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- > STAYING SAFE TOGETHER
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CX Under new management!
Juliusmedia and CX sold to Jason Allen

Sydney Coliseum Theatre Reveals L-ISA Hyperreal Sound System

L-Acoustics L-ISA Updates

ADJ for ULA

MadisonAV launches, takes on Harman Installation range

TiMax TrackerD4 at Sydney's Royal Edinburgh Military Tattoo

REGULARS

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ROAD TEST

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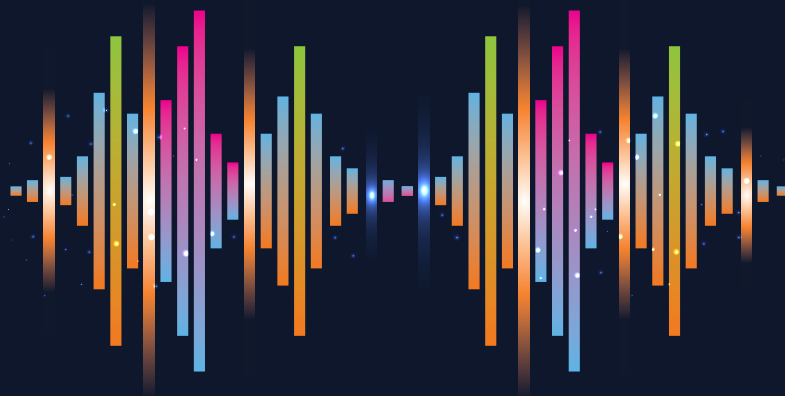


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* Cover Photo – Elton John.

* Contents Photo – Logic 2019 Tour. Photo Credit Marc Chambers

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West HQ's Sydney Coliseum Theatre Reveals World-Class Hyperreal Sound System

West HQ's Sydney Coliseum has announced a preferred supplier partnership with Jands and L-Acoustics to deliver the world-class L-ISA Hyperreal Sound System for the \$100m theatrical development, which opened 12 December 2019.

The 'hyperreal' frontal scene sound system includes a 65-speaker system that heightens a sense of proximity and connection between artist and audience creating a multi-dimensional sound experience.

L-ISA technology offers a contemporary way to design, process, mix, and experience multidimensional sound which overcomes the pitfalls of audio radiating from the "wrong" location. Accurate localisation of sound sources provides a vibrancy and immediacy lacking in live amplified audio. L-ISA matches what audiences hear to what they see, giving

listeners the sonic equivalent of direct eye contact: sound, which is clear, natural, and highly intelligible, ultimately creating a direct and deeper connection between performer and audience.

Creating a world-class theatrical venue from the ground up provided West HQ with a unique opportunity to push the boundaries of venue design and theatre technology. Set with a goal to deliver a theatrical soundscape and performance experience unlike any other, Craig McMaster, Sydney Coliseum Theatre Executive Director, and Bicci Henderson, Technical Operations Manager, knew the importance of selecting partners who could buy into that vision. After discovering the L-ISA Hyperreal Sound System and experiencing the depth and width of the sound produced, it was a clear and easy

choice.

Gerry Gavros, Brand Manager Jands said, "L-Acoustics and Jands are honoured and excited to be involved in providing the first L-ISA installation in the Southern Hemisphere to the new Sydney Coliseum Theatre. We look forward to being involved throughout the project until final calibration, and to witness the theatre come to life with Immersive Hyperreal Sound."

L-ISA technology has been deployed by high profile artists across a variety of musical styles in over 200 shows worldwide, attended by millions of people. This L-ISA announcement is the first in a series about the technical capability of what has been dubbed Sydney's next great theatre.





Robert Juliat SpotMe 3D Tracking device installed on a Cyrano followspot



Yamaha Rivaage PM10

L-Acoustics Releases L-ISA Controller v2.0, Announces New Tracking System Partners, Expands Console Partnership with Yamaha

Modulo Kinetic, Stagetracker II, Spot Me and BlackTrax are all now compatible with L-ISA's latest version for automated and/or manual object tracking

L-Acoustics has released a significant software update for its L-ISA Immersive Hyperreal Sound technology that enables users to monitor the positioning of any tracked object in a 3D view. With L-ISA Controller version 2.0, source parameters—including Pan, Width, Distance, and Elevation—can be mapped and scaled to all certified tracking systems.

In tandem with the L-ISA v2.0 update, L-Acoustics announced that it has officially collaborated with four tracking software providers whose technologies can now function within the L-ISA ecosystem. These include Modulo Pi's Modulo Kinetic, TTA's Stagetracker II, Robert Juliat's SpotMe, and CAST Software's BlackTrax Tracking Solutions.

"After delighting millions of spectators on thousands of shows around the world, L-ISA is the live event production industry's

most realistic, robust, and frequently used immersive audio solution," notes Executive Director, Creative Technologies Guillaume Le Nost. "With our latest software and recent tracking system partnerships, the incredibly natural audio reproduction of L-ISA, paired with the smooth and precise real-time tracking of visual elements on stage is guaranteed to raise the Hyperreal Sound bar even further for our audiences."

New DeskLink natively integrates L-ISA Control capability into Flagship Rivaage PM7 and PM10 mixing systems

As L-ISA technology continues to be adopted by live events like the recent Bon Iver and Mark Knopfler tours, and in permanent installations such as Sydney Coliseum, L-Acoustics is pleased to announce the expansion of console partners, adding Yamaha Professional Audio, who have co-developed an L-ISA DeskLink for their flagship Rivaage PM7 and PM10 mixing systems.

"Collaborating with the creative team of experts at Yamaha has resulted in an exceptionally sleek integration of the L-ISA

object controls into Rivaage mixing workflow. The new DeskLink is a great example of collaborative design," explains Sherif El Barbari, director of L-ISA Labs.

Within the Rivaage consoles, for every mono or stereo input channel, a direct control of L-ISA Objects or Groups will be available on the console control surface and touch screens. The five main L-ISA parameters - Pan, Width, Distance, Elevation, Aux send - will also be stored for each object in the console Scenes, with dedicated recall scope.

The L-ISA DeskLink provides a seamless workflow on two of the industry's leading consoles, allowing for immersive hyperreal mixing in a familiar environment, making adoption of L-ISA technology even easier.

"It has been a real pleasure to collaborate with the team at L-Acoustics to create a dedicated, deeply integrated and flexible user interface. As the reputation of Yamaha Rivaage PM mixing systems for outstanding sound quality and traditional Yamaha reliability continues to grow, this project will benefit our many joint customers throughout the world." comments Chris Angell, Yamaha Pro Audio R&D. The Yamaha Rivaage with L-ISA DeskLink will be available early 2020 and on display for hands-on discovery at Prolight & Sound in L-Acoustics demo room Symmetrie 2+3.

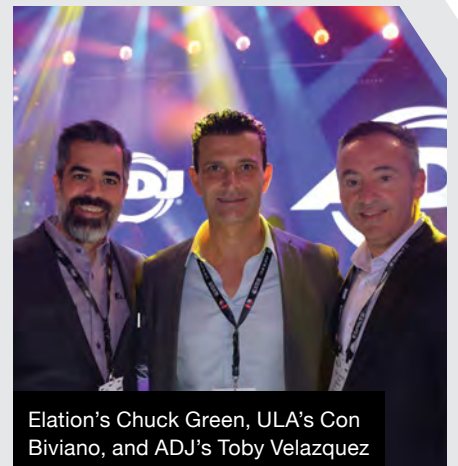
ADJ for ULA Group

ULA Group have taken distribution of ADJ (American DJ) lighting products, and used the LDI 2019 show to introduce their customers to the range. ADJ launched a large range of products at the show, including the Hydro Series IP65-rated moving head wash, and a high power moving head beam fixture, as well as LED-powered follow spots and strobe fixtures.

Starting in 1985 as a supplier of lighting products to mobile entertainers, the Los Angeles, California-based ADJ Group has grown into a diversified global enterprise that

includes five successful companies: American DJ, Elation Professional Lighting, Acclaim Lighting, American Audio and Global Truss. Collectively, these companies provide lighting, audio and staging products for nightclubs, discos, mobile entertainers, bands, concert tours, theatre productions, TV shows, cruise ships, churches, trade shows, architectural applications and more.

The move from Australis to ULA Group has come soon after the announcement in August 2019 of ULA's distributorship of ADJ Group's Elation Professional Lighting brand, and follows the current trend of consolidation of lighting products in Australia and New Zealand.



Elation's Chuck Green, ULA's Con Biviano, and ADJ's Toby Velazquez

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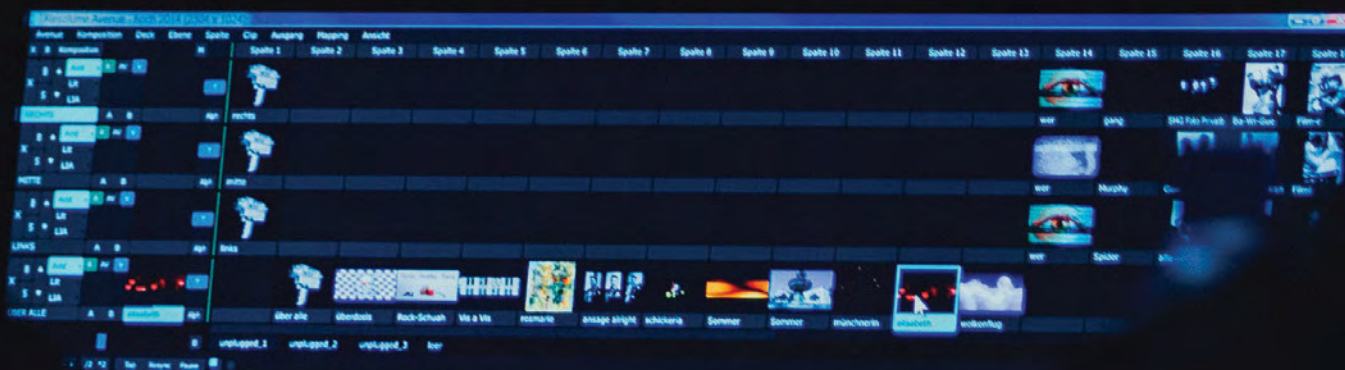
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- ▶ The tm stagetec systems Glensound Prize Pack includes: The new Glensound DIVINE, a PoE powered network audio loudspeaker featuring 4 selectable audio inputs with auto functions. It is Dante/AES67 compliant and boasts the latest low noise, high output class D power amplifier. Plus, an AoIP22 two channel, bi-directional audio interface. It's designed to easily interface existing analogue equipment to Dante/AES67 network audio systems. Designed for OB, theatre and location applications.

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DJ POWER R-7 CONFETTI GUN PRIZE PACK

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- ▶ The five-output electric confetti gun uses compressed air as power, safe and pollution-free, with LED flashing lighting in the tube centre. Extremely eye-catching! The DJ Power R-7 Confetti Gun Prize Pack also includes a 3x Confetti Cartridge Set.

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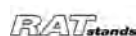


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ENTECH 2020 EXHIBITORS





Ramesh Jayaraman, VP & GM, APAC and David Redfern, Managing Director of Madison Technologies

Madison Technologies rebrands AV division, appointed as HARMAN Professional Solutions Distributor for AMX and Install Products in Australia

“Welcome to MadisonAV Specialised Audio Visual Solutions,” says Ken Kyle, CEO of the newly minted MadisonAV.

“As the dedicated Broadcast and Audio Visual business within Madison Technologies, we’ve been here for some 28 years. Our specialist AV business grew organically into a strong product portfolio backed with great expertise around passive AV infrastructure solutions, including cables, connectors and patching systems. Further growth saw us expand beyond the passive products, adding a host of world leading and complimentary brands, to become a value-added distributor of complete AV solutions. We established office and warehouse facilities across Australia, staffed by specialists, with a ‘make it happen’ ethos and attitude that has enhanced our reputation for great service and support.”

