging) and operations output (including camera multi-view).

Arkaos was controlled via six universes of unicast Art-Net from a multi-user MA2 OnPC system (Beaches Productions), programmed by Locimation, using interactive MA2 macros to quickly build Zoom-like speaker and grid views. Most musical numbers tracked LTC timecode, provided via Dante from QLab out into an OnPC Wing, whilst the remaining tracks and cues accompanying dialogue were operated by the Production Stage Manager (Bridget James) using an additional laptop in the MA2 session.

A late addition to the video system design was a Blackmagic ATEM 2 M/E Production Studio 4K and ATEM 1 M/E Advanced Panel, which provided a fallback media player for a technical difficulties slide (thankfully never used), the embedding of the program output into the operations view via its SuperSource feature, and auxiliary switching for cast and operations monitors.

The ATEM's program output was fed to a LiveU Solo (provided, alongside generous advice and insight, by Carlo Fornasari of Videomax), which transmitted to Wowza Streaming Cloud. Due to the need for real-time ticket validation and session management, a custom streaming site (Amazon S3, Lambda, DynamoDB) was developed by Linus Karsai and Locimation, featuring custom integration with Ticketek Ignition and TicketSearch, live support chat (talk.to) and analytics (Google).

To connect the director (Neil Gooding) with the cast during pre-production, we integrated Arkaos' back of house feeds and sources with the new NDI capabilities of Skype for Creators. Neil was provided with an NDI feed of the audience view during rehearsals, alongside a Dante feed from the audio system.



Lighting

Phoebe Pilcher's lighting design called for CreamSource key lights (provided by CreamSource), Chauvet Rogue R2 fill lights (Intense Lighting Hire) and ProShop LED PAR Quad-18 wall wash (Beaches Productions). Taylor Allen (TALX) provided an additional MA2 OnPC system and programming during tech week.

Once finalised, the MA2 video and lighting worlds were merged, and lighting cues were tied to video cues for ease of operation. DMXking eDMX PoE nodes were used for output, fed via sACN.

TALX also developed an MA 3D visualisation of the rooms in the house, laid out across individual virtual camera views, in order to aid programming whilst cameras were not visible in current cues or otherwise unavailable.

Audio

According to Dave Bergman's design, each cast member was outfitted with a Sennheiser EW SK 500 G3 bodypack transmitter with DPA 4061 miniature omni mic, a Sennheiser EK 2000 IEM bodypack receiver with personal headphones, and each room with a condenser backup mic in case of bodypack failures. An Allen & Heath dLive system (Beaches Productions) was split between a central location - housing the dLive DM64 alongside the Arkaos media server, Blackmagic ATEM switcher, and wireless mic / IEM racks - and ops (a dLive S5000 surface).

Audio was mixed for both broadcast and monitors by Dave Bergman, and later Courtney Weaver, providing individual stereo mixes to each cast member. The broadcast feed was merged into the SDI program output via the Blackmagic ATEM switcher's XLR inputs, and monitored through the operations SDI feed. A synchronisation video was integrated into the pre-show media server sequence in order to check for A/V sync and compensate for media server latency using the dLive's output delay.



The dLive system also provided for talkback from production team members (the stage manager, choreographer, technical director, and lighting and sound operators) to each other and to the cast. Using Dante Virtual Soundcard, and a Skype connection to the director, Neil was able to provide notes directly from New York to the cast's in-ears, and hear their questions back. Using the dLive Custom Control app, the stage manager was provided with a personalised iPad layout for talkback to individual members of the cast and crew.

Sound effects were triggered from the dLive console's scene changes using Allen & Heath's TCP MIDI driver and QLab, and returned to the console via Dante Virtual Soundcard. In addition to the dLive's internal audio effects, a Logic Pro X session provided outboard processing via Dante. The musical director Steven Kreamer's backing tracks, including click, were also fed via Dante, and he was provided with an Allen & Heath IP-8 to control his headphone mix and talkback mics.

Network / Infrastructure

Internal systems management was provided by a QSC Q-Sys Core 110f running custom Locimation-developed Lua plugins in order to monitor:

- Sennheiser wireless systems for battery levels, RF signal strength, and audio signal loss or clipping via the Media Control Protocol and AES67 IP direct outs from the dLive,
- the CPU, GPU and memory usage of the Arkaos media server (using NSClient / NSCA),
- the presence of ArtNet at the media server (using NSClient / tcpdump),
- the presence of sACN on the network,
- the presence (via ICMP ping) of critical network devices including the dLive DM64 and surface, QLab laptops, MA2 operator stations, sACN output nodes, and ATEM switcher and surface, and

- the health of the Wowza Streaming Cloud stream (via their API).

The health of the media server was also reported to New Relic Infrastructure for analysis of trends / anomalies.

A bespoke network configuration was designed and deployed by Locimation for the show, given the mission-critical role of networked technologies in its production. HPE ProCurve (now Aruba) 2530 series switches were deployed with a DSCP-mapped strict priority queue QoS configuration and IGMPv2 snooping - as is typical for engineered Dante / AES67 networks - and rapid spanning tree for redundant switch links.

In order to maintain seamless Internet connectivity (for services other than the broadcast, which made use of the LiveU Solo's dedicated 4G modems), we deployed the Speedify link aggregation service, spanning two 4G modems and the house's own Telstra cable internet connection.

Lastly...

With the lessons learnt and systems developed for the show, Locimation and Beaches Productions are now making a packaged streaming system available for other productions with similar requirements. Locimation is also making its Q-Sys Lua plugins and switch configurations available under its open-source initiatives.

Curveball Creative is already planning future shows with the system, and has made a recording of one of the live performances of *Who's Your Baghdaddy (Or How I Started The Iraq War)* available on-demand at www.curveballcreative.com.au.

For further information, please contact:

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Altronic and Redback – W.A. Made since '76

by Jason Allen

I talked to Altronic's General Manager Brian Sorensen about being proudly Australian, the advantages of local manufacture, and how they've kept their customers happy for 44 years and counting...

Redback commercial audio gear – stick your nose in the BOH rack at your local supermarket, gym, school, or Town Hall, and there it is. It's Australia's most ubiquitous range of amps, mixers, utility speakers, paging systems, and more. Sitting squarely in the 'affordable and reliable' category, many audio pros assume it's been made in China or India for years now. But no – it's still all proudly designed and built in Perth.

OK Brian, I'll 'fess up. I was under the impression that some Redback was made elsewhere.

A lot of professional audio people don't know we are still manufacturing here in Perth! Our Redback public address amplifiers, mixers, and more, are all designed and manufactured in Perth, and we have no intentions of moving away from that!

I think I got that idea because other well-known brands have moved offshore. Why did you decide to stay in Perth?

If we were to move our manufacturing overseas, all the expertise we've taken years

to accumulate would be gone. All of the smart people we employ would move on to work elsewhere, and all of that knowledge would be gone for good. People like Steve May, our Head of Production, and Darian Lovett our R&D engineer. Darian, for example, is self-taught, and phenomenal with audio equipment and microprocessor-based products. Both Steve and Darian have been with us more than 25 years. They do everything from designing printed circuit boards, to metalwork, and drawing panel layouts.

Another factor is that we've never seen anything in the commercial audio field coming out of Asia that you could use in Australia without modification. A lot of that product has been made for the US or Europe, and it just doesn't suit what our market wants and needs. If you're manufacturing offshore, you're also teaching a factory to make a product suitable for Australia that they could well sell to others, and end up competing against you.

What's an example of a product you make that's specifically for Australian standards and conditions?

The One Shot fire ceiling speakers for EWIS are a great example, and a range we keep expanding upon due to their success. The Australian standard AS SIO7240.24 that governs speakers for EWIS was updated in 2015, with a phasing-in period. We designed the product, spending more than \$250K in new plastic injection mould tooling to meet the standard, and shouldered the cost of all the testing and approvals from CSIRO to attain certification. The One Shot fire ceiling speakers were put through an onerous testing regime subjecting the speakers to heat, cold, rain, vibration, impact, even sulphuric acid for 21 days. They were also measured for frequency response and SPL to check that they actually do what the manufacturer says they do. Since being certified thousands have been installed in projects all across Australia.

The ubiquity of Redback installations suggests to me there's a lot of loyalty to the brand. How have you built that?

Well, I think it's because we listen to the industry, and have a lot of expertise and experience. We take our customers feedback on-board and apply it directly to the products where we can. We try and focus on what our contractor and integrator customers actually want. When we're designing a product, we keep the contractor in mind, focussing on ease-of-use and quick configuration on-site.

“A lot of professional audio people don’t know we are still manufacturing here in Perth!”



Brian Sorensen



Steve May



The product needs to be easy to use for the end-user too.

We also back our product with a ten year warranty, and in the rare case something does go wrong, we usually fix things while people wait with a cup of coffee at the repair centre.

Product development is a two-way street. What you think the market wants and what they actually want can diverge.

Oh yes. The way we see a product being used and how it’s actually used in the field can occasionally be quite different. People tend to find new ways of using a product that you wouldn’t necessarily have thought of. Every contractor does things in a slightly different way, which keeps things interesting.

For example, one of the products we supply is a 16-zone paging system, usually used in schools. One of our customers in NSW had a requirement to make a modification to enable ‘all-call’ for a different application. He sent the details of the mod to us, and we’ve implemented it in an updated version. That’s how a lot of our products evolve. We have an idea of what a product should do, then we get feedback, and we include those ideas.

How have you kept up such a blanket coverage of the Australian market?

Our sales network has certainly grown over the years. We mostly rely on contractors to sell the product in. We know most of them buy Redback because of reliability, ease of use, and feature sets. We have a team of sales reps in each state that go knocking on doors, and often go to install and help out where they can. We still sell a lot of Redback – every new Aldi store in Australia, the chain of 7/11 service stations are all migrating to one of our products, Bunnings, Masters (when they were operating), BWS, Dan Murphy’s, Woolworths. It’s a workhorse product, all behind the scenes. It’s pretty basic, but it’s essential, so there’s a big market for it.

Does the ‘Australian Made’ label help or hinder you?

It’s a bit of both. Some love the idea, but others would do anything to save a dollar. ‘Australian Made’ can be warm and fuzzy, but the wallet talks in a lot of cases. Pricing’s usually the biggest issue; we’re not the cheapest, but we are priced around the mark.

When you’re designing and building in Australia, your biggest costs are wages, super, and all forms of compliance. The biggest cost in any of our products is the

labour. We take that into account when we design our products, aiming for minimal wiring and labour. We print panels in-house, and sub-manufacture PCBs with a local company; we supply them a kit of parts, they come back loaded up, and get bolted into the chassis. Any wiring is on plug-and-sockets and is minimal. We’ve reduced labour as much as possible. If you take the lid off some product out of South East Asia, there’s miles of wiring; you couldn’t compete if you had to do that amount of labour.

What other activities are Altronic’s involved in that’s onshore here in Australia?

Aside from Redback, we supply component parts to other manufacturers that make niche products for the Australian market. We supply manufacturers of fire alarm and EWIS systems, nurse call equipment, traffic light controllers, those solar-powered road signage carts you see on side of the highway, and gear for remote mine site surveillance. The Australian manufacturing sector is healthy, wide, and varied, and like us, most people don’t know it’s even there!

LOCAL BOY MAKES GOOD

by John O'Brien

The lands that nestle under the Southern Cross every night are well renowned for hearty per-capita representation around the world. Beyond consistent high achievement on international sporting fields, pioneering names like Florey, Hilary, Hollows, Melba and Te Kanawa are rightly etched in global folklore.

Our creatives are also well represented around the world. From Errol Flynn to Peter Jackson, Paul Hogan to the Flight of the Conchords, the lands down under produce a continuous supply of world leaders.

We likely all know about the musical artists that succeeded beyond the cultural cringe border - Peter Allen to Lorde and countless more in between - but what about the prodigies behind the desk, the Australian and New Zealand techs and gear that 'made it' overseas?

Home grown talent

The roadie luminaries list is long and star studded. From the legendary pioneers of the 70s to plenty that have trod the boards since, a large contingent of southern crew have left their mark on the world stage (and continue to do so). I pay homage (in no particular order) to serial overachievers such as:

Bill McCartney, \$crooge Madigan, Tana Douglas, Eric Robinson, Bruce Jackson, Howard Freeman, Roger Davies, Bruce Johnson, Michael Oberg, Michael Lippold, Ted Gardner, Fergie, Gerry Georgettis, Swampy Jarvis, Motley Hackett, Eric Carter, Michael Tait, Alex Saad, Lee Freeman, Pete McFee, Jeff Pavey, Squirter, Matt Doherty, Sophie Kirov, Syko, AFG, Rod Mathieson - and I could name oh so many more.