“Now, all these years later, the journey continues, and in response to feedback from our customer and supplier partners, a new name is born and the business is redefined again. MadisonAV was launched with the purpose of creating a stand-alone 100% focused Audio-Visual products and solutions

provider. Remaining part of the Madison Group allows us to better service our partners now through a dedicated business, a stand-alone website, more specialist staff and an expanded product range.

Our technical expertise, combined with the quality and breadth of our product range, allows us to work with you as your trusted AV solutions provider. We invest time, effort and knowledge to understand your needs and tailor the right solution. As we value relationships, we provide support beyond expectation, ensuring you always get what you need, when you need it. We look forward to working with you in this next exciting chapter of our history.”

And as an opener, MadisonAV announced in early January they are the newly appointed distributor of AMX, SVSI, and install ranges of AKG, BSS, Crown and JBL Professional in Australia. This will offer customers a single interface across HARMAN’s wide range of video controls and install audio solutions.

“HARMAN Professional Audio Brands and Solutions are renowned for their world class quality and technological superiority,” said Ken Kyle. “We understand our customers’ need for world class products and solutions along with reliable after sales service support. With our hands-on experience and coverage in the Australia market, we are excited to bring HARMAN Professional Video, Install Audio and Integrated Solutions to our customers and elevate their experiences.”

Support, warranty and repair of AMX Video Control and Install Audio Portfolio of JBL Professional, AKG, BSS, and Crown products in Australia will transition to MadisonAV. Warranty terms and inclusions will not be affected.

For information on sales or support of HARMAN Professional Solutions products in Australia, contact MadisonAV on 1800 436 378 or at connect@MadisonAV.com.au and HARMAN at HPro.APAC@harman.com



MadisonAV appointed the Australian distributor of HARMAN Professional Solutions.

Madison Technologies Broadcast and AV Business, re-branded as MadisonAV, part of the Madison Technologies group, now proudly distributing HARMAN Professional Solutions - AMX Video Control and Install Audio Portfolio of JBL Professional, AKG, BSS and Crown.

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TiMax TrackerD4 enhances the audio for Sydney's super-sized Royal Edinburgh Military Tattoo

Following the successful integration of the largest TiMax TrackerD4 system to date into the TiMax SoundHub-driven spatial audio reinforcement system of The Royal Edinburgh Military Tattoo, the sound and logistical teams behind the event have also introduced its precision stagetracking capabilities during its recent events in Sydney.

Staged in the ANZ Olympic Stadium, the four 'super-sized' shows performed to a Sydney audience showcased the Tattoo's biggest ever cast – totalling over 1500 international performers. The event was scaled up at every level to accommodate a smaller number of shows in a much larger arena.

With innovation at the heart of The Royal Edinburgh Military Tattoo the production team are constantly looking at ways to streamline or improve all aspects of the show including sound and logistics. As the event is a uniquely complex orchestration of a continuously moving cast of over 1000 musicians in Edinburgh, it is vital for the team to introduce the latest technology to manage this.

The ANZ stadium presented a big step up for the team behind the Tattoo and therefore a new challenge with sound. Sound designer Seb Frost explains that this event was far bigger than anything previously attempted. "We pushed the TiMax TrackerD4 system to the limits of its current capabilities because the distance involved was so extreme." For perspective the entire Edinburgh Castle site would fit onto the field of the stadium.

A base performance area of 70 by 100 metres was punctuated by sixteen TiMax TrackerD4 sensors positioned on poles attached to the field of play loudspeakers. The pre-installed house speaker system supplemented the on-field loudspeaker system and helped to cover the upper levels of the stadium seating. Two hundred loudspeakers in total were fed by 52 TiMax audio feeds to make the entire system object-capable for spatial audio mixing.

Ninety channels of radio microphones as well as 260 IEMs, which were essential due to the acoustics of the vast stadium, and 48 TTd4 tracker tags were rotated every four to five minutes through the differing size sets of performers.

With almost one kilometre of service road linking the performers' entry and exit points, a team of eight people on the ground, plus two buggy drivers, orchestrated the complex swapping process of microphones, IEMs and TTd4 tracker tags – to the tune of 1,600 swap configurations. Seb interjects, "...the new recipient of a tracker tag did not usually get the same microphone so that added an extra level of complication."



In previous years, before the luxury of a tracking system, Frost would film rehearsals and manually plot starting positions and trajectories to create the sound images to be recreated in the loudspeaker system. This year however, Frost enthuses, "...having just completed Edinburgh using the TiMax TrackerD4 system, I was in a fairly enlightened position to start with, knowing I didn't need to worry about where the performers were going to be within the show. I could just put microphones and tracker tags on them and get going to make the audio sound good."

Speaking about the introduction of the new technology Chief Executive and Producer of The Royal Edinburgh Military Tattoo Brigadier David Allfrey said "The Royal Edinburgh Military Tattoo has developed and sustained a loyal and growing audience for nearly 70 years. During this time, we have been proud to constantly evolve, innovate and exceed audience expectations.

"With innovation at the heart of what we do, our talented team are always searching for new technologies to transform the way we put on each Tattoo performance. Working with the TiMax TrackerD4 System is just one such way we have used technology to streamline the production of the show and give audiences an unforgettable experience."

The sound team in Sydney comprised Andy Marsh and his excellent team from Norwest plus, from the UK, Seb Frost and his programmer Tom Asley working closely with the rest of the production team. Between them they handled the set up and configuration of the new TiMax TrackerD4 system and Seb insists, "...it went remarkably smoothly, and it was straightforward to do. I used the TiMax SoundHub auto calculate function that I'd helped instigate on the Tattoo a couple of years ago and that was very useful, especially to incorporate the house system."

In conclusion, Frost adds, "The TiMax TrackerD4 system was simple to use and the event went well, exactly as I intended it to. It proved the stability and the concept and the system."



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JULIUSMEDIA + CX MAGAZINE SOLD

Exit Julius Grafton, enter Jason Allen

One of the longest continuous publishing era of any entertainment technology media company anywhere ended January 1st 2020 with the sale of Juliusmedia, CX Magazine, and CX NZ to Jason Allen's VCS Creative Publishing Pty Ltd.

Publisher and owner Julius Grafton commenced publishing in 1990 with the Jands company magazine Channels. In 1993 the independent magazine Connections emerged changing the name to CX in 2003. Over 29 years Grafton has published 309 issues containing 22,966 pages and 6,889,800 words. Some were misspelled.

The sale was effective on January 1st, 2020 with all subscriptions, advertising, and contributors now transacting with VCS Creative Publishing Pty Ltd. The price was not disclosed but Grafton said it was less than a Rolls Royce and more than a Ford Focus. Readers and clients of Juliusmedia Group Pty Ltd will notice low to no real difference in this first edition of 2020.

Jason Allen has edited CX and the media output of Juliusmedia Group since January 2018 with little input from the publisher. Julius Grafton owns and operates ENTECH Roadshow (Australia and New Zealand), Julius Partners Advisory, and is a partner in SECTECH Roadshow and House of Soul Australia representing 'Hindley Street Country

Club'. These businesses will continue under his ownership.

Commenting on the sale, Grafton said "Jason is several decades younger than me, and is at least ninety eight percent smarter! He has a modern media mind and better technical assimilation than I do."

"He has a strange knack for diplomacy and his enthusiasm and commitment to these quality media assets meant there was no one else more qualified to take over the group. I know it will evolve with the times and carry on with the things that I championed - better production values, advocacy for people working in the industry, show safety, and transparent fearless journalism."

"I started reading Connections back in 1993," commented Jason Allen, "and it's always been there, educating and entertaining me on my journey through the industry. When I left my role in management with a distributor to start my own business seven years ago, Juliusmedia went from being one of my suppliers to one of my first customers, and rapidly became my best. My working

relationship with Julius thrived, and I found myself going from contributing articles to writing and directing a web TV show, which somehow led me to being on camera, in character, in a silly wig. When Julius appointed me editor back in 2018, I happily took on the task, and have been seriously enjoying the totally free reign I was given to transform the business."

Jason is dedicated to protecting the legacy of 29 years of publishing, while expanding and improving the magazine into the next decades. He looks forward to continuing the strong working relationship he has already built with the readership, the magazine's contributors, and its advertisers, who, he is reliably informed by Julius, must now be taken out to dinner somewhere nice.

Juliusmedia Group Pty Ltd will terminate trading following the orderly transition of all media assets to VCS Creative Publishing Pty Ltd. Long serving Juliusmedia business manager Steve James will assist with the transition and then work full time on the various Juliusmedia Events entities like ENTECH, SECTECH and ENTECH NZ.

Contact:

VCS Creative Publishing Pty Ltd
PO Box 1045
Ascot Vale, VIC, 3032

Phone: 0407 735 920

Email: jason@vcscreative.com

Contact details for Juliusmedia remain unchanged.

29 YEARS OF PUBLISHING JUST ENDED

Juliusmedia and CX sold to Jason Allen
by Julius Grafton



Julius Grafton

When I was but 10 years old, I published my own newspaper! The Balmain and Darlinghurst Eye was a kids-eye view of the monochromatic dirty streets of those slums in the 60s, where cut-throat razors were sharp and where American G.I.s on R&R breaks roamed both drunk and high on LSD. We lived in a hovel next to a brothel, the almost destitute children of estranged artists whose English heritage dictated that children should be seen and not heard.

My school commissioned me to publish a school newspaper, The Crown. Sounds regal but so named as the school was Crown Street Public, and I was in Year 6. The Principal and I went around the corner to 179 Campbell street and sat in the office of Mr. Papadopolous, publisher of the Greek Weekly to negotiate a print run of 500 copies. I was in the big time!

Fast forward to when I was expelled from Vaucluse Boys High School. I ended up at News Limited, as a Copy Boy, aged 15. It was the pathway to a cadet journalist gig. I worked on the long redundant afternoon tabloid, The Daily Mirror.

The daily life at the Mirror went like this: morning shift started at 5 AM. First edition went to press at 9.15 AM, and the reporters all retired to the pub for a few. Refuelled they would work up the Final Edition by 11.30, and the Late Final Extra by 1 PM. If some manure hit the fan somewhere they would keep going. The 'Stop Press!' bell had everyone in the

building (except the denizens of mahogany row) on high alert. It happened infrequently because it added a lot of cost to the operation.

It was amazing how fast the whole thing came together, and it instilled a value that I hold dear today. 'The Show Must Go On' came later when I branched off into lighting. Adding on the 'Just Do It Now' ethos of that newspaper gave me a real drive for deadlines.

The pathway to cadet involved a period of character building in the Sports Department where some serious hazing went on. I watched with looming terror the soul destruction dished out on senior copy boys to break them or make them. The survivors inevitably became cadets, tasked to the obituary desk or on secondment to the gardening page.

Rock and Roll beckoned, and I quit the newspaper, registering Zapco Lightshow on March 1, 1973. I was off and running, doing psychedelic lightshows, lighting bands,

theatre, fashion parades and one memorable Easter Show working alongside Tommy The Sea Lion! He had a bad attitude - and bad breath. I kept well clear; wiping the fish entrails off my cables every night.

Return To The Typewriter

Late 1970s I was running Barratt Lighting for the late and great Roger Barratt. We were on a roll distributing lighting equipment built next door to our Chippendale warehouse by Richard White who ran Rock Industries. Today Richard is the CEO of Wisetech Global, an 8-billion-dollar software company around the corner from Jands in Sydney. He also just happens to own a large non-controlling pile of Jands shares.

Starting with winchup stands and box truss, we made and sold Par 64 cans, downsized and launched the Par 56 as a stage light, Pin Beams, Raylights, and some problematic spinning disco effects. Sales of all this stuff took off in 1980, and I started writing a page called 'SHINE ON' for the industry magazine called Sonics. It wasn't very good, but neither was Sonics by that time.