This tally is far from exhaustive and, for brevity, I've left a good many out. Any one of them could forge a show out of next to nothing, present an amazing CV, and have

enough road stories to entertain even the most seasoned souls. Sadly, some are no longer with us, but they will ever remain examples of world leaders in their fields.

Regardless of their mortal status, we can take inspiration from what these folks have achieved and their attitude in getting there. For starters, they are all self-taught, they've all shown great tenacity in the face of diversity, they've all had the self-belief to be the best, they all learned to learn quickly and all became shining lights for the rest of us to look up to. They all started out at home, but none saw a boundary at the airport - more a gateway to opportunity and growth.

I single out those names as exemplars of a worldly mindset, unconstrained by insular notions of national borders. Their formative periods might have been in a backwater, but their end goals were the other side of big oceans. They either made their own luck or were sharp enough to seize the right moment. While my personal career path hasn't reached the dizzying heights of the aforementioned characters, I'm happy to have known and worked alongside some of them.

ANZAC spirit

Over the years, technical production crew and companies from the Antipodes have been highly valued internationally. Why is this? I see a multitude of reasons. Geographically isolated at the end of the world, we have long had to rely on nothing more than our own wit

and what we had at hand. No waiting days or weeks for a supply shipment from head office - we have to solve the problem and bang out the fix.

We regularly overcome the tyranny of distance and find solutions while the Northern hemisphere is asleep, and enjoy thinking laterally, getting on with the job and laughing at adversity.

We are not as constrained by demarcation as the USA, and usually have at least a working knowledge of the departments that we work alongside, if not some degree of competency in them. And, we are generally pretty good at turning a hand to anything, doing what needs to be done to get the show on. These practical, generalist skills are always in demand.

In other antipodean industries, this perspective has led to a dazzling array of breakthroughs such as: Wi-Fi, Black box flight recorder, Google maps, Cochlear implants, Ultrasound scanners, the electric drill and our favourite pillow, the goon bag. Across the ditch - disposable syringes, the egg beater, Jetpacks, Jet boats and the ubiquitous bungee jump have contributed much to the world. We continue to bicker over lamingtons, pavlovas and Rusty Crowe!

Neighbourly jesting aside, I've long held that Australia and New Zealand are hot beds of invention and innovation, despite the many R&D cultural barriers imposed by our collective leadership approaches rooted in the "dig it, grow it, sell it" mentalities.

Homegrown gear

No, not that kind of gear ... the electrical gadgety type of gear. While some of our enterprising people were off flying the ANZAC flag and hanging out with the stars, others got stuck into making stuff and building empires - home-growing their own equipment and businesses. This list is no more or less comprehensive than the crewcall above. Many have led the world, many still are. Much tribute and reverence are due to:

HOMEGROWN

Bytecraft, Australian Monitor, Rode, Maton, Drum Workshop, Fairlight CMI, Strauss, Nova Sound, ETONE, JANDS, LSC, Dynalite, Lasersision, Liquid Automation, Blackmagic Design, Big Picture, Showtech, Howard & Sons and many more.

All are great examples of locals made good in the biggest arena. Again, some have passed, many have evolved but a lot are going stronger than ever. It would be remiss to not mention other local innovations such as the A4 Lake DSP, which was the genesis of the Dolby system, or the fluid head camera mount. Before that, *The Story of the Kelly Gang* even heralded in a wee thing now known as the feature film.

A more recent case of techo-makes-good is Wisetech Global, with Richard White evolving from JANDS R&D to becoming a major worldwide logistics software supplier. While talking software, our zone has seen considerable success with names such as Atlassian, Xero, Vend, and Sausage.

Arguably the most iconic homegrown piece of kit – the Hills hoist - spawned a company that was embedded heavily in the pro-AV marketplace for quite some time this century. So very lucky for so long, we all know how that is now panning out. I was working for them with Crestron until being made redundant in the GFC fallout. While Hills management subsequently worked on making the company redundant, I took a nice payout and moved on with my life.

Homely

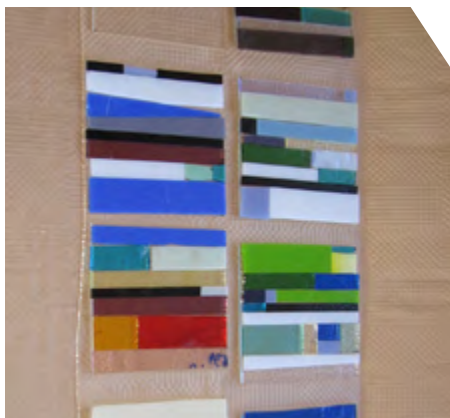
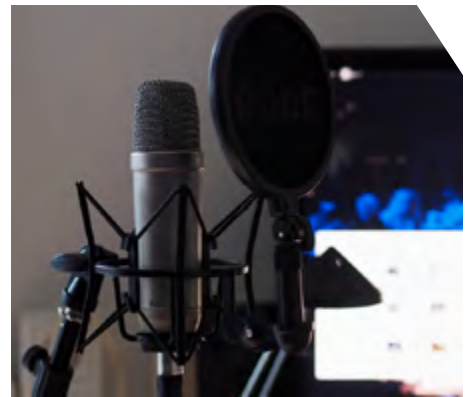
Which was, my partner and I growing a home. Grown with 20,000 hours of our own blood, sweat and tears. Everything was homegrown - hand built doors, windows, walls, tiles - even the bathroom basin was hewn from a lump of granite. A big old bastard gum fallen and milled onsite provided trims for the entire house. It grew next to our home where its ancient flesh will now see out its days.

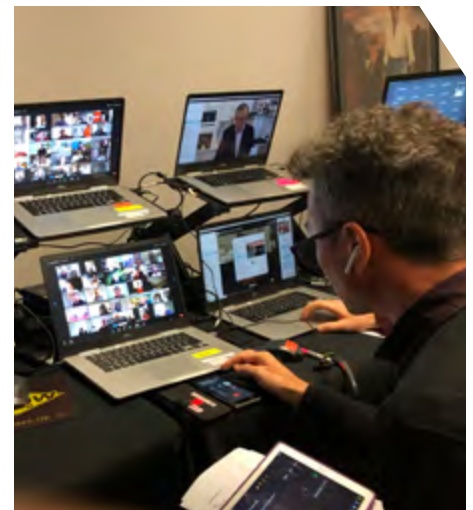
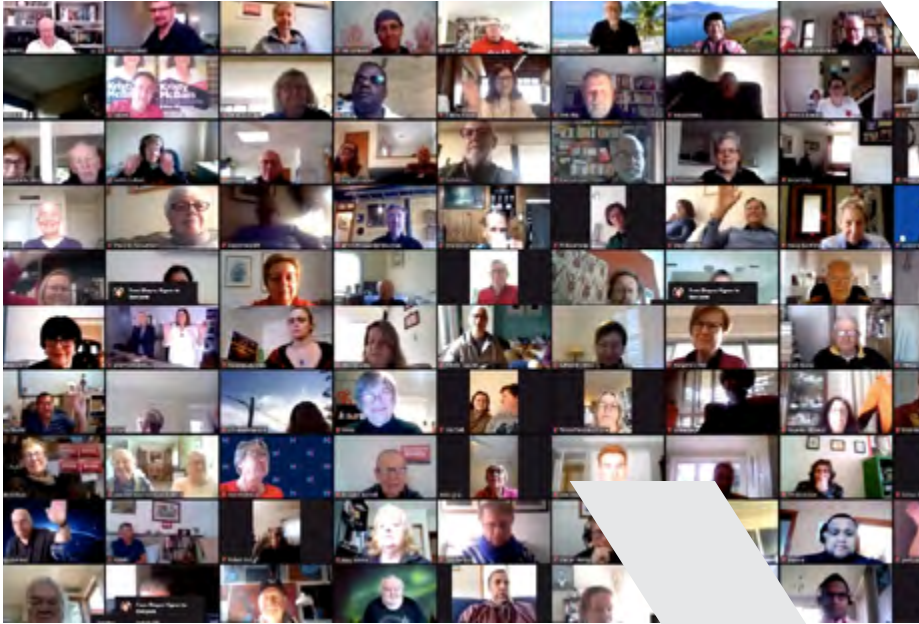
In the process, we remade ourselves as resourceful and ingenious country folk. However, many of those skillsets, and the attitudes required to foster them, have root in the DIY world of R&R touring where necessity is the almighty mother of invention. We managed a dwelling - many other gig veterans have taken that ethos and gone much further to conquer the world.

Homily

Long white clouds, wide brown lands and other well trashed parochial clichés aside, our countries are a hotbed for lateral and clever thinking, dogged determination, incredible teamwork and individual style.

If we ever stop dancing the awkward distancing tango and get back to gigging, we'll be able to say (or sing) "I did it my way..." in whatever accent we care to use, wherever we find ourselves in the world.





Australia's First Ever Live Online Interactive Campaign Launch helps Labor to Victory

Peter Pecotic, MD of Turning Point Solutions, and Mark Lucas of Lucas-Minghella recently produced and delivered Australia's first ever live online interactive campaign launch on behalf of the Australian Labor Party. The launch helped Labor to an historic win in a bellwether seat.

The idea was borne first of all from necessity – how do you launch a campaign under lockdown conditions? NSW Labor briefed Peter Pecotic to find a new format for political events. Together they developed a new style of community-based launch that can be used beyond lockdown. Instead of crowds being bussed to big halls to listen to set piece speeches, the campaign launch of the future will connect local people with political parties and the media in a genuinely interactive and community led way.

Drawing on Peter's experience in delivering live events and Mark's experience in writing and producing live TV as well as their collective experience of delivering over 50 political campaigns and launches around the world, the team set up creating a wholly new format for the post-COVID age.

The team set up a mobile broadcasting unit in the garage of candidate Kristy McBain's home, bringing together Zoom, Twitter, Skype and Facebook formats as well as traditional TV cameras and production values to create over an hour of live TV.

800 community activists and supporters were live on screen as Kristy introduced the campaign from her own kitchen. The event then cut live to various business and community groups around the area who were able to contribute live from their own homes, workplaces and even the Tathra Pub. Pre-recorded VTs and a live piece from ALP Federal Leader Anthony Albanese from his own kitchen added to the rich mix of content.

The launch reflected Labor Values – inclusivity, diversity, and bringing communities together in a way that has

never been done before and which offers a new format for progressive organisations in Australia and around the world. On the same day that President Trump held a lacklustre traditional event to a half empty hall, Australian Labor offered a vibrant, accessible and community focused event that was TV and web friendly.

Peter said "I am very proud to have put together a world first. We have learnt a lot along the way in developing this format. It is not just about the technology, but about moulding a format that can engage and inspire. It was great to see Kristy's face when hundreds of waving community members appeared on screen at once."

Mark said "We cannot go back to the old ways. New times require imagination and a new way of thinking. Our online campaign format delivers a high level of engagement using an exciting new platform. Isn't this what politics is all about? Finding new and innovative ways to connect with people, bringing the community together to improve life for everybody?"

Kirsty McBain said "For me, it's all about the community, and here in Eden-Monaro we have such a geographic spread that launching online like this was the best way to include everyone and really bring everyone together."



MORE THAN A BLACK BOX

Photo Credit: p1xels

QSC Australia kicked into 2020 with some very striking and eye-catching artist collaborations unlike anything seen before in the powered speaker world. With a number of these unique artist boxes now announced, we got some insight into how the ‘More Than A Black Box’ initiative came about.

It all started with a wall. When Technical Audio Group opened its new Victorian office in 2019, it quickly became apparent that the huge side wall was a very sought-after piece of visual real estate. The wall had displayed some remarkable street art including Fintan Magee’s ‘The Refugee’ and when TAG moved in, the wall was adorned with a huge

anatomical dissection painting of a Kangaroo by the artist Nychos.

With the help of street art mogul Dean Sunshine, Melbourne photographer p1xels and eight spectacular street artists, a plan was hatched to bring the wall to life once again with an enormous collaborative work paying homage to the late,

great Keith Haring and Jean-Michel Basquiat just in time for the launch of the National Gallery of Victoria’s exhibition showcasing the work of these two legendary artists.

Over the course of three weekends, the TAGV wall was stripped back to bare then piece-by-piece brought to life again with a sea of vibrant colour. The wall features portraits of Haring and Basquiat by Heesco, background painted by Conrad Bisjack and Chehehe. The wall was then wrapped up with five graffiti pieces by Dvate, Sabeth, Phibs, Ling and Duke. This epic collaboration of unique styles and approaches was inspiring to witness, which got QSC Marketing Manager Nicholas Simonsen thinking about how they might continue to work with artists moving forward.

“As the work started, we quickly set up a pair of QSC speakers – as any audio guy

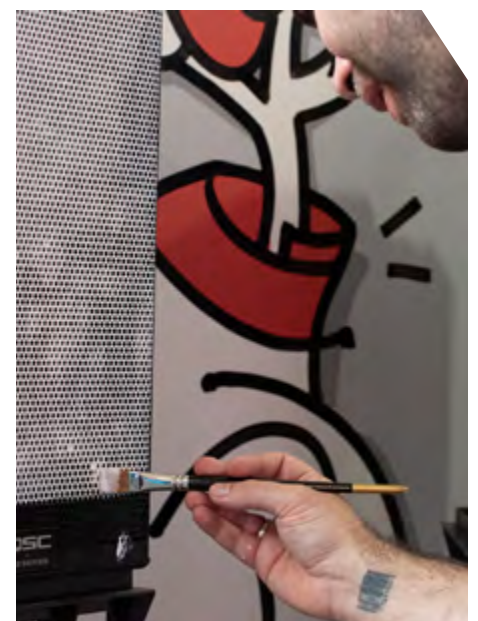
would – to add music to the creative process. Watching the wall come to life with such wonderful colour was unreal and got our whole team inspired. The first idea that came to mind was sharing art with music and making our QSC K.2 speakers look as vibrant as they sound. From there, it was clear that we had the perfect means of showing that the K.2 speakers were so much more than a black box by working with a slew of talented artists and commissioning them to use the speakers as a canvas for their work,” Simonsen said.

It seemed logical to start these collaborations with artist Chehehe, who was one of the artists to contribute to the TAGV office wall project. The collaboration was then premiered via the spectacular urban arts festival *Can't Do Tomorrow* at the end of February, which had over 15,000 people in attendance over the course of a week.

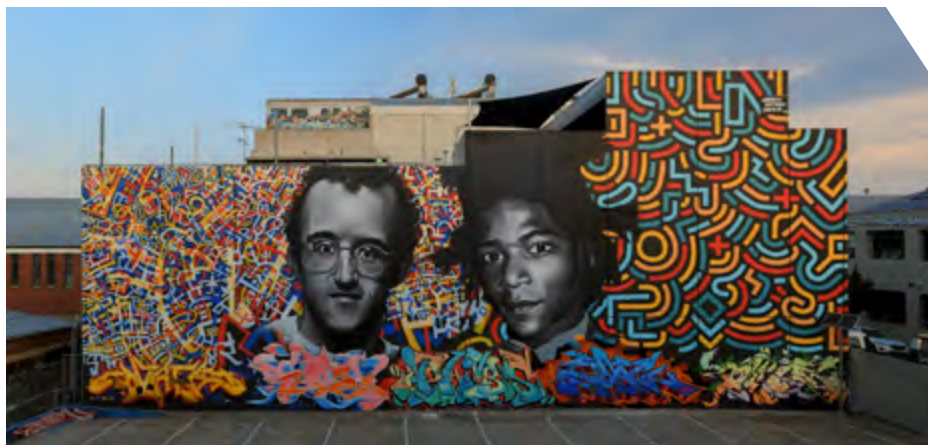
“Chehehe’s style was ideal and he really brought the speaker boxes to life with his artwork. Our first concept was to paint just the speaker grilles but Chehehe showed us

very quickly, and very spectacularly, that the whole speaker cabinet was the canvas – not just the grille – and we realised this was something quite unique and quite special,” Simonsen commented.

The second collaboration was with multidisciplinary artist Knock, whose work is all about transporting people deep into their imagination and out of the realities of the world around them. This stunning pair of K10.2 speakers and KS112 sub were integrated into Knock’s most recent exhibition



QSC More Than A Black Box!



'Tektoniks' to create a visual and auditory exploration of indescribable tectonic forces that shape the landscape of planets above and below the surface.

Knock's set of speakers were then placed in residence at Melbourne record store Oh! Jean Records so the public could see them on show. These painted speakers are 100% functional and Knock's set has been used in the record store for recent in store performances, with more to come in the near future.

The third collaboration for the 'More Than A Black Box' campaign is with New Zealand born artist Haser, who was a part of the aforementioned *Can't Do Tomorrow* festival

in February. Haser painted this pair of K10.2 speakers on site during the week of the festival, allowing festival attendees to see the artist transform the speakers with his style.

This is only the beginning! With a number of these collaborations completed and more in progress, these unique, one of a kind sets of QSC speakers are now set to travel to a variety of locations around the country so that everyone can bear witness to the incredible stylings of these wonderful artists.

"Having Haser paint his pair of K.2s during the festival was absolute magic. Thousands of punters got to see him put his style on the speakers with his canvas work serving

as the perfect backdrop. No one in our market has gone down this road before and it seems to be catching everyone by surprise, which is a huge part of why it's so exciting," Simonsen said. "The response to every collaboration we've announced so far has been amazing and we're seeing others in the QSC community add art and colour to their speakers. We can't wait to roll out more and more of these artist collaborations and hopefully inspire more people to bring their gear to life with some colour!"

Keep up with the 'More Than A Black Box' initiative by following QSC Australia on both Facebook and Instagram.

AUSTRALIAN MONITOR POWERS INTO THE DIGITAL AGE



When Australian Monitor was acquired by Amber Technology in December 2019 as part of the Hills AV division sale, the acquisition saw Australian Monitor become a part of one of the largest distributors of AV products in the Australian and New Zealand Markets.

Australian Monitor has been a key part of the commercial audio market in Australia, New Zealand, and internationally for over 30 years. The combination of the Australian Monitor's engineering and design team, along with the long-term distribution heritage of Amber Technology, will see the growth of the existing Australian Monitor product range, plus the acceleration of development of new technologies that will see Australian Monitor move further into digital and DSP markets.

A key part of this development is the recently released ISP range of power amplifiers. This new range builds on the success of the HSP series by offering network control, full DSP and the option of Dante integration with an easily installed expansion card. The ISP range is connected to, configured and controlled by the newly developed ALMA software platform that forms the heart of the technology behind this range. ALMA was created by the

Australian Monitor R&D team now based in Warriewood, NSW at Amber Technology Head Office.

The ALMA control software allows the easy connection, configuration and control of ALMA powered products using any internet browser or third-party controller. ALMA is embedded into the product meaning no software installation is required to access the software. A web server running on the product provides the ALMA software to any device requesting connection. Any HTML5 compliant web browser from PCs, tablets and mobile phones can connect. This gives users the maximum flexibility to choose a suitable device to control their system.

The ALMA software can configure all settings including input stages, mixing, DSP settings, status information, network settings and configuration options. In addition, third party

controllers can also integrate with the ALMA software to control and monitor the product.

One of the major advantages of a locally based engineering and design team is that feedback from the local customer base is integral to the development and design of all new products. Both the HSP series and the new ISP series went through a beta release program where key integrators were asked to assess and comment on the new ranges. This helped to ensure that the new models were not only technically ready for release but also contained all the features customers required at the right price.

The future for Australian Monitor is going to see ALMA technology filter through not only a new range of products, but also be used to update the current product range.

For product enquiries, please visit www.ambertech.com.au or contact 1800 251 367.

The Australian Monitor product portfolio includes microphones, mixers, power amplifiers, program sources, cables, adaptors and stands.

australianmonitor.com

australianmonitor.com.au/pages/alma

australianmonitor.com.au/collections/isp-power-amplifiers



B S Sound PA Hire provides live sound for Jousting Knights

by Mark Barry

The brief was: supply a PA system and mics for a sports event, audience of 4,000 in two grandstands, wireless headset mics for commentators, playback music from Spotify and, if possible, amplify the action sounds. Two days at Lardner Park, near Warragul, 100 km from Melbourne.

“So what is the event?” I asked.

“Medieval Jousting”

“You mean like battle re-enactments?” I asked.

“No, this is a sport and we're hosting the world championship this year.”

Now, I'm no stranger to doing sound for sport. I've provided systems for the Stonington Gift and Parkdale Gift, also the Sacred Heart Community Cup and, many years ago, the Melbourne Magic and Tigers basketball teams.

I did some research and jousting is quite an extraordinary extreme sport. The competitors wear a full suit of authentic armour weighing about 40 kg. They gallop towards each other along either side of a wall called a 'Tilt', whose

main purpose is protecting the horses. The aim is to break the lance against the opponent's shield. The lances are made of pine, three-and-a-half metres long with a solid three-pointed steel tip designed to grab and dig into the shield. The shields are concave so the lance tip shouldn't slide up or down towards the helmet or horse's body. There have been fatalities (thankfully not at this event) so this is not for the faint hearted! By the way, the expression 'Full Tilt' comes from this sport.

The arena space, called the 'List' is 100 metres by 36 metres, the Tilt is about 40 metres long. There were various long distances between the audio components, so most connections were wireless. 12 receivers for various mics, including the shot guns from the far side, and four wireless links feeding to

the speakers on the far side. On the near side of the arena we had two digital stage boxes on Cat5 for shotguns and speakers.

We had eight sets of speakers in the List, four along each side placed three metres forward of the seats and about 15 metres apart. These were RCF HD12As with RCF 905AS subs also placed at the four centre positions. The HD12As were placed on their 'wrong' side, as I wanted a lift of only five or 10 degrees to face into the audience, so using the monitor angle of 45 degrees would have been way too high. The original brief was to only cater for the grandstand seats however I added in two more small speakers pointing outwards for the "peasants" at the ends of the arena. These were QSC K10s which were sufficient for the thousand or so people who didn't get grandstand seats.

At first I thought the impact sounds and breaking of the lances would be easy to reinforce as shotgun mics are quite sensitive to vibration and percussive noise. At many choir gigs I have been challenged by clapping and foot-stomping coming through way too loud. However, in this outdoor environment there were no reflective surfaces to aid the acoustics. After a day of rain the ground was soggy and soft. In addition, surrounding the Tilt was truckloads of sand and tanbark, so it

Sometimes it all gets too much...



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



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





wasn't possible to pick up the clip clapping of hooves even at a gallop.

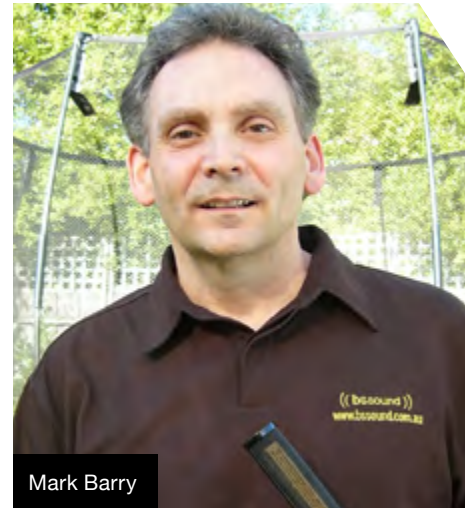
With a distance of 15 metres between shotguns and Tilt I had only a slim hope of picking up the action.

Yes, I did think of wireless mics on the knights, but logistically difficult of course with the metal armour, not to mention that any audible comments from the knights might not be suitable for a family friendly event.