After four years of touring production I opened Graftons Sound and Lighting and ironically one of our two warehouses on Campbell Street Surry Hills was the former printery of Greek Weekly! I published a lot of Graftons company newsletters; it was a business built on the best marketing techniques I knew.

In 1989 I 'retired' burnt out, had a sabbatical out under a mountain near Bathurst and built a family log cabin. Winter 1990 I was doing sound for a band from out west who won a place in the Yamaha Band Competition and we did the rehearsals at Selina's on a Saturday afternoon. With time to kill, on a whim I went to a music equipment tradeshow at the old

Sydney Showgrounds and ran into Peter Tzwart from Jands.

He said that by chance he had just been talking about me with Paul Mulholland, the Jands CEO who in turn had a conversation with Phil Tripp, the top music industry publicist at that time. Tripp had said Jands had so much going on they should publish their own magazine. Paul liked the idea, Peter said he should find and talk to me. And then I walked up.

So that's how the fibres of an idea knit together. I was highly interested and enthusiastic and hounded Paul until he hired me on contract to publish a Jands company magazine. It was called Channels, and over two years it became a monster, growing from 8 black and white pages, to 64 pages with some in full colour. The tide turned when I started selling advertising - to Jands competitors. Paul was all for it, some in Jands were not.

Channels got too big for a company magazine and I approached Paul to negotiate an exit to publish my own magazine. He embraced the idea, which was a massive relief, and sold me the mailing list from Channels so we had a running start.

Magazine Publishing

Connections first appeared in February 1993 as a monthly magazine and it took off. We were running \$60,000 worth of ads each edition and almost every importer and distributor in the business was on board. Pretty soon the seed was sown for ENTECH which came along in October 1994, a large format three-day tradeshow.

Connections grew and grew. It was a partnership between my then wife Caroline, who sold the adverts, and myself running

editorial. It was labour intensive as we were in the first generation of desktop publishing and needed every photo scanned to film. The four colour printing of the time also needed film - four sets, one for Cyan, one for Magenta, Yellow and Black - CMYK. From film the printer then produced four plates.

Email and the world wide web came along and things changed for the better. Desktop scanners became more affordable, but those mid 1990s provided a lot of technical challenges. One of them was file transfers - we would load the files onto a Jazz drive and later a Magneto Optical cartridge, and drive them across town to the reprographics house.

Those guys transformed our Pagemaker files into plate-ready film; which took about 3 working days and cost north of \$7,000 an edition. The printer then made plates and ran the presses for 10,000 copies. We trucked 7,000 to a newsagent distributor, and then bulk mailed 3,000 to our subscribers. It was VERY expensive.

To get the time cycle down we did our own mail bagging and sorting the very same day (night) of delivery from the printer. 75 cartons of magazines, almost a tonne, were bagged each in a recyclable paper mailing bag and usually we added an insert of some kind. The mail labels were in postcode ranges, and the postcode sort that Australia Post required was complicated. Each postcode region had a separate regulation Australia Post tub.

The bagging and sorting was done by a crew controlled by our dear friend Ruth McKinnon. She would rope in six or seven people, we would pay them all and stop for pizza half way through the process, which often finished after 10 PM.

Next morning I'd load all the tubs into a rental van and drive them to the Australia Post

depot, where time consuming paperwork would be done and an eye-watering payment made. 'Print Post' was relatively fast in that ancient era, compared to the snail mail our magazine endures today.

The printer would return the film sets to us, and our advertising art co-ordinator Sharon Miceli would strip out all the adverts so we could re-use them to save the advertiser the cost of film duplication if they wanted to repeat an advert.

I was doing most of the layout using Pagemaker on the Mac, and then had Cat Strom do her own layouts for the Lighting section. We worked well together. In the office we had a bookkeeper three days a week, an office manager, junior, the advertising art co-ordinator, and a cadet journalist. It was hard work.

CX Is Born

Once year 2000 came along everything changed as the partnership broke down. Cat Strom also left. Caroline sold out to me, and I took on the advertising sales for a few years until Steve James came along. In 2002 we rebranded as CX Magazine and changed the frequency to bi-monthly. This was because I was consumed in the horrendously complicated world of running a Registered Training Organisation, which seemed like a good idea at the time.

The demand was there to lift the frequency to eight times yearly, which meant a magazine every 6 weeks, which is clunky. The printing firm bought a 'digital direct' press so we could skip the film reprographics process which cut three days out of the production cycle. The newsagent distributors got lazy and inflexible and Australia Post kept changing the rules with Print Post.



First edition of Channels. Wrong date, was actually Dec 1990!



Final edition of Channels



A bumped edition of Connections, 1996



Graftons - 183 Campbell St Surry Hills 1985

Seizing on the three day time saved, we ditched the DIY mail bagging and sent the work to a mailing house which sometimes took longer than contracted. One memorable month, we tried a sheltered workshop (so called at the time) and not only was the mailing delayed a week but readers were calling to report food remnants - like hundreds-and-thousands, from a frosted donut - were in the bags!

In 2004 I sold ENTECH to ETF, investing the money back into the college.

Though the mid 2000s CX struggled as I was so distracted by the college. It burned me up to have my passion for media dampened by the horrors of accredited training compliance. Eventually the college fizzled out and I did an orderly shutdown at the end of 2010. Moving in to new premises at Chatswood, I found myself emotionally depleted and exhausted in January 2011. To get the February edition up, I had to find the edge again. The college had sent me personally broke, I had a crappy second hand car, a marriage in trouble, two boys and two dogs to feed. I was depressed, and I don't do depressed.

Jimmy Den Ouden and Steve James rallied around me and lifted me up. The mag was back to monthly. I took a cheap Jetstar flight at 6 AM to Melbourne to visit my neglected advertising clients. Peter Trojkovic and Graeme Stevenson in particular both encouraged and backed me, as did others. I was back! Cat Strom returned and added her unique angle to our media. Things slowly got better. Graeme suggested the concept which would become CX Summer Roadshow, and I started planning that for February 2012.

The roadshow took off, then in 2013 my third marriage collapsed and I had to go rent somewhere which led me back to a very different Balmain. Late that year I got prostate cancer. After having that removed and getting a clean bill of health I met Kate in 2014, and things literally accelerated.

In 2015 I bought ENTECH back from ETF for 1.5c in the dollar, rebranded the roadshow, added another one called SECTECH (a partnership). And CX found an editor in early 2018 when Jason Allen took on the challenge.

Juliusmedia Sells to Jason

Given total autonomy over the media in 2018, by the end of 2019 I wanted out so I sold the business to Jason. The deal was inked in January so he could commence his new media company with the February edition of CX. You're reading this in his pages. I'm out.

Kate and I are busy with ENTECH in Australia and NZ, and SECTECH. I run my advisory firm, Julius Partners, which led me to Carmen Figueroa and House of Soul Australia. Rather than advise her, I liked it so much I partnered up, and then we were asked to promote Hindley Street Country Club in NSW. That arrangement has expanded, so the music promoter part of our business is quite time consuming.

I'm still around. Jason may use some of my articles from time to time, and reject some as he has already been doing. I know Juliusmedia and CX Magazine are in the best of hands. Jason is passionate, he has a great media and marketing mind, and indeed a brilliant brain.

I hope he does incredibly well, and I know he already works insane hours on this media.

Reflecting back over almost 30 years of publishing is not a sentimental journey. I loved most of it, sometimes I made bad calls and picked the wrong fights. I grew so much through all this. My passion for the common man and social equity found a great outlet and I'm sure that I helped lift professional standards in our industry. CX always cared about show safety.

The Juliusmedia website was rebuilt by Jason at the end of 2019 and it now has almost all our back issues indexed so you can search thousands of articles and millions of words.

I'd like to pay tribute to Caroline Grafton (RIP) without whom this media would not have happened. Special thanks to Paul Mulholland at Jands for the turbo start, Cat Strom for so many years of collegial support and work, and Steve James for keeping it all together through thick and thin. Andy McKenzie and John Grimshaw both edited the magazine at different and difficult times. Every reader and advertiser who've been in the journey: thank you.

Media in 2020 is not easy, but it is needed more than ever. Disinformation can be so easily propagated. This is the place you'll continue to find carefully curated truth, managed by professionals.

You are in the best of hands.



Hitachi Ultra Slim Interactive Flat Panel Displays

Hitachi's new range of panels are available in 55", 65", 75" & 86" sizes. Each has up to 20 points of simultaneous touch, bright LED anti-glare screens, wide viewing angle, and a powerful built-in sound bar. They include a LAN port and RS232 for control, OPS slot, magnetic stylus pens, and front HDMI and USB inputs. They also enable screen mirroring, annotation and whiteboard features.

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

Apogee Symphony Desktop 10x14 Audio Interface

The Symphony Desktop blends the professional-grade performance of Symphony I/O Mk II with the simplicity and portability of the iconic Apogee Duet to deliver an excellent desktop audio interface. Featuring 24 bit / 192kHz AD/DA conversion, Stepped Gain mic preamps and 10 IN x 14 OUT simultaneous channels, the Symphony Desktop also comes with multiple analogue inputs and outputs and plenty of onboard FX, EQ and emulation. A dynamic touch-screen interface with single knob control accesses hardware DSP with Apogee FX plugins and mic pre modelling. Symphony Desktop is ideal for the discerning professional artist, producer and engineer looking to give their studio the Apogee advantage.

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New Zealand: Amber Technology www.amber.co.nz/ or +64 (0)9 443 0753**



NEW GEAR

DiGiCo Quantum 5

Quantum 5 expands the DiGiCo SD5 mixing console to over 450 channels of processing at 96kHz. Using 37 faders and three 15-inch full colour TFT touchscreens, it includes up to 256 input channels with up to 128 busses and a 36 x 36 matrix. Using the Quantum engine's unique parallel seventh generation FGPA processors, this console supports multiple processing options and can be expanded with insertable processors, all tastily named Chili, Mustard and the Spice Rack.

DiGiCo Quantum 338

Quantum 338 includes 128 input channels with 64 busses and a 24 x 24 matrix, all with full channel processing. Featuring dark mode application and three 17-inch 1000 nit, high brightness, multitouch screens, 70 individual TFT channel displays and the floating Quantum chassis features, this console has 38 x 100mm touch sensitive faders laid out in three blocks of 12, plus 2 dedicated user-assignable faders. Mustard Processing, Spice Rack, Nodal Processing and True Solo add to the Quantum features available.

DiGiCo Klang

The DMI-KLANG is an immersive in-ear mixing expansion for mounting directly into DiGiCo consoles' DMI slots. Allowing immersive mixes of 64 inputs for 16 musicians, the DMI-KLANG routes at low latency via the consoles' internal audio stream adding any channel to the monitor mix without extra I/O or hardware. Monitor engineers can stay in their usual mixing workflow, use snapshots, faders and knobs, but with all the benefits of immersive in-ear mixing. The low listening levels make it perfect for touring monitors or spatial mixing for recording studio sessions.

Australia and New Zealand: Group Technologies grouptechnologies.com.au or +61 (03) 9354 9133



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Epson EH-LS500B

Epson's latest ultra-short-throw laser projector, the EH-LS500B, is a powerful big-screen TV alternative. It accepts 4K content and reproduces bright and vivid images at a 1080p panel using a 4,000lm laser projector. The EH-LS500B can project a 100-inch image with just 62cm distance from lens, ideal for tight spaces. Moving the projector further out allows up to 130-inch projections. EH-LS500B comes with HDR10/HLG and Dynamic contrast ratio of up to 2,500,000:1 ensuring quality 4K experience. The projector also has 10W x 2 sound speakers built in.

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



Event Lighting PAR9X150

The Event Lighting PAR9X150 is a new static PAR fixture featuring 9 x 15W RGBW LEDs and a 25 degree beam angle. It has an IP65 rated die-cast aluminium housing which is fanless and has the ability to install a WDMX module (WDMXTRXII). A road case (PAR9CASE) is also available to suit 6 fixtures with 100mm tall clamps fitted. Consuming 150W of power and outputting 22,500 lux at 2m, this versatile PAR is good for 50,000 hours.