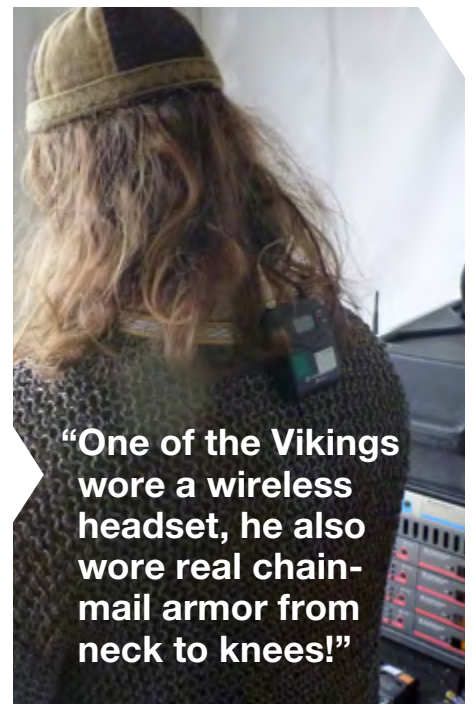
Logical solution was to mic up the tilt with wireless omni lapels, I put this to the production manager only to be told "It's not on!" The Tilt is disassembled and re-built twice each day to accommodate other events in the arena. I negotiated this situation as there was no other solution and I was able to tape four lapels and belt-packs to the top of the Tilt each time it was built. I also put two belt packs and lapels under the Tilt in the hope of getting some galloping, but despite the very close proximity there was absolutely nothing as the ground was so soft.

Despite being warned not to put anything on the Tilt, I had confidence that the Sennheiser EW100 belt-packs would cope with any impacts, and they did. Two went flying on separate occasions but were retrieved with no damage. We did have one lapel mic destroyed but no big deal as it was a very low strike rate, and I budgeted on losing four. These were the very affordable Optim Umic CB-100, and despite their low price they have a flat response, clear sound, and can handle SPL of 135 dB. These Tilt mics were delayed by 38 ms as the speakers were 15 metres closer to the audience. In my experience it is an unusual situation where delays are applied to mics rather than speakers.

As well as jousting, there were battle re-enactments, a parade, and a birds of prey demo, which is why the Tilt was removed and re-built twice a day. As we wanted the battle sounds, and the omni mics were removed from the Tilt at arena center, this now depended on the shotguns, which were Rode NTG2s mounted on banquet stand.



Mark Barry



“One of the Vikings wore a wireless headset, he also wore real chain-mail armor from neck to knees!”

I ran the PA speakers in four zones and assigned the shotguns to speakers that were further away, so four sets of speakers assigned R, L, R, L. Shotguns placed near the center L speaker panned hard right, shotguns near the center R speaker panned hard left. “Brilliant” I thought, each mic is effectively deaf to the nearer speaker, and 15 metres away from the speaker it is feeding, what could possibly go wrong? I thought I had avoided the basic two part microphone - speaker feedback loop, but they still resonated well before I got any acceptable level! Turns out there was still a feedback loop but in four parts; mic - speaker - mic - speaker. How frustrating. It was fortunate that we had a practice run the day before. I then moved the mics further away from the speakers and used a more savage LPF resulting in more clashing but less bashing.

A final challenge on the set-up day was being told about the musicians, the medieval band ‘Wayward’. Sound for live music is my expertise and in my comfort zone but not a pleasant surprise when it isn't in the brief

“Last bullet dodged; four musicians with one instrument each; hurdy-gurdy, wood flute, bag pipes, and drum.”



and I haven't planned for it in my mix set up. I really dodged a few bullets here.

“We thought we'd put them over there...” said the promoter pointing to a space 50 meters away, (no, I didn't bring a spare multicore), “... but now they'll be sharing the AV tent with you 'cos the weather is dodgy.”

Luckily I had my decent enclosed-ear headphones, but super lucky that I had kept my band mic kit in the van. I then realised that I had very few local inputs left on the mixer. The Behringer X32 mixer and S16 stage boxes take channels in banks of eight, so 16 inputs had been assigned to Cat5 for the sake of four shotguns. The remaining 16 local inputs had 12 wireless receivers leaving only four spare inputs. Last bullet dodged; four musicians with one instrument each; hurdy-gurdy, wood flute, bag pipes, and drum.

“Do any of you sing?” I asked with trepidation.

“Oh yes... (my heart sank) ...but not at this event.”

Thank goodness, and so I happily set up four dynamic mics for their instruments at no extra charge.

Finally, this was one of the more interesting problems and solutions; commentary for the battle scenes came from the field. One of the Vikings wore a wireless headset, he also wore real chain-mail armor from neck to knees! What can you do? Fortunately, he wore a reasonably conventional belt, so the transmitter was outside the armour on his right hip. Should work just fine, I thought. Turns out I thought wrong as his voice cut out each time his left side faced AV-land as then there would be two layers of metal as well as his body between transmitter and receiver. We had much better results the following day by mounting the belt-pack on the back of his collar, thus getting it just above the chain-mail, an obvious solution in hindsight. The headset mics were Audac CMX726 from Audio Logistics, lightweight and with a very full and clear sound.

We also provided other aspects of production at this event; two PA systems for the Tavern (Shakespeare and music performances) and the Trebuchet (like a catapult but different, flinging watermelons onto a distant hill), decorative lighting for a row of trees stretching 200 metres between the encampment and the tavern, and more lighting for the exterior and interior of the Tavern. These were mostly set up by my assistant Tim Marmach, who overcame a set of other challenges along the way. Perhaps this could fill another story.

Client: World Jousting Championship

Event Producer: Andrew McKinnon

Production Manager: Josh Green – Team Phoenix Events

Mark Barry owns and operates B S Sound PA Hire in Melbourne and is happy to go anywhere to work for anyone, he can be contacted at mark@bssound.com.au



ENTTEC

Made in Melbourne



by VJ Suriya

With all the craziness of the past half year (wow, it's been that long already!) starting with bushfires, and now the pandemic, it's never been clearer how important local manufacturing is. Despite all the challenges it presents, we have to tip our hat to all the local manufacturers doing it tough at the moment, sticking it out, and doing their best to keep an emphasis on homegrown.

ENTTEC is one of these companies. From the very start, over 20 years ago, ENTTEC has committed to being Aussie made. While we now have a US and UK office, the ubiquitous USB Pro that everyone seems to have in their kit somewhere still rolls off our local production line, now in Keysborough, in the south-east of Melbourne.

With feedback from a global audience, our local R&D team design our products to be manufactured by our dedicated production team, then to be shipped locally and all over the world.

We've come a long way since the beginning, continuing to provide quality solutions for

DMX lighting control as well as Pixel lighting controls, storage and playback. We're most excited about our new series of LED pixel dots – the SmartPXL40.

Again we've gone to great lengths to keep this product locally made, investing in machining equipment to make the bodies in-house, soldering machines to speed up the process, and even a potting system to encapsulate the dots in optically clear resin for waterproofing. The electronics are made on the same SMT machine we use to make our USB Pros and Pixel Octos, and the result is a robust, quality pixel lighting product that fits just as well on an interactive LED wall as it does on the side of a building. And, most importantly, supports Aussie jobs in the process.

When all this craziness ends – and it will end – we hope the country as a whole remembers how important it is to support local industry. We hope you keep ENTTEC in mind for your next project and help us proudly keep local manufacturing alive and well.



Mech Eng wiz Jake picking out tools for the CNC machine



Ed from the production team tightening up a blank in our custom-made jig



Freshly machined SmartPXL40 body



Jake crimping connectors onto our custom cable assemblies



Positioning a machined dot body for laser etching



Freshly machined dot bodies coming off the CNC lathe



Potting a string of dots in optically clear resin

Grover Notting's Research Album – Sample Rates, Word Clocks, and Formats Square Off

by Jason Allen

Classic Audio Designs/Grover Notting and ATT Audio Control's Frank Hinton has embarked on a mission to scientifically and experientially evaluate the merits of sample rates, word clocks, and playback formats. The Grover Notting Research Album (GNRA) will see top-shelf musos play and record in an acoustically excellent space, captured by the best engineers, with the raw data handed to University-based researchers to evaluate. While the project is temporarily on hold due to the pandemic, the musos and studio are standing by, giving Frank some time to answer questions...

What playback formats and sample rates are you going to evaluate?

From the outset, the album was destined to be a multi-channel capture, enabling numerous listening formats and experiences, from mono to immersive sound variants. A variety of sample rates will be captured simultaneously, and debate continues amongst our team and supporters as to best practice and outcome imperatives, given that resources are not unlimited. In addition, we do not want to complicate the process by producing unnecessary amounts of audio data. At this point, reality suggests a simultaneous capture in three sample rates, at most four, will satisfy our purposes and lay bare the experiential reality. In the traditional audio family stream, that would be 44.1 and 352.8kHz (DXD) and either 88.8 or 176.4kHz, or both. If we chose to record in the DVD audio family stream it would be 48 and 384kHz and either 96 or 192kHz, or both. Other considerations that will drive ultimate decision making include track count capability relative to the technology resources at our disposal.

Evaluating word clock sources wasn't part of the original scope of the project. Why have you decided to include it?

What began as a recording sample rate evaluation has progressed to explore other

critical technologies and techniques that directly impact the human experience of recorded music, an endeavour never before attempted to our knowledge. We recently decided to include the evaluation of variant word clock technology. It seems many have overlooked, or don't understand, the critical role of the word clock in digital audio, in particular phase noise performance, which closely relates to jitter, and directly impacts what we hear. It is interesting to note that the phase noise specification does not necessarily correlate to the asking price.

What approaches are you taking in terms of capture? Is it all live, or will you be allowing overdubs?

By virtue of its purpose, this album project has to be a real-time capture, requiring considerable skill in microphone technology and technique. That will include on-board, close, wide, and perimeter selection and placement.

What platforms are you going to record to, and what kind of space are you going to record in?

To succeed in our purpose and maintain research integrity, all recording will be simultaneously captured on three or four digital audio workstations without recourse to file processing. In this way we will maintain an equitable comparison capability. Therefore, the ambience of the recording space becomes critical, as reverb cannot be added after the event. With a band of 13 performers, a typical concert hall reverb time of 2+ seconds is too long, and will undermine definition and coherence. Whilst the typical modern recording space usually comes with a reverb time under one second, that's too dry to achieve listener engagement. Therefore, we are seeking a well isolated recording space with a reverb time of one to 1.5 seconds in our search for the optimum environment to conduct the project.



The GNRA's Senior Engineer Ross A'hern



Frank Hinton

What kind of mixing and post-production techniques will be applied?

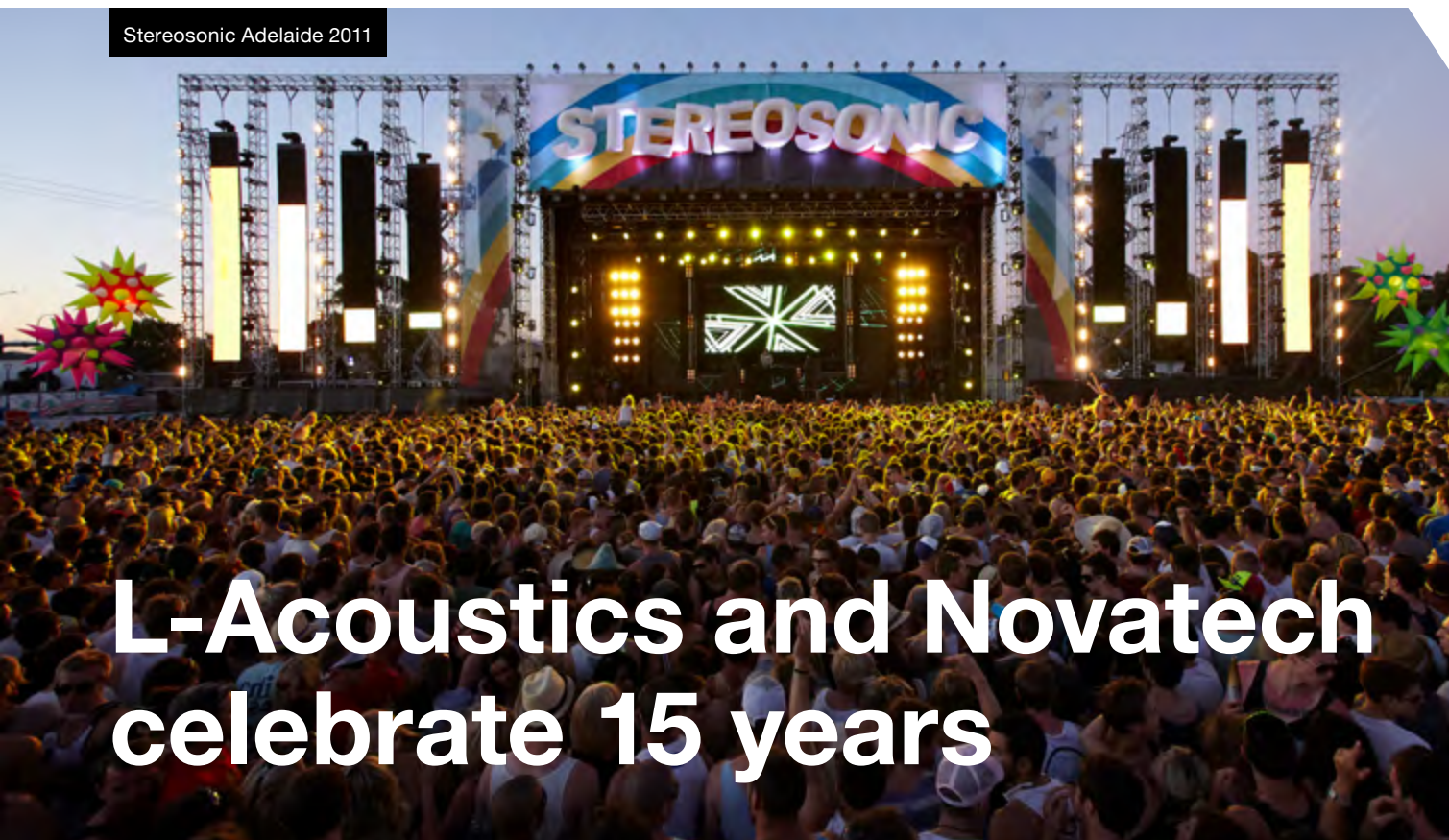
As a recording capture with minimal recourse to processing, the album will rely on skilful performance and engineering, where optimum balance and dynamics are achieved within the band, complimented by a deft understanding of the environment and technology. Therefore, the most effective engineering workflow is the 'mix as you go process', which also makes for a productive result. When the research imperatives are realised and we prepare for public release, minimal mixing and mastering will be required and this should produce an extremely compelling album of contemporary music.

Apart from the raw data for the researchers, what other material will come out of this project?

As the project will be filmed for posterity and documentary purposes, the opportunity will be taken to produce educational workshops on the use of microphones, using real musicians, a real studio environment, professional cinematographers, and acclaimed audio engineers. Given the resources at our disposal, workshops on various technologies and techniques will be produced. Vision and audio reproduction will be of the highest quality, and suitable for any educational and promotional forum.

Interested in getting involved with the GNRA? Contact Frank Hinton: frank@attaudiocontrols.com

Stereosonic Adelaide 2011



L-Acoustics and Novatech celebrate 15 years

What happens when two like-minded companies, both born with a profound passion for sound, meet and form a partnership? In 2005, Novatech chose to invest in its first L-Acoustics system, allowing the company to enter the large concert and touring market for the very first time. Fifteen years later, and now one of the world’s most trusted full-service corporate event production companies and a member of the global AV Alliance, Novatech is a 100 percent L-Acoustics house, counting over 1,200 L-Acoustics products in its inventory.

When it comes to in-house knowledge and know-how about the event experience, Novatech’s expertise is second to none. With over 60 full-time staff and 20 to 30 casual crew, Novatech employs one of the most qualified and talented event production teams in Australia and is ready to make any event a roaring success. Owning L-Acoustics systems has not only helped the company solidify and grow its presence in the industry, but also improve the quality of what it provides to its customers.

“Our story with L-Acoustics commenced with the purchase of a Kudo system back in 2005, four years after Novatech was founded” reminisces Novatech’s Managing Director, Leko Novakovic. “Since our early

days, we only wanted to carry one brand of loudspeaker in the company’s portfolio, and we wanted it to be the absolute best quality product. L-Acoustics covered everything we needed, so we invested in our first system with them and have not looked back since.”

With both companies priding themselves in a quality over quantity attitude, choosing the premium loudspeaker manufacturer paid dividends for Novatech right from the start.

Following its initial Kudo purchase, which the team used at multiple events and festivals such as Good Vibrations (2008) and Supafest in Sydney (2011), Novatech made headlines in 2014 after purchasing a K2 large format

line source system. It was among the first companies in the world to take on a major inventory of the newly launched system, cementing its reputation as one of Australia’s biggest supporters of L-Acoustics.

“Before the K2 system had even been unpacked, it was already booked for several key events at the end of 2014, proving it to be another successful investment on our part,” continues Novakovic.

During the following years, the Novatech team continued to grow their expertise and clientele in the event industry, mastering the art of innovative event experiences.

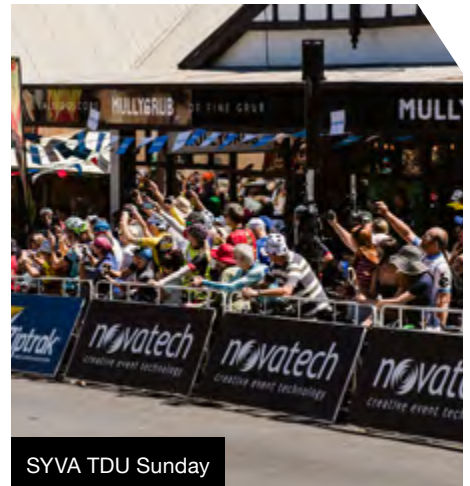
“Our next major L-Acoustics upgrade was in 2017, when we became the first rental company in Australia to take delivery of an L-Acoustics Syva colinear audio system,” shares Novakovic. “Syva was the natural choice to expand our audio reinforcement product range for small to medium sized events. It debuted on the high-profile Telstra Business Awards at the Adelaide Oval’s Magarey Room later that year.”

Acquiring Syva not only brought new possibilities to the team, it also helped Novatech win multiple innovation accolades, including the Innovation Award at the Meetings & Events Australia Awards, as well as the Exceptional Innovation Award for its work on the Santos Tour Down Under at the Audio-Visual Industry Awards.

“Winning those awards was a true testament to our technical team’s innovative approach in designing a custom engineered solution to improve an events technology offering,”



From left to right: Marcus Watt, Dave Usher, Menk Novakovic, Leko Novakovic, Dean Lewis



SYVA TDU Sunday



Dark Mofo - speakers



L-ISA Launch at ASO Harry Potter Concert

comments Novakovic. “This would not have been possible without our trusted partners L-Acoustics, which is why we are now proud owners of 24 units of Syva.”

Last year, the team helped to deploy one of the most unique installations of Syva speakers to date. Working with renowned composer and sound recordist Chris Watson on his Hrafn: Conversations with Odin immersive sound work as part of the Project X program, which was designed to bring visitors to the Tasmanian Huon Valley region after wide-spread destructive bushfires, the Novatech team collaborated with The Wired Lab and DarkLab to design a spatialised multi-channel L-Acoustics sound installation based on Syva.

“That was definitely one of the most surreal projects we had ever delivered and one that, quite literally, took Syva speakers to new heights,” chuckles Novakovic. “The uniqueness of that installation was that the Syva cabinets were rigged off 15 hand-picked trees, with its slim profile perfectly blending into the surrounding environment.”

Driven by the passion and commitment to employing cutting edge technology to stage exceptional events, the Novatech team once again made history by delivering what became the Southern Hemisphere’s first experience of L-Acoustics L-ISA Hyperreal Sound technology, for Adelaide Symphony

Orchestra’s performance of Harry Potter and the Prisoner of Azkaban in concert. The team deployed an extensive suite of technology for this historic event in Australia, which included using Novatech’s inventory of Kara cabinets among other delivered elements.

“We were keen to bring L-ISA technology to Australia for a live performance,” says Novakovic. “Our mission is to offer the best possible experience to the audience and new technology like L-ISA allows us to do just that.”

Novatech has been steadily growing its L-Acoustics portfolio over the years to respond to the latest industry trends and continue staging the exceptional events that have made their reputation. “Fifteen years ago, we were still a relatively new company, finding our feet in the event industry and trying to break into the concert and touring market,” concludes Novakovic. “I’ve heard L-Acoustics founder Christian Heil say that competition is the main driving force behind Darwinian evolution and I feel that the combination of the quality of our L-Acoustics equipment and the expertise of the Novatech team gives us a serious competitive advantage.

“We are forever ensuring sound is at the highest quality for the best live experience, and L-Acoustics helps us make that happen.”

L-Acoustics sales manager, Tim McCall, shares his own thoughts on why the partnership has flourished over the years, making both brands stronger than ever. “I first met with a young Leko, Menk, and James before they had invested in a Kudo system back in the early 2000s and already they were committed to ensuring they used the best equipment possible to help them reach their goals. Over my time at L-Acoustics it has been great to grow the relationship with the team and see their success still being based on their original ideas.”

“Novatech is always keen to keep up with the latest industry development, whether that is in terms of ensuring its staff are trained on the latest software suite and exciting new tools, or investing in ground-breaking products and systems – luckily L-Acoustics has a long history of introducing game-changing technologies to help them! The other exciting element is that they are not afraid to experiment, to try new things. Novatech came to us about using L-ISA with the ASO, they also quizzed us about using Syva to provide PA for the Tour Down Under and about hanging them from trees in a forest for Hrafn: Conversations with Odin – so it’s always an interesting discussion. I think Novatech is a great example of what we believe about business – a long-term partnership where technology helps passion and ideas to develop and grow – long may it continue!”

NZ Theatre Tech Crews Think Outside the Square

Independent Theatre Paradigm Shifts

As many of us pledge to learn from lockdown, be it spending more time with family, maintaining our exercise regimes, or continuing to experiment in the kitchen, it would appear that the arts community and the technical crews amongst them are looking to make some changes too. We talk to two independent theatres and a theatre company on how they successfully pivoted their way through lockdown and its aftermath, and investigate what they are taking from the experience.

Brynne Tasker-Poland, Technical & Facilities Manager, BATS Theatre, Wellington

BATS, a Wellington-based not-for-profit theatre, were in the fortunate position of having livestreaming set up and ready to go when the country plunged into lockdown. Brynne explains, "We ran our first stream a couple of days prior to the start of super strict social distancing. 'Princess Boy Wonder' had already packed in for the NZ fringe festival and we wanted to give them an opportunity to perform." Donors came to the party and enabled BATS to use Dacast, a livestreaming platform with a paywall, and the theatre streamed what they thought would be their last hurrah for some time, "But once we realised that we could do it, we were keen to give our artists and our technical crew an opportunity to earn some money, so we put on a Zoom show every one or two weeks,

Are you concerned about your mate's mental health?

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

Support those around you and register for free mental health training



www.entertainmentassist.org.au

Supporting the mental health of Australian entertainment industry workers

¹Passion, Pride, Pitfalls Dec 2014



Brynne Tasker-Poland

asking people to pay what they could, and people were just super generous.”

As the country shifted down the levels, BATS re-opened to live audiences and continued to simultaneously stream the shows, “There was so much interest that we began to keep the video up to stream on demand. We realised how much more accessible it was making theatre and we figured we’ve done all this work, we may as well continue.”

For the technical team, their streaming journey had begun with a Google search, “Fortunately one member of our crew, Tane Hipango, had all the gear we needed for streaming. He’s just one of those guys who likes to buy gadgets.” Brynne also brought in her very talented sound guy Benny Jennings, “We were really lucky to have people in our crew with the specific skill sets that we needed, although there was definitely still an element of stress!”

Going forward Brynne, Tane, and Benny are sharing their skills with other members of the crew to create B teams, “Now we are working on not just showing something, but really producing something special.”

The lockdown was also a time for reflection, “For some time prior to COVID, we had all become increasingly aware that our way of doing things was not sustainable. We did one hundred and ninety shows last year and as a staff it was exhausting and an absolute mission for the crews. I strongly believed that it didn’t have to be like this. Crazy long hours didn’t have to be the norm.”

Subsequently the theatre has announced that going forward the two day pack in and a couple of end of the week shows would be replaced by a two week pack in/rehearsal period, and then a ten day season, “Our reaction was thank god! We are not looking at it as less shifts but as more opportunity to grow as operators and designers. This gives us time to hone our craft.”

Coming out of lockdown, BATS are fired up about their new commitments, “We are really excited about keeping our focus on accessibility of the arts via streaming, and looking forward to a slower way of working with an emphasis on mental health and well-being.”

Ellie Swann, Theatre Manager, New Athenaeum Theatre, Dunedin

New Athenaeum Theatre (NAT) operated by the Dunedin Collaborative Theatre Trust was established in 2016 as an open access theatre. The theatre was about to host roughly a quarter of the events in the Dunedin Fringe Festival, ten shows, at a rate of three shows a night, “The rug got pulled out from under us. We physically shut down the theatre without really knowing when we would be allowed back,” recalls Ellie Swann, Theatre Manager.