Australia and New Zealand: **EVENTEC**
www.eventec.com.au or +61 (0)9 9897 307

L-Acoustics LA-RAK II AVB

LA-RAK II AVB is a flyable touring rack, encasing twelve channels of amplification in a 9 U frame. Three Milan-certified LA12X amplified controllers, two LS10 AVB switches and power and signal distribution panels are internally prewired to offer plug-and-play, reliable and redundant networked audio. The switches offer seamless dual network redundancy and the AVB links signal through from console to amplifier.

Australia and New Zealand: **Jands**
www.jands.com.au or 02 9582 0909



L-Acoustics Kara II

Kara II modular line source cabinets showcase the addition of Panflex, which gives Kara boxes four-in-one directivity to cover any audience geometry. Kara II morphs to fit any design, offering consistent coverage and SPL distribution with precise focus in four different directivity patterns: 70° or 110° symmetrical and 90° asymmetrical, steering to either the left or right. In its 70° configuration, Kara II packs a full 2 dB more than in 110° with maximum SPL at 142dB.



Martin ERA 400 Performance CLD

Martin's ERA 400 Performance CLD moving head profile uses a highly efficient 300W cold white LED engine that produces a bright, sharp 6,500K gobo projection with a flat field. Features include: 1:3 zoom, electronic dimming and strobe, full CMY colour mixing and separate colour wheel, iris for beam adjustment and fixed and rotating gobo wheels, and a full curtain framing system. The entire system can also rotate through a full 90 degrees.

Australia: Show Technology
www.showtech.com.au or (02) 9748 1122
New Zealand: Show Technology
www.showtech.com.au or (09) 869 329



LD Systems ICOA Range

ICOA15A & ICOA12A are active 15" & 12" full range coaxial loudspeakers. The CD horn loaded into the woofers can be rotated through 90 degrees. 4 DSP pre-sets, or 3-band EQ combine with an integrated Class-D amplifier with 1200 W peak power (300W RMS). Ideal for musicians, bands, entertainers, and dance schools.

Australia: AVE www.avecorp.com.au
 or (03) 9706 5325
New Zealand: Direct Imports
directimports.co.nz or (06) 873 0129

GEAR

EV EVOLVE 30M compact column loudspeaker

EV's 30M speaker array comprises a 6-speaker array of 2.8-inch neodymium drivers and a powered 10-inch subwoofer, with 2-piece pole connector. 8-channel digital mixer, studio-quality onboard effects, and remote control of all audio, effects and mix functions via a mobile application keep it friendly. A class-D amplifier provides up to 1000 W of output power: 500 W to the subwoofer and 500 W to the column array.



EV PXM-12MP floor monitor

The PXM-12MP coaxial floor monitor uses a two-channel Class-D 700 W amplifier to drive 12-inch LF and 1.75-inch HF transducers and it has 90° x 90° coverage pattern. 2 XLR/TRS combo mic/line inputs, phantom power, a stereo RCA AUX input, and an XLR THRU input for distribution. An XLR MIXOUT output allows the cabinet to act as a basic three-channel mixer that can send the mix to another loudspeaker.

Australia: Bosch
www.boschcommunications.com.au or 1300 026 724
New Zealand: Midwich New Zealand
www.midwich.co.nz or 0800 947 336



JBL IRX Series portable PA speakers

The IRX Series of portable PA loudspeakers includes the IRX108BT, which features an 8-inch woofer, and the IRX112BT, which features a 12-inch woofer. With Bluetooth audio streaming for input or pairing, a highly efficient 1,300-Watt amplifier and four custom EQ presets, these units are ready to go. Two combination XLR/TRS inputs and an integrated pole mount add to their lightweight, ergonomic design for road readiness.

Australia: CMI Audio www.cmi.com.au
 or (03) 9315 2244
New Zealand: JPRO www.jpro.co.nz
 or (09) 275 8710

NEW GEAR



Mackie SRM V-Class Series

Mackie's new SRM V-Class speakers all feature wooden construction for ruggedness, a 2,000W Class D amplifier for punch, and a 1.4-inch HF driver for flat response. The universal power supply (100 to 240 VAC) includes Power Factor Correction for stability and built in DSP for clarity. All SRM210 V-Class, SRM212 V-Class, SRM215 V-Class come with wireless linking, 4 channel digital mixer and have all the usual road friendly mounting options.

Australia: Amber Technology
www.ambertech.com.au or 1800 251 367

New Zealand: Amber Technology
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Pioneer DJ DJM-V10

The DJM-V10 is a 6 channel DJ mixer designed for innovative DJs. With 4-band EQ. Dedicated high/low pass filter and compressor knobs on each channel give full creative freedom. Use 3-band master isolator knobs and Beat FX to contour the whole mix. Send and return to internal or external FX and route back to the original channel or straight to the master. Multi I/O for your devices and dual headphone outs with booth EQ adjustment for your ears.

Australia and New Zealand: Jands
www.jands.com.au or 02 9582 0909



AKG K361-BT

K361-BT are foldable over-ear, closed-back studio headphones. They offer connectivity via traditional wired or wireless with Bluetooth 5.0 and the built-in mic offers 2-way communications. Precision engineered 50mm drivers and copper coils deliver frequency response from 15 Hz to 28 kHz with a sensitivity of 114dB. At 215 grams and with 40 hours of battery life, here pro sound meets plush comfort.

AKG K371-BT

K371-BT are professional studio headphones that deliver deep bass and epic highs. Engineered to match AKG's Reference Response acoustic targets, the K371-BT's titanium coated 50mm drivers and OFC coils impart frequency response over a range of 5 Hz to 40 kHz at 114dB sensitivity. Traditional wired or wireless with Bluetooth 5.0 connectivity and built in mic offering 2-way communications. Swivelling earcups provide comfort and a mere 224 grams give studio quality sound that will keep your ears happy for hours.

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The 2-In / 2-Out SSL 2 dedicated audio interface has two classic analogue mic preamps together with pristine 24-bit/192kHz conversion. It's USB-powered and includes class-leading mic preamps, legacy 4K analogue enhancement mode inspired by classic SSL consoles, studio-quality monitoring, and an SSL Production Pack software bundle. The SSL2+ feature set builds in a production hub for those wanting to collaborate, with an additional headphone output with independent monitor mix, MIDI I/O, and additional un-balanced outputs for DJ Mixers.

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Robe Moves the Mountain at Masada

Photo Credit: Breeze Creative

Robe equipment is known for its toughness, reliability and robust build quality, and that's exactly why it was chosen to be part of a new permanent multimedia spectacular, *From Dusk to Dawn*, which is projected onto the western slope of Masada Mountain near the Dead Sea in Israel.

The area is extremely special and is operated by Israel Nature and Parks, a government organisation that manages nature reserves and national parks across the country. This beautiful – although somewhat inhospitable – environment is also a UNESCO designated World Heritage Site. The municipality of Arad, the nearest large town to the site, is also involved in promoting both tourism and conversation.

Robe BMFL Blades and IP rated Robe ColorStrobes are now a main part of the light show designed by Eran Klein and Ben Alon from Cochavi & Klein light architects which supports the new large format (approx. 120 metres wide and 60 metres high) video images which are mapped onto the mountain's rugged terrain.

The lighting supports the moving images and the narrative as it covers this vast canvas with a series of special lighting and effects, complete with a dramatic soundtrack by Shlomo Gronich, telling the gripping story and history of the Mountain.

There had been a light and sound show onto the mountain for over 30 years, but with the march of time and technology plus people's rising expectations, it was time to modernise and present something for a new generation! The recent revamp has taken the whole

Masada cultural pilgrimage to a new level of experience and excitement.

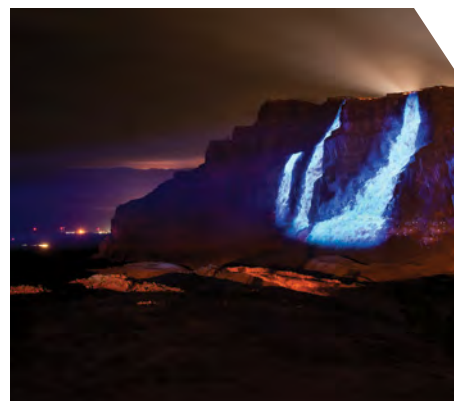
The design and production were delivered by Breeze Creative, directed by Oded Avraham with script and song-writing by Oren Neeman. The new lighting kit has been supplied by Danor Theatre and Studio Systems from Hod Hashron who were involved in the original lighting installation and supported the show since 1986.

Eran is one of Israel's foremost LDs, well-known for his innovative work on live events and large dance extravaganzas, and both he and Ben Genislaw, Breeze Creative's project manager, and their CEO Sagi Yehezkel approached Danor's Erez Hadar to discuss how to approach the whole concept.

Eran produced a rider of kit that he wanted to use, and Robe was seen early as a good choice. Between all of them, a full lighting spec emerged. Once that stage was completed, they looked at where kit had to be located around the site to get the optimal effects needed to work in conjunction with the high-powered projections.

The five BMFL Blades are housed inside weather domes and additionally enclosed in weatherised hides which are closed and sealed when not in use. The eight ColorStrobes are built into two banks of four, partially protected by a permanent wind shield cover across the back.

These 13 fixtures replace more than three times the number of generics in the last installation and are more powerful, flexible and effective ... and draw considerably less power! "All round they are an excellent option," confirms Erez.



They are all painted in RAL 1001 'officially beige' but essentially a sandy desert colour to blend into the environment.

All the fixtures are synched to the multimedia playback machine for the show, including the four 25K projectors, and the implantation naturally had to be rock-solid, reliable and built to stay in place and keep working for at least 10 years.

The lighting console is a Compulite Vector and the lights are controlled via an Enttec DMX system. The distances between the moving lights and the control are around 500 metres.

The onsite show programming took four nights leading up to the first screening, after which there was some fine-tuning to accommodate some small edits in the movie.

The BMFLs play a key role in framing the video images and creating special effects and texturing onto the mountain all around them, while the power and richness of the ColorStrobes illuminate the rough, dark and hugely tricky surface of the mountain extremely well.

Arad, the nearest town to Masada is also benefiting from increased domestic visitors and international tourists arriving to check out the new presentation and spend time admiring the desolate exquisiteness of Masada and the Dead Sea.

The 50-minute *From Dusk to Dawn* show plays every week of the year after sunset on Tuesdays and Thursdays ... with private viewings arrangeable by request.

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EXPERIENCE AVANTIS AT THE
ENTECH
ROADSHOW

The forest boardwalk leads visitors to the Dark Mofo site. Photo Courtesy of Chris Watson



Hrafn: Conversations with Odin

Novatech deploys Syva to take immersive sound installation to a mind-blowing level at Dark Mofo

Project X is a program of contemporary artworks, events, and activations designed to bring visitors to the Tasmanian Huon Valley region after the wide-spread destructive bushfires over the 2018–2019 summer period. Project X is presented by DarkLab, the team behind the Museum of Old and New Art’s winter solstice festival Dark Mofo, with federal and state government support.

The music and arts festival takes place annually in Tasmania and is one of the most unique winter festivals in the world, featuring big-ticket music shows and large-scale public art. During Dark Mofo in 2019, DarkLab revealed a brand-new immersive sound work by renowned composer and sound recordist Chris Watson called Hrafn: Conversations with Odin. Co-presented by The Wired Lab, it employed a spatialised multi-channel L-Acoustics sound installation based on Syva colinear source, which audiences experienced each evening as day transitioned into night.

Staged deep in the ancient Eucalyptus forests of southern Tasmania, Watson’s artwork is centred around an intimate field recording of some 2,000 ravens gathering at dusk to roost. The inspiration to create such a unique sound work came to Watson whilst visiting Anglesey in North Wales during late autumn, when birds were gathering for winter. A gigantic

roost of ravens descended into the forest, an experience that fascinated Watson with its accompanying sounds and chords emitted by the birds.