Oddly though, the NAT team, consisting of Ellie, the one paid member of staff, and a team of volunteers, felt fortunate, “We are lucky we don’t have massive overheads, our landlord came to the party and Dunedin City Council checked in on us to make sure we were alright.” Unable to access Creative New Zealand’s COVID-19 funding due to their model (flat rate hire for the venue plus only a ten per cent share of the box office), they focused on how best to support the industry after lockdown, to enable them to access the funding that was available.

NAT announced on social media and to their networks that until the end of September their rehearsal space was available free of charge in the day for workshopping ideas, “Also for our fringe acts we are offering only their fringe rate for the venue for the shows.” The result is shows booked almost every weekend until the middle of October, and not only the cancelled fringe shows. Some, such as the award-winning play ‘A Hundred Words for Snow’ and comedy ‘James Mustapic is coming out (from under a rock)’, have had their planned tours interrupted, “So are enjoying the opportunity to get back up on stage again.”



Ellie Swann

Even way back in level two, with stringent social distancing still required, Ellie felt compelled to do something, “I got the feeling that people were nervous about going out, but I also felt they were fed up of being nervous. And I personally was very keen to break the habit of people watching stuff online!” The last weekend in May saw five local comedians relaunch the theatre with a capacity halved by the level two requirements for social distancing. The following night a fringe artist, stranded in Wanaka, “A tough life,” chuckles Ellie, was keen to resurrect his show ‘Bald Man Sings Rihanna’, and Ellie leapt at the opportunity, upping capacity by taking bookings in bubbles.

Ellie is also experimenting with a new kind of hybrid. She was approached by another fringe artist who had returned to Scotland, Charmian Hughes. A comedienne who had been Zooming performances from her house during the UK lockdown, Charmian was craving the buzz and feedback of a live audience, “We came up with a plan to project her performance on Zoom to a live audience here in Dunedin, with one camera on the audience, and another camera set up to allow her to interact with individuals in the audience.” The approach has raised some interesting issues and not all technical, “We needed to make it very clear to the audience that they would be part of the streaming and to somehow obtain their consent.” It remains a work in progress...

The NAT are well aware that they still have overheads to cover and there’s a lot of work going on to secure funding but Ellie is confident, “Our small size and ‘Keep It Simple Stupid’ funding model has actually allowed us complete flexibility through the crisis, and I believe going forward we will be able to continue to support emerging artists and those with a technical bent. Perhaps them not being able to fly the roost may even be to our advantage!”

Ben Freeth, Technical Director, Blackboard Theatre Collective

Blackboard Theatre Collective are a small Christchurch-based company of six who are renowned for their celebratory-themed productions, notably ‘He Says, She Says’, a gender-bending annual concert. In typical fashion, their response to lockdown was to create a party, “We felt so strongly for all those performers that had shows cancelled after months of hard work that we decided to approach theatre companies to see if we could gather together to reprise acts from the different shows.”

Companies across the country embraced the concept and ‘Waiting in the Wings’ was born, “We are a small company and good at throwing things together quickly. All of our technicians were keen and we were able to pay almost everybody involved.” The Piano Centre for Music and the Arts offered free venue hire and the crew kept the sound and lighting simple.



Aaron Pyke from Shrimp Cocktail Hour



Stream Team left to right: Tane Hipango, Brynne Tasker-Poland & Benny Jennings



Change Your Own Life: Jean Sergent performing, Tane Hipango on camera and Brynne Tasker-Poland on lights and streaming

LIVE THEATRE RETURNS
 HOUSE OF FIRE PRODUCTIONS PRESENTS
A HUNDRED WORDS FOR SNOW
 BY TATTY HENNESSY
 DIRECTED BY ELLIE SWANN

THURS 25 - SAT 27 JUNE 2020, 7PM
 SUN 28 JUNE 2020, 2PM (DISTANCE SEATING OPTION)
 NEW ATHENAEUM THEATRE
 23 THE OCTAGON

BOOK ONLINE: NEWATHENAEUMTHEATRE.CO.NZ
 \$20 GENERAL \$15 STUDENT (18YRS+) \$25 DOOR SALES
*Production includes front-of-house, and features some smoking and sexual content

"SWANN'S PERFORMANCE IS ALWAYS A JOY"
 OTAGO DAILY TIMES

FEATURING LANIET SWANN
 EMERGING TALENT
 THE DUNEDIN THEATRE AWARDS



Ben Freeth

Due to the speed at which New Zealand came out of lockdown the show went ahead in Level One, "We got in at ten, did a forty-five minute pack in, sound tested, ran through the show doing all the lighting in our heads and put on two pretty much sold out performances that evening with no issues."

Ben recalls the experience, "It was awesome, absolutely fantastic. I think New Zealanders have a certain pride in the way they have handled the whole situation, and this was a chance to celebrate. There was no nervousness about being out, just a feeling that one more thing was returning to normal."

Going forward, Blackboard Theatre Collective are even more committed to making things happen, "There are lots of projects that won't be possible now for a year or so, but we are determined to replace our normal programme."

They recently received funding from Creative New Zealand for a seventy-two hour song writing challenge 'The Isolation Mixtape' and

appealed to song writers around the country to apply. The four successful applicants have produced four new pieces of musical theatre inspired by the words 'Doors, Walls, Bridges, Home'. The songs will be recorded, released, and performed at the Little Andromeda in Christchurch on 24th July, "The concept had to be achievable no matter what level of lockdown the country was at and that gave us freedom to do some amazing things." The four songwriters teamed up with performers in Auckland, Wellington and Melbourne using Zoom, Google Drive and Garageband, and were privileged to have Jeanine Tesori, Broadway composer, provide a Zoom workshop.

For Ben, lockdown and the COVID-19 situation has reinforced his belief that small is powerful, "We are a small company and we can respond to situations very quickly." For the Blackboard Theatre Collective and particularly for Ben as Technical Manager, COVID-19 has been an opportunity to do what they do best - think outside the square.



VIDEO ON SDI - MOVING THE BITS

by Simon Byrne

The two most common ways of interconnecting video devices is by way of HDMI or SDI.

HDMI or High Definition Multimedia Interface is the consumer standard that finds itself on a lot of prosumer equipment, including laptops. I did a deep dive into HDMI back in August 2017 and there is a link to it at the end of this article (it is a good read if I don't say so myself!).

HDMI is a world of pain mainly because the connections require an active negotiation between the devices that are connected. That is, both ends talk between themselves to decide what resolution and frame rate the link will carry. This often has unintended consequences because the source device's output may be decided by what the receiver is prepared to accept, and if you change settings in the receive device, that may force the transmitting device to make changes too. This does not always work in the way you expect.

There is another feature within HDMI called HDCP which stands for High-bandwidth Digital Content Protection. The purpose of HDCP is to protect digital copyrighted content as it travels from a device to your TV. HDCP is required for example, to stream Netflix from a device connected to your TV. If you try to send a HDCP protected stream to devices that don't support HDCP, the link simply will not work. This can lead to further problems. For example, I have seen laptops not output due to HDCP despite the fact that no copy protected content is being streamed.

HDMI is however capable of delivering very high bandwidth and therefore uncompressed high resolution and high frame rate streams, but only on fairly short runs of up to about

ten metres depending on the quality of cable (your mileage may vary). HDMI cables have nineteen separate conductors and their multipin connectors do not lock. Therefore they make a fragile link in a show environment and cables cannot be easily repaired.

The professional solution is SDI or Serial Digital Interface. Originally developed in 1989, it is the digital standard that broadcasters still use.

SDI uses locking BNC connectors with coaxial cable and is capable of long runs depending on cable quality and the resolution required. This meant broadcasters could use their existing cable infrastructure as they transitioned from analog to digital.

It is a single stream of data designed purely for professional use. Therefore it does not have any nonsense like HDCP within it, nor does it negotiate between devices. The source device simply outputs the data stream, and the receiving device picks up whatever is sent. Completely predictable behaviour. As well as video, an SDI signal can have audio as well as timecode and other metadata embedded within it.

Before I go further, I'll touch on two terms you hear a lot. Interlaced and Progressive video.

Video sources that are listed with the letter 'i' are interlaced. Examples of this would be 576i or 1080i. Interlaced video displays even and odd scan lines as separate fields. The odd scan lines are drawn on the screen first, then the even scan lines are drawn. Two of

these even and odd scan line fields make up one video frame. This dates back to the early days of television as engineers had to find a way to deliver an image with the bandwidth-restricted technology they had at the time. In Australia (and other PAL countries) we had 576 horizontal lines. The odd lines were painted first (1,3,5,7...575) first, and then the even lines were painted (2,4,6,8...576) over the top of the odd lines that are still glowing on the phosphor screen. This was a very clever way to deliver the full 576 lines, but with half the bandwidth that otherwise would be required. Therefore, 1080i50 is actually twenty-five full frames, split into two fields delivered at fifty times a second.

Video sources that are listed with the letter 'p' are progressive scan signals. Examples of this would be 576p, 720p or 1080p. Progressive scan video content displays both the even and odd scan lines (the entire video frame) on the TV at the same time.

Frame rates on televisions used to be tied to the frequency of the AC power supplies where the television was located. In the US, their power supply is at 60Hz, so that was used as the sync source to deliver 480i30. Our AC power supply is 50Hz which delivers 576i25. Because of the lower frame rate, engineers could deliver a slightly higher resolution image which is why we had 576 lines and the US only had 480. Modern broadcast television in Australia is 720p25 or 1080i50, but the online formats can be anything ranging from 23.976 fps through to 60 fps progressive.

A standard definition stream (up to 576i30) is up to 360 Mbits. This is low resolution by today's standard and HD SDI was introduced in 1998 which supports 720p30 and 1080i60 (two interlaced fields each at thirty frames) with a throughput of 1.5 Gbits.

With the development of plasma and LCD screens, progressive scan formats became popular. That means twice the bandwidth (about 3 Gbits) so Dual Link HD-SDI was developed as an interim measure which allowed for 1080p60 across two 1.5 Gbit HD SDI links. That is a single stream shared across two cables.

As technology developed, Dual Link HD-SDI was replaced with 3G SDI which is 3 Gbits on a single cable. Despite this, Dual Link technology is still implemented at higher resolutions in for example, Blackmagic Design's Decklink video input cards.

Now in 3G it gets interesting. There are two variants of 3G SDI, level B and A.

Level B is an extension of Dual Link HD-SDI. That means that the engineers took the Dual Link streams, combined and stuffed them down one 3G SDI cable. This was a cost-effective way to extend the technology and level B is found in lower end, older gear. Level B is occasionally used to deliver two HD SDI signals into a single cable for stereoscopic video.

Level A is a true single stream of data. Newer and higher end gear benefits from level A. Level A and B streams are not compatible with each other, however most modern equipment is capable of accepting either.

Building on 3G, there is 6G which is obviously a 6 Gbit stream. A 6G stream is capable of 1080p120 or 2160p30 (4K at 30 frames per second). There hasn't been much take-up of 6G, mainly because 12G is available which can deliver 2160p60. Those are all the current standards, but the boffins are developing 24G which is capable of 4320p30, a massive 7680 x 4320 pixel image at 30fps.

The Cable and Connectors

SDI runs on 75 ohm coaxial cable and the great thing about that is you can make your own cable assemblies. However, there is a huge difference in cable quality and this

defines how reliable and to what length an SDI run can be. RG59 or RG6 (better) are the standard, and runs of one hundred metres can be achieved at 1080i50 with most cables. But at 3G data rates and upwards, you really want a cable that is specifically designed to work at those rates.

You should be aware that RG58 is another common cable that looks exactly the same as RG59 but importantly its impedance is 50 ohms as it is designed for use with antennas. An SDI signal on a RG58 cable will perform poorly.

You can easily tell the difference between a 50 ohm RG58 BNC and a 75 ohm RG59. RG58 have a plastic dielectric between the pin and the shield of the plug whereas RG59 usually don't.

The quality of the BNC connectors is extremely important. The signal travels along the dielectric between the core and the shield, so the interface between the cable and connector is where you can lose an enormous amount of signal integrity. For this reason, I only use Canare BNCs because they just work. I don't think I can recall a time when one has failed.