“It was an awe-inspiring event, the sky would go dark as the ravens came,” says Watson. “It’s quite likely that ravens are the most intelligent of all birds. They are super smart and can problem solve. They live in communities and the studies by bio-acousticians – people who investigate animal sounds – have revealed their sophisticated communication system. Quite often I put a microphone out in the forest when I’m working and run very long cables back, so I can come and go from a distance without disturbing what’s around the microphones. I had a special surround sound microphone with me on this occasion, which I placed underneath the roost. I left it there for a week, recording the comings and goings of the birds.”

The following spring, Chris was visiting Iceland whereupon he discovered that, according to Norse mythology, the god Odin was often accompanied by his two special ravens, Huginn and Muninn. He would send them out into the world as his eyes and ears and they would come back, sit on his shoulders and tell him what they had seen and heard. The story chimed with the experience of the raven roost, and so Chris turned the

recording into Hrafn: Conversations with Odin (Hrafn meaning Raven in the Old Norse).

Meanwhile, half a world away in the Southern part of Tasmania, the region had been ravaged by terrible fires that destroyed ancient forests and woodland, resulting in a steep decline in visitors. To help revive the region, the team behind the Dark Mofo festival was mounting a project to attract visitors back to explore the remarkable scenery. Their goal was to create an immersive sound experience inside the forest, and Chris Watson was invited to contribute to the program.

Novatech Creative Event Technology (Novatech) became involved through event organisers Luke Hutchins from Dark Mofo and producers Sarah Last and David Burraston, both from The Wired Lab, as they had worked together on previous projects, deploying Syva as the perfect accompaniment to Watson’s singular artwork.

“The uniqueness of this project was that Syva was rigged off 15 hand-picked trees,” recalls Novatech Audio Systems Tech, Michael Wickens. “The 15 Syva boxes were arranged in two rings; an inner ring of four, rigged at a height of 25 metres and an internal diameter of 15 metres, and an outer ring of 11 Syva rigged at 15 metres with an internal diameter of 25 metres. The ultimate aim of this installation was to have every speaker sit at the same geographical distance from the centre of the listening field.”

Syva was chosen for the vertical directivity of the cabinet which allowed the Novatech team to steer audio into the listening plane, making

sure no energy was wasted or lost through environmental factors such as tree canopies. Aesthetically, Syva's slim profile perfectly blended into the surrounding environment.

To help deal with the unusual setting, L-Acoustics Soundvision software was utilised for this immersive installation. It allowed Watson and Dark Lab to see a visual representation of their calculations as well as any anomalies, which could then be discussed and rectified before installation. Soundvision was also used as a visual reference for the arborists, who were physically rigging Syva to the trees - the highest tree climbed was around 40 metres and had a diameter that narrows to around 200 millimetres at that height. Wickens worked out the angles in advance to ensure the system gave the best coverage; this meant that riggers only needed to climb each tree once, hanging the speakers in the perfect position, without the need for adjustments.

"During my 10-plus years of working in audio I have never worked in such a unique location," says Wickens. "Being involved in a sound installation in a virtually untouched forest was a very humbling experience."

"It was definitely more of a bush walk than a work site," concurs Novatech Senior Project Manager, Nathaniel Collins. "Luckily there was a path that lead straight to the installation site, although we did have a 200 metre push to get the equipment to there."

A major challenge was making sure tree canopies or trunks did not obstruct each Syva's HF drivers, and ensure sonic consistency between each cabinet; the ethos was to avoid equalisation entirely unless absolutely necessary.

From an ongoing operational perspective, the harsh Tasmanian winter posed its own

challenges, which included 50 km/hr winds, heavy icy rainfall and power outages. Having the ability to log into control racks remotely from Adelaide via L-Acoustics Network Manager made the troubleshooting process that much easier; the Novatech team would get a call from the park rangers stating that extreme weather had passed through, so they could log on to the computers in Tasmania to run some simple tests.

"L-Acoustics Load Sensor Calibration Tool on Network Manager was a very easy and simple way of checking the HF and LF drivers of each cabinet within the array," says Wickens. "I was blown away that, no matter how harsh the conditions, every Syva box still performed perfectly. On top of this, we could also run test sequences to ensure the Hrafn playback software was configured correctly."

"Some of the installation's most unusual moments were during the calibration process. When the team recorded time-based distances between each speaker with SMAART, the sound of pink noise diffusing into the Tasmanian Bush, followed closely by the eerie sound of a lyrebird, was almost a call and response, a very special moment indeed."

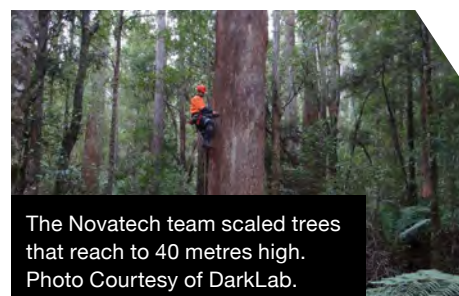
"This was a real time experience of a raven roost," Watson concludes. "Visitors were taken into the forest in the late afternoon with a guide to tell them about the history of the forest, the folklore and raven mythology. They were then led into a clearing and left there. As it went dark, they heard the sound of 2,000 ravens overhead through the immersive speaker system. Then, right at the end when they were in pitch darkness, all they could hear was the individual bird conversations coming from all sides of the forest. The piece lasts less than 40 minutes, but it was phenomenal."



The L-Acoustics Syva were arranged in two rings, ensuring that every speaker sat at the same geographical distance from the center of the listening field. Photo Courtesy of DarkLab.



L-Acoustics Syva camouflaged to blend into the forest canopy. Photo Courtesy of DarkLab.



The Novatech team scaled trees that reach to 40 metres high. Photo Courtesy of DarkLab.

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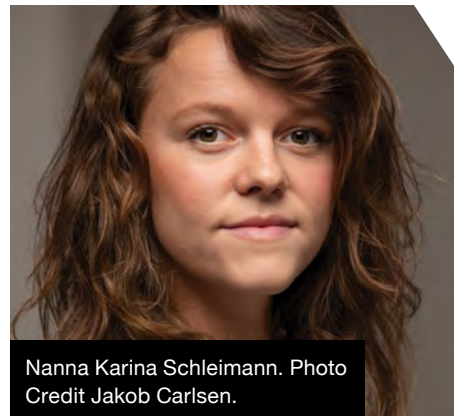
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DPA Binaural on Good For Nothing.
Photo Credit Jakob Carlsen.



Nanna Karina Schleimann. Photo
Credit Jakob Carlsen.



DPA Binaural on Good For Nothing.
Photo Credit Jakob Carlsen.

DPA Innovates – Live Binaural Sound

A headphone-wearing theatre audience experiences truly immersive live audio thanks to DPA's new 4560 Binaural Headset Microphone

Nanna-Karina Schleimann has become one of the first sound designers to make use of DPA's new Binaural Headset Microphone, which gives sound technicians, vloggers, film makers and YouTubers an accurate and reliable tool to capture authentic immersive audio in real time.

Delivering the superior sound quality for which DPA products are internationally renowned, this new headset allows film, theatre and online content creators to capture exactly what each ear is hearing so that those consuming the content on headphones can experience full immersive sound. The headset features a pair of 4060 CORE miniature omnidirectional microphones that are mounted on ear hooks and sit just outside the user's ear canal so that the mics capture the sound being heard by the person making the recording. The ear hooks are attached to a flexible headset that is simple to fit, comfortable to wear and can be easily adjusted to suit the dimensions of each individual head.

Early in 2019, while the 4560 Binaural Headset Microphone was still in development, Schleimann was given the opportunity to beta test it during her graduation performance from the Danish National School of Performing Arts in Copenhagen.

"I had heard about binaural technology and techniques from other students who had used this method of recording sound in previous theatre performances," she explains. "I had only seen it used live on stage once before, in a smaller and more experimental performance at the school. Therefore I wanted to go even further and try the technology in my graduation performance, which is the biggest and last production before graduating."

Entitled *Good For Nothing*, Schleimann's graduation performance had no script and was based entirely around improvisation, with themes that revolved around transhumanism, transformation, sensory deprivation, nature and human revolution against technology. The director was fellow student Jennifer Vedsted Christiansen, while other students made up the cast and the design and production teams.

"I wanted to use binaural sound to research questions such as how to create a theatre experience where hearing is used as a sense rather than a function and how to use sound to create a sensual experience," Schleimann says. "I was also interested in the relation between an individual enclosed experience and a collective and spatial experience."

DPA's new 4560 Binaural Headset Microphone seemed ideal for Schleimann's

production and her University lecturer Eddy Bøgh Brixen, who is closely involved with the Danish manufacturer, arranged for her to use the prototype.

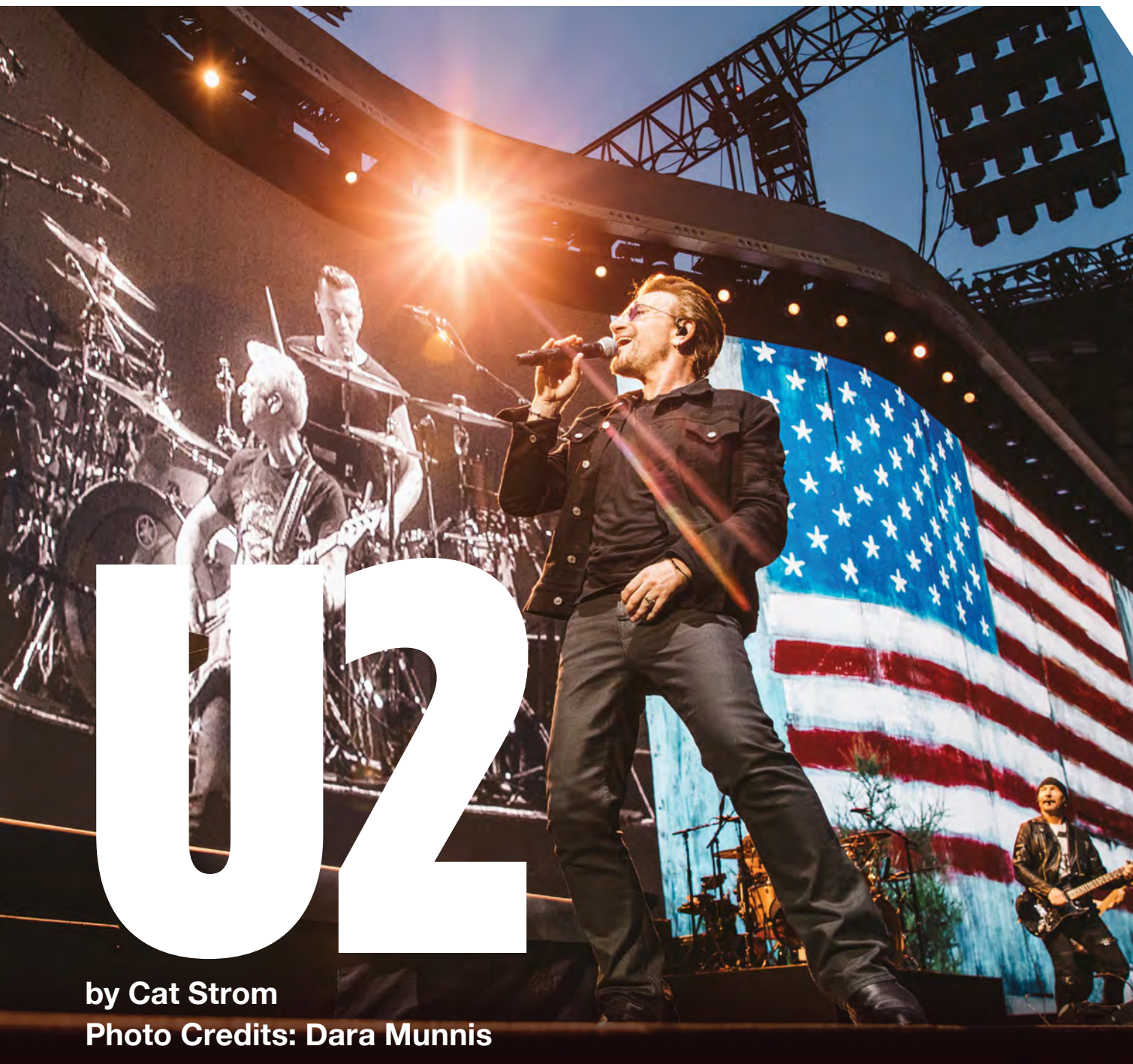
Three Binaural Headset Microphones were used to amplify the voices, actions and movements of the actors on stage. And each member of the audience was given a pair of headphones so they could hear the sound from each actor via a wireless system.