It should be noted that to fit a BNC with a good crimp connection, the right crimp tool with the correct crimp die is incredibly important. The cheaper tools are not made to the tolerances required for a good join.

You can run SDI over fibre with converters which opens up runs measured in kilometres. The convertors do nothing to the signal other than convert it to light and back again so it is a very reliable method. There are typically two strands in a fibre cable, which means you can send two signals in a run. The other benefit is that fibre is future-proof because of its enormous bandwidth. The downsides to fibre is that it is delicate and the tools required to do terminations are very expensive. It is better to buy pre-built fibre cables for these reasons.

Converting SDI to HDMI

The problem with SDI is that most prosumer devices and monitors do not have an SDI connection. This is because SDI is usually available only in professional video equipment because various licensing agreements restrict the use of unencrypted digital interfaces. So a converter to HDMI is required. Fortunately these are now quite cheap and can be USB powered. With my monitors that only have HDMI, they all have Blackmagic Designs SDI to HDMI converters, velcroed to the back of them and powered by the USB ports on the monitor. With these, I have well priced monitors with professional SDI inputs.

What about video over Cat5e or Cat6 cable and IP network infrastructure?

There is a surprisingly low take-up on this, probably because compression is required, and most broadcasters are already based around SDI.

The leading protocol is Newtek's NDI which they licence to other manufacturers. A standard 1080p25 is just on 100 Mbits. That means it is compressed by a factor of fifteen when compared to an uncompressed SDI stream at 1.5 Gbits. The compression is quite good, but cannot be as good as uncompressed, but also with any compression you add latency because the system must load a frame before it can be compressed. I wrote about NDI back in August 2018, the link to that article is below.

SDI is a rock solid and mature solution. I suspect it is going to stay with us for a while.

Check out these other related articles -

HDMI and HDCP - A World of Pain

<https://www.cxnetwork.com.au/hdmi-and-hdcp-a-world-of-pain/>

NDI - Professional Video Over IP

<https://www.cxnetwork.com.au/professional-video-over-ip/>

SDI Standards and their Capacities			
Name	Introduced	Bitrates	Example video formats
SD-SDI	1989	177 Mbits, 360 Mbits	480i, 576i
HD-SDI	1998	1.5 Gbits	720p, 1080i
Dual Link HD-SDI	2002	1.5 Gbits+1.5 Gbits= 3 Gbits	1080p50
3G-SDI	2006	3 Gbits	1080p50
6G-SDI	2015	6 Gbits	1080p120, 2160p30
12G-SDI	2015	12 Gbits	2160p60
24G-SDI	In development	24 Gbits	2160p120, 4320p30

HIGHLITE INFINITY FURION BEAM, SPOT, & PROFILE

by Guy Garrison



I recently had the opportunity to run the Infinity Furion S401 Spot, Infinity Furion S601 Profile, and Infinity Furion B401 Beam on Carey Baptist Grammar's latest production for which I was the lighting designer. I've worked for the school for over ten years as their L.D. and have lit shows ranging from high-end musicals to straight plays and solo performances.

Carey employs professionals across their shows and have high expectations of the equipment specified for their productions. This was my first time using Highlite's Infinity range, which were provided for the production by Clearlight Shows.

My design utilised six S401s on the rear lighting bar, four S401s on the middle bar,

and two S601s on the FOH bar. Midway through rehearsals, and due to COVID-19 restrictions, the show transferred venues and the director and I discussed lighting the show in a concert style rather than as a traditional proscenium arch musical. I decided to add six B401 Beams that sat on 800mm high plinths upstage of the action, something I would never do in the traditional version.

Infinity Furion S401 Spots

I had the S401 Spots handling atmospheric and aerial effects, a lot of textures on the stage, and backlight textures. There are six glass and seven metal gobos in the S401s, and I utilised 70% of them through the show. I used a lot of the rotating gobos; I like using a very slow rotation on a moving fixture, almost to the point where you don't notice they're moving. The S401s were flawless in their rotation, with no skipping, and the strength of the output was astonishing. Even with the 'star' gobo in, which is basically a black gobo with hundreds of pin holes in it, the output was amazing.

The colours the S401s produce are fantastic, especially the red. A lot of designers complain about reds lacking punch in most moving head LED fixtures, but this is certainly not the case in the Furion range. Both the colour wheel red and CMY red were exceptionally bright.



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Infinity Furion S601 Profiles

The two Furion S601 Profiles rigged on the FOH bar were mostly used for specials, as and where the director wanted them, often with a tight focus on an actor or set piece. This is why the framing shutters were essential. I also used them with a soft focus over the whole stage. Their zoom range is ridiculous - the S601s were 16 metres from the front setting line and I could use two to cover a 12m x 12m stage completely.

The framing system was millimetre-accurate every time. When cues using the framing were recalled, there was never a discrepancy between the programming and the result. Even for a half-body head shot framed to an actor on a mark 26 metres away from the light source, the S601s hit the mark perfectly with fantastic output. They proved themselves and were both easy and beautiful to work with.

Consistency

Working with both fixtures in the rig, I'd say the S401s and S601s have similar output levels and colour rendering. The only difference perceptible between the two fixtures is in the colour temperature. I actually liked using the S601s out the front, as I feel their colour temperature is slightly warmer than the S401s, but you've got to have a good eye to see it. Honestly, you can't see the difference on stage, but can when focused on a white wall.

Animation Wheel

A unique feature to both fixtures is their animation wheel. If you drop it in over a gobo, rotating or fixed, you get a unique 'rippling' effect. The interesting thing about this effect is that adjusting the focus creates different dynamics in the visual breakup displayed onstage. By pulling the focused edge one way, the rotation seems to travel forward, pull it the other way and it seems to travel away from you. At 10% and 15% you get totally different looks. I've never seen so many variations with an animation wheel on any other fixture before.

Infinity Furion B401 Beams

As we changed to a concert version, I used the Furion B401 Beams to give the show another dimension. They were employed to produce sharp beams as a visual backlight. They can produce beautiful colours, and the ability to split colours is pretty awesome. I found the split colour effect worked best with the 16 facet rotating prism and a sharp focus. I particularly liked the combination of yellow and purple, which gave me a nice dissolve of the two colours. While you can replicate this effect on other fixtures with a colour wheel, you do get a black line, so I can't say I've seen any other fixtures that can create this split effect natively. They are a little bit noisy because they're a discharge fixture that runs hotter, but the pan and tilt are very smooth, and the movement is very fast.

Noise

As far as movement or fan noise in the S401s and S601s, it's just non-existent. You can't hear them, and that's with 12 movers in the air in a concert platform environment. There was some perceptible travelling noise as they moved to new positions in black, but it was minimal and masked by applause. I programme a lot of travel times that range from 10 to 20 seconds, and all the fixtures achieved this smoothly with no jerking.

Handling and Set-Up

Setting up the S401s and S601s DMX addressing via their touch screen is very fast. It's just two touches to get to the addressing. Instead of holding an up/down button and missing 301, you're able to type in '301' and hit 'ENTER', which is a nice feature that makes life easy. In terms of handling and rigging,

the S401s are a one-person rig and just lift straight out of the case, while the heavier but powerful S601s are a two person lift which slide out of the case. The B401s are simple and light; you just drop in the DMX address and away you go.

Conclusion

The overall quality of the Furion series is that of a high-end fixture. Their slow rotation is flawless, pan and tilt are smooth, colours are perfect, and their output astonishing.

Product Info: <https://www.highlite.com/>

Distributor Australia: Clearlight Shows
www.clearlight.com.au (03) 9553 1688

Distributor New Zealand: Kenderdine
Electrical kelps.co.nz or (09) 302 4100



Writer's Bio Guy Carrison has over 30 years of experience in the performing arts and entertainment industry. He has worked with renowned Lighting Designers on musicals over the years as a venue Head Electrician including The Lion King, Priscilla - Queen of the Desert and Wicked The Musical. He has designed a variety of shows for government and independent schools with an innovative style to bring their shows to a professional level. He also works for a number of local councils in Victoria.



“A lot of designers complain about reds lacking punch in most moving head LED fixtures, but this is certainly not the case in the Furion range. Both the colour wheel red and CMY red were exceptionally bright.”

THE SPECS

Infinity Furion S401 Spot

Light Source: 350W White LED

Colour temperature: 7500K

Beam Angle: 6° – 30°

Lux @ 5m 6°: 34442

Lux @ 5m 30°: 2205

Prism: 3-facet circular & 5 facet linear rotating prisms

Frost filter: Yes

Animation: Continuous bi-rotating flame wheel & Digital motion FX

Gobo wheel 1: Rotating, 6 Glass

Gobo wheel 2: Static, 7 Metal

Gobo functions: Gobo-flow effect, Gobo shake

Colour functions: Split colours, Rainbow-flow effect, CMY Macros

Infinity Furion S601 Profile

Light Source: 500W White LED

Colour temperature: 6500K

Beam Angle: 6.5° - 45°

Lux @ 5m 6.5°: 29712

Lux @ 5m 45°: 1124

Prism: 3-facet circular & 5 facet linear rotating prisms

Frost filter: Yes

Animation: Continuous Bi-rotating Flame Wheel & Digital motion FX

Framing System: 4 dual axis moving blades

Infinity Furion B401 Beam

Light Source: Osram Sirius HRI 230W (7R)

Colour temperature: 7600K

Beam angle: 4°

Output: 9500 Lumen

Prism 1: 5-facet linear

Prism 2: 16-facet rotating

Gobo wheel: 17 Metal gobos + Open

Gobo functions: Gobo-flow effect, Gobo shake

Colours: 14 dichroic filters + white

Colour functions: Bump colours, Split colours, Rainbow-flow effect

by Darren Russell

DBTECHNOLOGIES

VIO-X205-100

Australian Parliament House (APH) is one of the few Parliament buildings in the world with function spaces available for private use. Elite were previously long-term partners, but in December 2019, we became sole AV supplier for APH. To celebrate this, we invested in 12 dBTechnologies VIO X205-100 point source cabinets.

Background

Because we already knew the spaces and client needs, we knew the brief was 'bread & butter corporate work'. The Great Hall has a permanent PA installation, which is suitable for speech and playback, but all of the other spaces have no AV installed. Some are wide and shallow and some are quite small. So, we needed a flexible solution to cover multiple room configurations.

We looked at passive boxes but didn't want the mess and hassle of amps in sleeve racks, so went with self-powered. After testing a few options, the VIO X205-100 series came out on top. They are good on speech enhancement, easy to deploy and look very sleek. All at a price point considerably lower than competing options that were trialled.

With people ending up quite close to the boxes in some rooms, the 100 by 100-degree dispersion pattern is perfect. It has enough spread to cover all the odd spaces with even coverage across each area. We A-B tested alongside some 60 and 75-degree boxes but went with the wider coverage of the X205-100. I tested with background music onsite, sat in a chair under a box mounted at 1.5m and it was 'all there'. It definitely feels like 100 by 100.

Tonality & Tech

We knew that most of the venue's requirements are just speech and playback, so we needed a box with good vocal clarity. At

Elite, we're fans of dipole speaker boxes. We know that the concept and technology works. These ones are pretty HiFi and the response is quite linear, yet they still have good fidelity. They are really good for speech reproduction – it just comes out of the box in the right way. These are very sweet-sounding units.

They have a 1" horn for HF and two 5" woofers for LF. Crossover is pretty high at 1500Hz but it works well in this design. The 400W RMS amp has the grunt required and we can get to DSP presets on the back for quick tweaks. The boxes seem to have enough range for cocktail duos and background music but we are looking at adding some subs for more punch on DJ sets and the like.

Flexibility

When parliament is sitting the turnover is full on. Pre-COVID, as sole provider, we were doing between 20 and 30 events per day in sitting weeks! Often turning the same room over three or four times a day. It's not unusual during these weeks to have 10-15 techs in the building going all day during that time. Consequently, anything that we can do during setup, pack down, and deployment to make things more efficient - it all counts. And the onboard DSP made this box even more attractive for that reason.

EET have set up an onsite warehouse, purchasing enough APH-exclusive stock to cover all rooms simultaneously. We've made

pairs of boxes dedicated to particular rooms and saved the room tuning in the box. We set up a system in each room, SMAART'd it, then saved that to the boxes. If a tech is going to cover the Senate Alcove, they take the Senate Alcove boxes. Then the crew can throw a system together with lapels, lectern mic, etc, setup the gain stage on the console, push up the fader and do the gig. They're 95% there just by plugging in. This way there is no need for ringing out, EQ-ing etc on each call.