"The binaural microphones allowed the audience to hear exactly what the actors were hearing, as if they were standing on the stage and being whispered to," Schleimann adds. "Throughout the performance, the audience were also hearing binaural compositions that I had created and at the end of the play they removed their headphones and listened to the actors singing as a choir so they could experience the whole acoustic space surrounding them."

Nanna-Karina Schleimann says it was an honour to try out a new DPA product and she was delighted with the results she achieved using this exciting new product.

"I wanted to create an intimate and very sensual experience for the audience and DPA's new Binaural Headset Microphone allowed my ideas and wishes to come true," she says. "The user-friendly design of the microphones made them very easy to work with and comfortable for the actors, plus I had the benefit of very high quality DPA sound."

DPA's new Binaural Headset was launched on December 2, 2019 and is now shipping. For more information please visit www.dpamicrophones.com/4560



U2

by Cat Strom

Photo Credits: Dara Munnis

It was 1992 when I first reported on a U2 production; the ZOO TV Tour in Georgia, Atlanta. It was a notoriously forward-thinking stage design that featured the infamous Trabant cars with their innards gutted and retrofitted with lighting equipment.

Fast forward 28 years and U2 are still pushing production boundaries with their The Joshua Tree tour, a tour that began in 2017 and has played to over 2.5 million fans. After a bit of a hiatus, when they slipped in a totally different tour, the tour was resurrected for Australia and New Zealand. Originally the tour was

supposed to come to Australia in 2017 as part of The Joshua Tree's 30th anniversary, but the band simply ran out of year!

CX traveled to Brisbane's Suncorp Stadium to interview Joe O'Herlihy and Willie Williams who have been a constant with the band since their early days.



Willie Williams

Willie Williams
Creative Director & Lighting Designer

"This tour has always been on the books, we were always going to come," revealed Willie. "I've really enjoyed dusting off this show and having another look at it. It's also nice to be



“In a shocking move, the lights are only used to light the band and the scenery.”

back outside with a large scale production, as last year's Innocence + Experience tour was all indoor arenas.”

Willie commented that he had no difficulty in remembering the original Joshua Tree production, the problem was trying to forget the Innocence + Experience show.

“Last year's show had different arrangements and different cues for some of the same songs and forgetting that was the tricky bit,” he said.

The first show kicked off in Auckland after a brief period of prep and rehearsal time, as even though it was an existing show there was still a lot to be done.

“We had a couple of weeks at Tait and then Mark ‘Sparky’ Risk, Alex Murphy and I spent a week in Melbourne doing pre-vis,” explained Willie. “I just wanted to relearn the cues and I wanted to do it in Australia to help us get over the jetlag.”

The show is divided into three parts; the first act is short with the band playing new songs out on a B Stage with no video or special effects.

“It's really great to just see these four guys in the middle of a stadium, it's like an 80s festival for me,” said Willie. “To remember what it's like to just let the music do all the work and of course, the sound is enormous. Then we go into Act 2, which is The Joshua Tree, and the large screen comes to life with pretty much all the content by Anton Corbijn. There's not a lot of IMAG so it's extremely cinematic. It's about the visual rather than seeing the band. The third act is ‘other stuff’ and we've changed that a bit as some of the songs weren't even written before the last Joshua Tree tour. It also includes some of the classic songs that the audience would riot if we didn't play.”

The gear is the same as the 2017 tour although there is a slight difference with the screen which originally had the Joshua Tree image painted onto it. This involved removing thousands of shaders and spraying them silver

which cost at least US\$500,000 to achieve. A 50 stadium tour would allow that to fit into the budget but this tour is only 15 shows.

“We decided to mimic that look with video and it's actually incredibly successful,” added Willie. “We tested doing it virtually in 2017 and it looked great to the naked eye but if you videoed it, you got moire patterns.”

Willie admits he can be his own worst enemy and that every set he designs barely has anywhere to put any lighting. On this tour, the rig is enormous yet very simple with little variety of fixtures as the bulk of the visuals are from the screen. In a shocking move, the lights are only used to light the band and the scenery.

The rig is a mixture of new and old technology; 218 PRG BadBoy HPs, 48 Chroma-Q Color Force 48, four Color Force 12, 56 Martin Atomic Strobes with scrollers, six Hungaro flash units, 130 DWE Molefay 4x1, 20 DWE Molefay 2x1 and 12 Look Solutions Unique 2.1 hazers. Control was three MA Lighting grandMA2 full-size consoles and one grandMA light. All of the followspots are PRG GroundControl Followspot System.

“Aside from the movers, there's my usual selection of analog antiques; Atomic strobes with scrollers, sodium fixtures, Hungaroflash units, 100W bulkheads and, I'm pleased to say, lots of DWEs,” commented Willie.

With such a high definition screen, 4K cameras and a massive resulting image, care had to be taken to ensure the band looked good on IMAG because just like Willie, Joe and I, they ain't getting any younger!

“Protecting the band in that respect is a big part of the job as is making pictures that have a real cinematic quality that can stand up to the glory of Anton's films,” said Willie.

When the band needs to be highlighted by lighting, as opposed to by the music and visuals, Willie uses long-throw BadBoy Spots which he describes as absolutely

extraordinary for the size of the fixture.

“The amount of light that comes out of them is preposterous,” he stated. “And of course, we have much more control over them than you would with a regular long-throw follow spot. Alex Murphy calls those and he is at FOH with Matt Askem, the video director, so Alex can see all of the monitors. They are constantly monitoring it with Jim Toten who is doing the engineering. Again, it's a very cinematic approach and as I said, it's about protecting the band and producing great quality pictures.”

As to lighting songs which he has lit for 32 years, Willie remarks that it can be tough and that sometimes he doesn't try to do something different. For instance, the song Vertigo which was first performed in 2005 has pretty much remained the same lighting and video.

“There are two reasons for that, one is because it works and it's not going to get any better, but the video piece was made by Run Wrake, our favourite animator, and he passed away several years ago so in a way we're bringing a piece of him with us which is rather nice,” explained Willie. “Also, when working with a band for this length of time, traditions set in such as the beginning of Where The Streets Have No Name has the red cyc and that's become the law now. So that's what we do but each time I find a way of re-interpreting that look.”

Occasionally Willie and the creative team will nail a song so well, the band may never play it live again because it just is not going to compete with what has already been done.

Obviously, Willie also reinvents the visuals for some songs such as Ultra Violet from Achtung Baby which has had several lives. On the 360° Tour, the one where Bono had the hanging microphone and laser suit, Willie thought there was no way he could do it better.

“On this tour, that song is in Act 3 and is used to pay tribute to great women of history,” Willie said. “Being U2, much of it is bespoke, so

the people who are honoured are different wherever we go, so that's a huge amount of work. However, it's really given that song a whole new life and when it works, you go with it. Then there are some songs like One where you just have to step out of the way – there have been some pretty high profile visuals made for that song that have ended up in the bin. You get to the point where the audience owns those songs and if you try to show them something clever or arty, it's just annoying for them. On this tour, we turn all the lights off so they perform by the light of thousands of mobile phones.”

Willie's lighting designs are never fussy and pretty much cut to the chase. However, when it is over the top, it's really over the top. He explained that when he has a very high tech show or a big video show, he balances that with humanity. Otherwise, it's like watching television. Hence he always has low-fi gear on his shows, in this case, heaps of DWEs.

“I love how dirty the colour temperature is with the DWEs, they can really convey a threat and they're very unreliable,” he added. “It's all about colour temperature. The fact that tungsten is being made illegal is absurd. Tungsten is really great for lighting human



beings and most performers are that. I've actually figured out how many tungsten lightbulbs I'll need for the rest of my life and bought that many.”

“I'm finding the transition to LED a little dull although every year it gets a bit better so hopefully we'll get there. We have the original Atomic Strobes on this tour as none of the LED models deliver what they can, and I've tried them all. They have a wonderful feel to them. My crew chief calls the Hungaro Flash units the Horror Strobes as they are awful but they have something about them you can't replicate with LED technology. Of course, we also have a mirrorball because you have to have one to know you're at a show!”

Willie remarked that in as much as a show like this can have a director, that's pretty much

what he does once it is up and running. U2 always wants to make each show as bespoke as possible for each city and each country, so there's new video every day, new chat, and certain things that Bono will sing relating to where they are.

“They really do want to make a connection with where they are and let the audience know this isn't just city #45,” added Willie. “That's more of my day than the load-in but when you've got Jake Berry as Production Manager, you don't have to worry about load-in.”

**Joe O'Herlihy
Sound Engineer**

After the first two shows in Auckland where Joe had to deal with 43 kilometre an hour winds gusting from the stage, Brisbane's still

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EXPERIENCE THE BEST

and balmy 34°C was a blessed relief.

“I was looking all night long for my wind knob to dial it down but I couldn’t find it,” said Joe tongue in cheek. “It would be a sound engineer’s dream if someone could invent one!”

The sound system hasn’t changed dramatically since 2017 although there has been plenty of software updates that obviously improve the efficiency of all the technology.

“We now have the DiGiCo SD7 Quantum consoles and I believe we have the biggest selection of DiGiCo SD7s on any tour,” added Joe. “We’ve got eight of them if you include the rehearsal room at the moment. With the software update to use the Quantum engines, they sound very transparent and very much more efficient with this upgrade than on previous occasions. It’s nice to have gear that is improving all the time like the SD7.”

Although the onboard selection has been improved enormously on the SD7, Joe still uses units that he has relied on for the past forty years with the band. For guitars, he has eight Summit Audio DCL-200 tube compressors for each of the eight different amplifiers that The Edge uses in a combination of what is affectionately known as The Edge Orchestra.

For Bono’s main vocal, Joe uses Manley Voxboxes; one for each of the three different

vocal mics he uses. A couple of Sweet compressors are used on Edge’s vocal, who uses a headset mic for maneuverability.

“The treatments and effects are standard Lexicon 480L as the reverb of choice for all of the vocals and believe it or not, PCM70s dating back to prehistoric times,” said Joe. “They’re classic drum verbs and are a really good selection, plus I’ve also got a couple of harmonisers. They’re all uniquely part of their songs now and I have tried out all of the various plugins, but the older, vintage products have such a unique sound. However, you have to cross your fingers that they’ll work every time the back of the truck opens!”

The band has been a Clair Global client for 36 years so it was no surprise to see a Cohesion CO-12 system consisting of four sets of line arrays suspended from cantilever cranes and trimmed at 30 metres, carefully positioned so as not to obstruct the giant screen.

The curvature of the system is designed and configured to get right up into the stands and areas that physically are very difficult to reach. Behind the mix position, which is 36m away from the stage, are four delay positions placed in an arc shape to ensure sound reaches the back of the stadium.

Joe remarked that he has been extremely impressed with the sonic value of the Cohesion system and added that the CO-12 is a sensational box that delivers very high performance and good consistency.

because if they do, to me that’s a result.”

Around the front of the stage are CO-8 front fills that follow the curvature of the stage whilst the sub energy in the system is delivered by CP-218s in a cardioid setup. There are 16 CP-218 per side with every other box facing backward to create a ‘cardioid movement’ which basically means that all of the energy is propelled into the stadium instead of coming back under the stage to create difficulties on stage for the band.

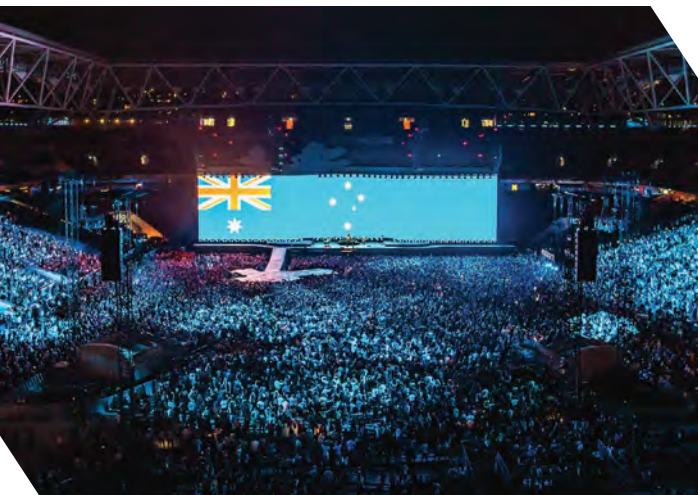
Microphones are a true and tested formula that has become a well-oiled machine. The vocal mics are largely Shure SM58s, with The Edge on a Shure 54 headset. The guitars are all 58s and 57s as well.

“The snare is a little bit different in that I have three mics on it; top, bottom, and rim snare as Larry does a lot of rolling snare patterns for a couple of songs,” revealed Joe. “The kick has an SM91 and SM52, and there’s an SM57 on the snare bottom. AKG 451s and Sennheiser 421 are on the toms. Percussion and tambourines SM57, AKG 4050 on the overheads and an SM81 on the high hat.”

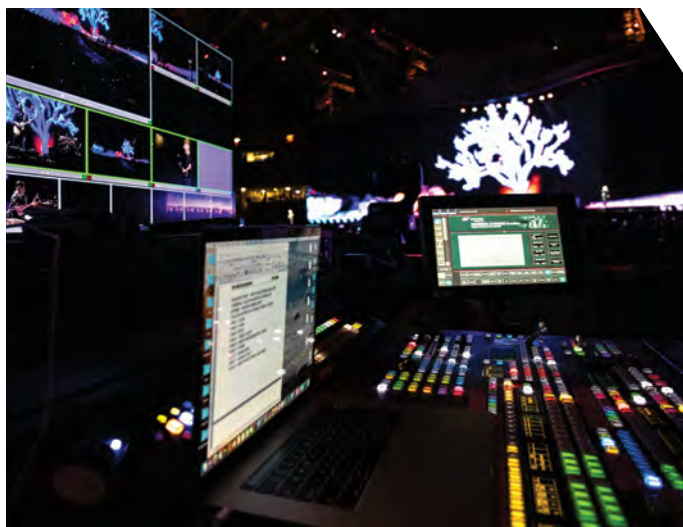
“Because we have two drumkits, the microphones are mirror-imaged and the same on the B-stage. Edge has a guitar change for every one of the 24 songs which keep the guitar tech quite busy whilst Adam has a measly 16!”

In monitor world, Bono has his own SD7 operated by Alastair McMillan, and The Edge also has his own run by Richard Rainey. CJ Eiriksson looks after Adam Clayton and Larry Mullen Jr. on yet another SD7.

“It’s great to be working with JPJ in Australia. They’re an incredible company that has stood the test of time,” said Joe. “On the other side of the world, they’re our go-to guys. They’re always keen to ensure everything is done correctly so you have a scale of the understanding of what’s required. It’s very important for an organisation such as this to know that all the basics are covered in the eventually of if anything goes wrong, we know there are people on it straight away. That’s very comforting.”



“The box is designed to create exactly the frequencies that you want to dominate in that long-distance trajectory,” he continued. “Therefore the intelligibility of Bono’s vocals is so much better. I purposely read the reviews to see if anyone writes what Bono is saying in the spoken word





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STAYING SAFE TOGETHER

by John O'Brien

For this edition, I was originally going to write about staging a funky local arts festival.

Unfortunately, that was before the apocalypse unfolded. Instead, I'd like to highlight the amazing collaborative efforts of our emergency services.

WTF?

Right now, I am surrounded by the surreal glow of hazardous bushfire smoke haze. Today is my day off and the worst of the recent weather has abated for a short while. I say "day off" but the term is misleading. Writing is a large part of my employment. It helps to pay my bills and I enjoy doing it. By "day off", I mean a day off the fireground.

The thing is, I am also a volunteer firefighter and lieutenant in the CFA. As I type, huge tracts of Australia are ablaze. They have been so for a long time and look likely to keep going for longer still. Last week I spent four days chasing flames, driving big red trucks full of volunteers (ordinary citizens like me) into the jaws of chaos, lights flashing, sirens blazing, nerves on edge. I'm back out the door at 05:30 tomorrow to keep doing the same.

Collective Action

I am far from alone in doing this though. Across the country, thousands of ordinary

citizens freely give their time to volunteer with emergency services. They put their lives on hold to attend endless training sessions, turn out for multiple false alarm calls and then, when it hits, put their lives on the line to protect others.

These folks rely upon the collective coordination of people and supporting resources that have been and still remain so critical to combating the very dire emergency that the country is seeing. We do it not alone, for this is not possible, but together.

Hierarchy

Working with other people always has its challenges. We all have our strengths and weaknesses, our quirks and unique approaches. Coordinating this to get the best out of everyone requires a mix of patience, persistence and flexibility. And it's one thing to organise when everyone is getting paid but a quite different scenario when we are all taking time out of our gainful existences to cooperate in quelling a crisis. Further than that, it often

happens under great duress and danger.

Big entertainment productions have a chain of command. Promoter, tour manager, production manager, heads of audio, lx, etc departments, operators, techs, crew - you know the deal. It's not always as linear as this but the point is that it's roughly a hierarchical system of organisation. Similarly, emergency agencies follow stratified structures. They differ state by state and service by service but share much in common.

In our case, there are well tested structures of reporting, responsibility and expectation. They vary depending on the scenario at hand but we are all well trained in their application.

They don't always work perfectly (because people are involved and people are fickle, particularly under high stress!) but they are the best systems we have and work well enough. We are safer and more productive by following them.

We turn out to protect life and property but have one overriding rule: "Everyone comes home." Cowboys are discouraged from compromising the whole group. Sometimes this leads towards conservative approaches to certain situations but the rationale is better being safe than sorry. We are liabilities if either injured or with broken gear.

Bureaucracy

Organisations inevitably come with an administrative penalty. In the off-season this is a source of either frustration or mirth for



our ranks. As are the varying governmental commitments to support these institutions. However, when it's all on the line, the logistical support and structures are invaluable to those on the battlefield. It takes huge resource and ongoing investment to provide and maintain specialist equipment, stations, appliances, PPC, and all the associated paraphernalia required to respond to a wide variety of incidents.

There are scores of people involved in training, research, brigade support, community liaison, catering, OHS, IT, you name it. There are also many wise, experienced heads who run the incident control centres, who investigate the fire scenes, who plan strategically and try to get the best tactical outcomes with the available resource at any one time.

Despite all best intentions, it doesn't always work. The 05:30 start mentioned above turned into a wild goose chase, wasting the best part of a day for 20 volunteers. I then came home to deal with scheduling and logistics for our already tired and stretched brigade.

Why Volunteer?

My partner and I are among 1000s of volunteers across the country putting our own concerns and safety on hold to help others in greater need. We do this not for accolades or bragging rights, we do this because, in the

rural and fringe areas that we live, there is no-one else to save us but volunteer based organisations.

Frankly, we put our hands up because we give a toss. We don't sit around and wait for someone else to come and wipe our arses for us. Volunteering has its own rewards. Scars aside, we get back more than we give.

Writing this is incredibly cathartic. As a firefighter, I've seen some things that are not normal and experienced some close calls. I've saved houses and lives. What we do is sometimes traumatic but the satisfaction of having helped others in greater need is the ultimate payoff.

Australian society has chosen to structure itself in this way. The US has crap health-care but paid wildfire responders. Here we have universal health-care while leaving regional emergencies to volunteers (most definitely not forgetting the wonderful staff at DELWP, Parks & Wildlife, FFM, etc who are also out there right now in harm's way). It's all about choices.

This current catastrophe already sees a lot of noise and chatter about how to better resource and manage emergencies and their responding services but I'll leave that to others. On a meta level, collaboration is the key.



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Together We Stand

Humans have always needed each other. We are highly social animals even if some of us let the baser instincts overcome civility. From family units to community groupings, from states to countries, we band together towards common goals. Even ascetic hermits need food.

Are the systems we use to organise together perfect? No. Are we as individuals perfect? No. But we are much greater as the sum of our parts than any lone entity.

The Horror

What we have been through so far this summer has been highly stressful, deeply scary and luridly vivid for all involved. It's hard enough to watch on the news, it's hard to get away from the smell, but it's harder still to drive towards the smoke and fire.

And that's not a patch on those who are directly impacted by this maelstrom. Those who have lost loved ones, those who have lost houses, livelihoods and countless stock. They

will bear the physical and mental scars for a long, long time. The flora and fauna losses are immense and the landscape may be permanently scarred.

It's happening so fast out there that it is likely to be quite an entirely different beast by the time that this is published. It certainly ain't over yet.

Together

National planning and foresight have been minimal and state based agencies all have their own approaches. There are many similarities but enough differences to make some aspects of coordination across borders difficult. Delineation and demarcation between paid and volunteer firefighters have also been cause for consternation for some time now in several states.

Government agencies are now stepping up in various ways and doing what they can. The army is deployed, the volunteers and paid staff are stretched but we are all working together to see out this emergency. This process is far from smooth - consultation and

collaboration has been difficult under such trying circumstances.

Even usually tight knit brigades are showing some frayed nerves. What we are all involved in is full-on. It is intense, frightening and sustained. Rationality can be difficult to find in such moments but we do have enough clear heads and stout hearts on the case to find a way to battle this beast.

We are working hard to cooperate as teams, to keep each other safe and protect life and property, to get through all this in one piece. Hopefully, we all learn from this too, from the top down.

Without teamwork, no coordinated response would be possible.

Without collective effort, we are on our own.

Without collaborating, we would be all be doomed.

Disclaimer: The views above are entirely my own opinion and are not the official position of the CFA or any other related agency.





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BYOM - The next step towards the digital workplace

presented by Barco

How can we take workplace productivity to the next level?

For many years, improving workplace productivity and optimising the capacity of the workforce has been a challenge for businesses, governments and organisations.

Back in 2010 in a ground-breaking paper, Intel believed to have found the answer: Bring Your Own Device (BYOD). The research identified that “61% of Generation Y and 50% of 30+ workers believe the tech tools they use in their personal lives are more effective and productive than those used in their work life”. Even back then, 60% of workers already used a smartphone for work purposes and 31% wished they could.

Since then, the BYOD market has taken off swiftly and is set to hit almost \$367 billion by 2022. 67% of people use their own devices at work and 87% of companies depend to some extent on their employees’ ability to access mobile business apps from their personal smartphones.

The trend to allow and facilitate BYOD in office environments has benefited both employers, who report an annual saving of £350 per employee per year, and employees, who save 58 minutes per day and increase their productivity by 34% by using their own portable devices.

Increasing productivity by allowing people to use the tools they are most familiar with might seem obvious today, but what is the next step to take after BYOD?