The VIOs have a few mounting options – different brackets allow the speakers to be installed or mounted vertically or horizontally. For APH we permanently bolted on pole brackets and mount them on K&M round base stands. It looks neat and corporate friendly.

We configured all units with dBTechnologies Aurora Net software, which was a piece of cake. It's reasonably powerful but quite intuitive and does everything that we need for jobs like this. It's mainly used for EQ and limiting. The plug and play networking works a treat too.

Bang for buck

High finish and build quality is a must for jobs like these. We needed a timber cabinet and the metal grill on these units enhances the slick look. We could have gone with bigger name, more premium gear, but that comes at a premium cost and our business is all about maximising ROI.

For what they are, the X205 do the job really well. For any serious music reproduction, they'd need a companion sub but they are totally fine for what we use them for. We couldn't be happier with these sweet little boxes.

Product Info: www.dbtechnologies.com/en/products/vio-x/vio-x205

Distributor Australia: nas.solutions

Distributor New Zealand: directimports.co.nz

“They are really good for speech reproduction – it just comes out of the box in the right way.”

Writer’s Bio From its humble beginnings as Elite Sound and Lighting over three decades ago, EET is still today wholly Australian family owned and run by its founder, Darren Russell. They provide hire and install equipment, technical services, event management and styling to Canberra and surrounds.

The Specs

- Max SPL126 dB
- HF1x 1”, 1.4 v.c., LF2x 5”, 1” v.c
- VIO X205-100 Directivity 100° x 100°
- Amplifier: 400 W RMS
Class-D Digipro G3
- DSP: 28/56 bit
- AD/DA Converter: 24 bit/48 kHz
- Signal Input: 1 x XLR balanced, 1 x RJ45 Link (RDNet), 1x USB (Data Service)
- Signal Output: 1x XLR balanced, 1 x RJ45 Link (RDNet)
- Power: PowerCON TRUE1 In, 1x PowerCON TRUE1 Out
- Dimensions:
WxHxD 150 mm x 485 mm x 240 mm



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LSC LIGHTING SYSTEMS MDR-DIN & LED-CV4

by Braham Ciddor



MDR-DIN

The LSC Lighting Systems MDR-DIN is a DIN rail mountable DMX splitter with four outputs that can be connected via push-fit terminals or RJ45, therefore no need for a soldering iron. The DIN rail mount can be used in switchboards, stand-alone enclosures, or as we've done at Lightmoves, in roof spaces. The MDR-DIN brings the DMX split close to where it's needed, as opposed to doing long cable runs back to DMX splitters in a central rack.

Lightmoves has used the MDR-DINs in a few installs of architectural lighting. Recently

we installed two MDR-DINs along with 14 LED-CV4s as part of a retrofit into an historic

building. This particular installation saw us run architectural LED strips around the interior, controlled via a Pharos LPC 1 Lighting Playback Controller and the building's Dynalite architectural dimming system. The DMX outputs are sent via an MDR splitter in a switchroom, and then via Cat5 to both sides of the space, where they are then connected to MDR-DINs and LED-CV4s.

Being a retrofit, we had to work everything to fit between existing ceilings and floors. Some access holes needed to be cut for installation, which we needed to minimise, partially because of the heritage value and partially because there was a risk asbestos may have been present. Using the MDR-DINs instead of looping DMX back as a linked control path meant less cabling, and their small size made it easy for the electricians to install and terminate. That all meant less cutting into the building.



LED-CV4

We chose the LED-CV4s because of their ability to run 5 amps per channel. If you're running 24v with a 480W external power supply, you can run all channels at 5 amps.

While the LED strips we were using are not capable of running a single length continuously at 5 amps, running multiple lengths to a total of 5 amps reduced the cost per metre of installation. The LED-CV4 is designed and built to be fully rated in terms of power, it is a true 5 amps per channel, as opposed to 5 amps on

one channel and a couple of amps on the others that you might find in a different product. The other main reason we use the LED-CV4 is the stepless 16 bit dimming. LSC has always done stepless dimming in their equipment, and it's really noticeable, especially when you're using lower-end LEDs. It produces a superior result.

The RDM capability of the LED-CV4 has proven very useful to re-set addresses. We've encountered the situation where we've pre-built LED-CV4s into an enclosure, only to have the electrician install the enclosure in the wrong place. When it's subsequently been too hard to physically get to the LED-CV4s, we've used RDM to swap DMX addresses.

There's a great feature in the LED-CV4 we find very advantageous in the work we do; when set to a certain DMX address, it cycles automatically through a 1-2-3-4 chase. This means the electrician on-site can confirm their wiring before we get there and connect a control system.



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Development and Quality

Lightmoves has been using LSC Lighting Systems products for 30 years and I personally for almost 38 years. We've always supported local manufacture, and LSC have always built good quality product. LSC sought Lightmoves input into the design of both the MDR-DIN and LED-CV4, as they are a standard tool for our work. LSC consulted with our Technical Director Andrew Sherar throughout the development process, getting his input on the enclosure, mounting, features, and specification. LSC supplied Lightmoves with early 3D printed prototypes for testing, and Andrew's electronic engineering background allowed him to provide informed feedback on the design approaches LSC were taking. This kind of collaborative development has always been the LSC way.

The best thing about both the MDR-DIN and LED-CV4 is that they're the kind of product that we install and never have to see again. Lightmoves has installs in the market that are up to 30 years old and are still operational with LSC gear in them, and we know we won't have to perform excessive maintenance. We don't make enough money on these jobs to go back and muck around, so we rely on LSC's quality and build process.

Product Info:

www.lscighting.com/products/data-distribution/mdr-splitters-dinrail

www.lscighting.com/products/dimmers/led-cv4

Distributor Australia and New Zealand:
www.lscighting.com

Writer's Bio Braham Ciddor is the owner of Lightmoves, Australia's foremost architectural and theatrical lighting company. Braham has had over 40 years' experience in the field of theatrical lighting, and for the last 30 years has built Lightmoves into a company that has an enviable reputation for delivering operational projects in the lighting control, theatre technology, and building beautification segments for architecture, tourism, museums, and entertainment.

The Specs

MDR-DIN

Four DMX/RDM outputs

Each output is electrically isolated from the input and all other outputs

RDM capability of each output port can be individually disabled for situations where equipment is not compatible with RDM signals

Splitter is discoverable by RDM

Outputs can be labelled via RDM

LSC's Houston-X monitoring and configuration system can display your network topography

LEDs for power, DMX and RDM activity

Full two-year factory warranty

LED-CV4

4 Channel x 5A constant voltage PWM dimmer

DMX input and thru connections via provided RJ45 or push-fit connectors

Dimmed outputs via push-fit connectors

Remote configuration and monitoring via Houston-X

Configuration, monitoring and software upgrades via RDM

8-bit or true 16-bit dimming per channel, set over RDM

Proprietary smoothing algorithm for stepless dimming on 8-bit control

Short-circuit protection per output with auto-reset

DMX512 addressing via front-panel encoders or via RDM

100% duty cycle rated for each output at either 12V or 24V

Two-year warranty

MY EARLY DAYS OF AUDIO PART 2

The Millicent Pop Festival

by Duncan Fry

While working at the TV station in Mount Gambier, some local lads called in to see me one day and said they were organising a pop festival in the neighbouring town of Millicent. Would I be able to help them with the publicity for it?

Ah, a pop festival. Ever since Woodstock everyone and their dog had wanted to run one of them, tempted by thoughts of easy money and non-existent expenses, as in 'we've got a field - all we have to do is mow the grass and take the money, right?'

"Who's playing there?" I asked.

"We've got some local bands and singers,"

they replied, "but you were in a band back in Melbourne, weren't you? Do you reckon you could get the band to be the headline act? It would be great if we could advertise you as a top Melbourne band on the posters."

Hmm. I wasn't sure about 'top', but we were a band, and we were from Melbourne, so that didn't seem too long a bow to draw, and I said

OK. We called ourselves the Harris Tweed Trouser Band which seemed in keeping with the trend for obscure band names at the time. Only LL the drummer actually had a pair of Harris Tweed trousers, but that didn't seem to matter.

The only problem with us playing at the festival was that Blue, our singer, had gone up to Shepparton to live and work as a teacher, and Mick the other guitarist was in Vietnam on active duty. Neither of them were in much of a position to drop everything and come on over for the day!

So we played as a power trio, LL on drums, RH on bass, with a convoy of our friends coming over for the weekend to cheer us on.





LL had some t-shirts printed up for them with the band's name on the front, and they all managed to get in in free by saying "It's OK, I'm with the band!"

The PA was handled by good old Dale Cleves, who ran the Mt Gambier Yamaha shop, and supplied some backline amps for us to use. These were the new (for then) Yamaha TA (Transistor Amp?) series, skinny odd shaped combo cabinets with very flat trapezoidal shaped speakers. I think in the U.S they called them the pyramid amps because of their tapered shape. RH the bass player got the big TA120 bass amp, and I think my trusty FuzzFace and I plugged into two of the TA60 ones.

They disappeared without trace from the Yamaha catalogue a year or so later, but now they're eagerly sought after by collectors. Hmm. Just because something is old and weird doesn't mean it's any good or a classic. Buying one at today's prices means that (a) your ears don't work properly or (b) it's God's way of telling you that you've got too much money!

I think maybe there was one of them still working by the time our set ground to a halt! Honestly they were beautifully manufactured, in true accurate Yamaha fashion, but sounded terrible, with no power in them, flabby sound, and nowhere near enough cut-through edge that was needed to play in front of a few thousand people in the open air.

Still, the crowd seemed to enjoy it, with all the hippy chicks and families with kids dancing on the grass, clapping and cheering after every song. The festival finished as soon as it got dark, so I helped pack everything up then said goodbye to my friends who had come

over and were driving back. Not all of them, though. Some of them had met up with local ladies who invited them home for the evening. Probably the least said about that the better!

After the gig, driving back to the Mount, I turned on the radio and heard us playing 'Whole Lotta Love' on the local ABC news. Wow, I thought - got to get a copy of that for the archives. The next day I woke up as dawn began to crack, hopped in the car and whizzed around to the ABC station with a blank cassette in my hand.

"Hey," I said to the tech on duty, "can I get a copy of your news story from the Millicent Pop Festival yesterday? I've got a blank cassette you can dub it onto."

He flicked through some reels of tape. "Ah - the Pop Festival... Oh, it was wiped last night!"

My eyes popped out of my head in disbelief.

"What? You've erased it already?"

He nodded and shook his head at the same time. "Mmm - yes. Sorry."

Damn - once again my 15 minutes of fame had eluded me.

Before I finish though, last month I promised there would be a special appearance by V.1, my first ex-wife. I've always had a liking for neat little gadgets, and that morning had bought a tiny cassette recorder, not much bigger than the cassette itself, from someone in the Trading Post (an early paper based version of something like Gumtree). It was Japanese, stereo, brand new, and a whole level of quality up from my original mono Philips one, which up till then was my go-to

unit for live concert recording. So my guitarist friend Ian K and I were lounging around at home (on the white shag-pile carpet!) strumming and playing acoustic guitar with my new toy on the floor recording our outpouring of talent!

V.1 entered, saw us, rolled her eyes upwards, went to head off to the kitchen, then noticed the shiny new machine on the floor.

"What's that?" she demanded, hands on hips.

"It's my new cassette recorder." I replied. "Neat, isn't it?"

"Another one?" she yelled. "You've got more cassette recorders than f***ing brains!" and flounced out of the room, glaring at us.

Ian squirmed embarrassedly and looked at his watch. "Gosh is that the time, Dunk? I'd better get going. See ya," and he dashed out the door clutching his guitar.

Oh well; if the relationship wasn't doomed after that, it certainly was after I took my Mini gearbox apart on that same shag pile carpet. Even though I laid down several issues of Saturday's Age first, somehow dark greeny black sump oil managed to soak its way through. The white carpet was now a blacker shade of pale no matter how I tried to clean it.

You may ask why I took it apart there, as indeed did V.1 (although with a lot more expletives). My explanation that it was heavy and I couldn't carry it any further didn't seem to help matters much either. Still, they say everything happens for a reason, even if you don't realise it at the time; but that's another story.

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