In our most recent research on ‘The Future of Meetings’, we have discovered how to level up workplace productivity even more. In the transforming world of work where the automation of jobs and the gig economy rules, millennials (natural collaborators who have grown up with online sharing technologies like Google docs, online gaming, social media, cloud-based apps and more) have a need for business technology matching their lifestyle. They want more flexible, remote work environments and prefer intuitive (own) devices and tools to collaborate seamlessly anywhere they want. With BYOM we can get to that next level of efficiency.

What is BYOM?

Bring Your Own Meeting (BYOM) describes the phenomenon where people prefer to host a conference call from their personal device using their preferred conferencing solution (e.g. Microsoft Teams, Webex, Zoom etc). And they choose to ignore the existing meeting room equipment provided to connect remote participants. BYOM is expanding rapidly and three factors are driving this trend:

- We are more productive when we use our own devices at work
- We prefer a particular conferencing solution – one with a user experience that appeals to us or fits most closely with how we like to work
- We avoid using equipment that we don’t understand or find difficult to operate

Some organisations respond negatively to BYOM and try to prohibit it. However, at Barco we are BYOM advocates, because we believe we are more productive when we use the tools we are most familiar with. This means using our own devices at work and using the conferencing platforms we prefer. There are three compelling reasons why BYOM should lie at the heart of every Digital Workplace strategy.

The Strategic Reason For BYOM

Bring Your Own Device (BYOD) is a key component of the Digital Workplace strategy of many organisations. It has proved that providing “freedom of choice” empowers individuals and increases personal effectiveness and productivity. Being able to choose the devices they are most familiar and most competent with has given individuals the confidence they need to save time and do more.

BYOM is a natural extension of BYOD, as it allows people to use the conferencing platform they are most effective with. Given the improvement this makes to personal and group productivity, it is the next strategic step for personal empowerment and collaboration.

BYOM allows organisations to address different dimensions of a highly effective



Digital Workplace strategy, in that it allows them to:

- Gather together and meet anyone, anywhere in their workplace
- Help a more diverse workforce, including contractors and interns, collaborate and contribute just as much as their employees
- Choose their workstyle - when and where they work, whether that’s in the coffee shop, at home or on the move
- Move around freely and use different workspaces for different tasks

The Practical Reason For BYOM

27% of organisations have tried to mandate the use of a single conferencing or Unified Communications platform by their people. They have not succeeded. In reality, we use many different conferencing or UC solutions. Over a period of six months, each of us uses an average of no less than six different UC solutions for business purposes.

Any attempt to standardise on a single enterprise-wide solution is doomed to fail. Whichever solution that is chosen as a corporate-standard, employees will continue to meet with clients or suppliers that will invite them to meetings that use other technology than the one available in company meeting rooms. Employees will keep on downloading and using “free copies” of their preferred product to avoid the struggle with confusing meeting room set ups or difficulties in setting up remote calls. Unless every organisation moves to the same conferencing platform, a BYOM solution is the only practical approach for enterprises to adopt.

A man and a woman are sitting at a table in a meeting room, looking at a laptop screen. The man is on the left, wearing a blue shirt, and the woman is on the right, wearing a beige top. They both appear to be engaged in a discussion. The background is a dark, textured wall.

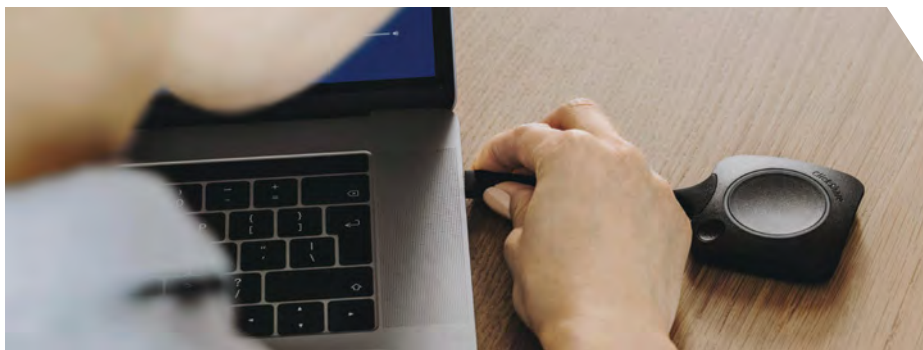
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The Financial Reason For BYOM

The third reason for implementing a BYOM strategy is financial. Moving to BYOM can pay for itself in just a few months.

BYOM avoids costs:

- There is no need for expensive meeting room software licenses
- Proprietary hardware and software to integrate a specific conferencing solution is no longer required
- Time wasted waiting to setup meeting room equipment is saved (setup times are typically reduced from 7 minutes to 7 seconds)

The Curious Thing About Conferencing

When it comes to conferencing or Unified Communications & Collaboration (UC&C) there are many different solutions and many good alternatives to choose from. At Barco, we work closely with the manufacturers and vendors of these products and can vouch for their efficacy.

Yet the curious thing about conferencing is, despite the quality of the products, the remote attendees consistently regard their experience as being worse than being in the same room as everyone else. The lack of engagement remote participants feel should be a major concern for anyone concerned with delivering an effective enterprise.

Why Does This Issue Persist?

In our latest research, carried out earlier in 2019, 69% still believe that having all the participants in the room makes meetings more or much more engaging. Intrigued, we decided to find out why the remote meeting experience is still perceived as poor and discovered six underlying issues:

- Vendors are fighting for market dominance - being #1 in the market is their #1 priority and they are building ecosystems and environments that lock organisations in to their specific conferencing solution
- Vendors have worked with third parties to create a mix of proprietary hardware and software solutions that allow only their specific solution to be shared in a meeting room
- Organisations often try, but can't stop their people from using multiple conferencing solutions
- People struggle to make these solutions work, setting up meeting room equipment typically takes 12% of a meeting's duration (that's over seven minutes for a one-hour meeting)
- A number of organisations have invested in high quality cameras, microphones and sound systems to improve the attendee experience in their meeting rooms, yet

people seldom use them e.g. only 30% of people prefer to use the video camera in the room, the other 70% prefer to use the camera on the laptop or device they have brought with them

- When in-person and remote attendees join a conference they often connect via someone's laptop in the room, in-room attendees struggle to see and hear remote attendees and vice versa

BYOM Is The Answer

The majority of people are now unafraid of digital technology (in Barco's recent research, 74% of people said that they are confident or very confident using new technologies).

This expertise is usually obvious. Most people can setup, manage and join a conference call at their desk quickly and easily, using the solution they prefer. Increasingly people are using video in these meetings (67% use video regularly or all of the time) and users can see, hear and share with ease.

Unfortunately, when they try to bring that experience to a meeting room, the technology often fails them. They struggle to make things work. Users can't connect their conference to the display, camera or sound system. They can't share their call with a proprietary room system. They give up and use their personal device to share the call, and remote attendees can't see or hear everyone who is there.



With Bring Your Own Meeting (BYOM) an individual takes the great meeting experience they are familiar with, when they join a conference call at their desk and bring it to any meeting room or huddle space. Then they enhance it by connecting any equipment that is available in the meeting room to deliver a richer, more collaborative experience for both in-room and remote meeting attendees.

BYOM - take the next step towards the Digital Workplace

With Bring Your Own Meeting (BYOM), people meet wherever they like, whenever they need to, using whatever technology they trust.

There are strategic, practical and financial reasons why BYOM should lie at the heart of every Digital Workplace strategy.

- It provides the rich and rewarding meeting experience needed for the workplace of today and tomorrow
- It solves the problems of many competing and incompatible conferencing solutions
- It avoids costs and increases return on investment (ROI)

The four key principles of BYOM

There are four principles that any effective BYOM solution should follow. These principles dictate that:

- Anyone (whether they are an employee, guest, customer, supplier, contractor or intern) can start a meeting anywhere at any time

- Any conferencing or unified communications (UC) platform or system can be used
- Any peripheral that is available and could improve the meeting experience, can be employed
- Anyone can join any conference using any device they have with them

Barco's ClickShare delivers on the promise of BYOM

At Barco, we believe that our new range of ClickShare Conference, a portfolio of wireless conferencing products, delivers on the true promise of BYOM and extends a richer collaboration experience to both in-room and remote meeting participants anywhere in an enterprise.



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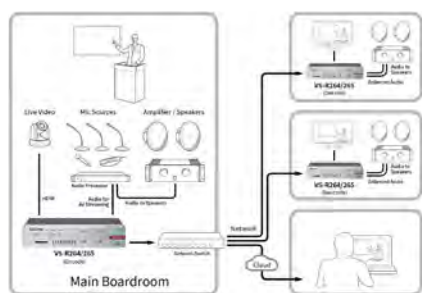


How To: Collaboration with the Tascam VS-R264 & VS-R265

presented by Tascam

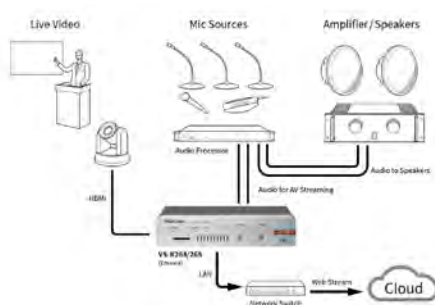
Tascam's VS-R264 (HD) and VS-R265 (4K) are deceptively capable units for such humble looking silver boxes. These full HD streamer/recorders are unique pieces of hardware ideal for collaboration.

On the surface, the VS-Rs are a simple HD streamer and recorder, taking video and audio sources via numerous connections, and capable of streaming them across the web or over IP. But there's a few extra features this box has which make it that little bit more appealing. Firstly, its ability to both encode and decode. Yes, not one or the other but both allows these units to easily integrate into a system. Secondly, the ability to simultaneous stream and record. Whilst taking care of live streaming, the VS-Rs can also record to SD or USB media storage, plus once recorded, can automatically upload the recorded content to a FTP server for archiving and use at a later date. PoE makes for hassle-free installation while configuration is made easy via the Tascam Discovery app (for Mac and PC) that is designed to set and forget. Obviously, all of this ability from such small boxes allows the VS-Rs to be utilised for numerous collaborative applications.



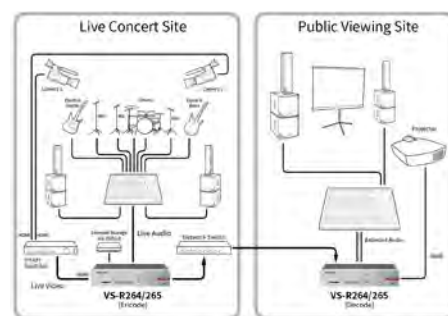
Corporate Presentation Streaming

Having the ability to multicast stream is essential in modern corporate environments and the VS-Rs are an ideal solution for this type of system. Because of their ability to both stream to a connected network and via Cloud simultaneously, a presentation or meeting from one board or conference room can be sent to other conference rooms connected to the same network switcher and to remote locations via Cloud at the same time.



Online Lecture Streaming and Recording

Education facilities who live stream to multiple online platforms and simultaneously record and store require a sophisticated system setup. Simultaneous capture of video and audio into the VS-Rs is easy, with encoding taken care of before being sent to a network switcher for live streaming via the web. For those needing to access this at a later date, the ability to simultaneously record to either SD or USB media and subsequently auto upload to a FTP server takes care of this nicely.



Live Music Streaming and Recording

Live music venues (and even artists) wishing to live stream and record performances are able to do so easily. It's as simple as simultaneously capturing the video and audio, encoding and then sending to be streamed live on YouTube (selected under the RTMP output section in the Tascam Discovery app), Facebook, and other online streaming platforms. If required, the performance can be recorded for playback and future editing, further enhancing the application.

Collaboration Made Easy

In these few examples we've been through, the VS-Rs allow for very easy AV collaboration for both live streaming and content recording applications. Their ability to both encode and decode make it particularly useful and easy to integrate into systems that require a unit to send traffic both ways. Coupled with on-board recording and automatic upload to FTP server capability, these slick silver units are most appealing for a wealth of applications.

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TAG'S NEW COLLINGWOOD HQ AND TRAINING CENTRE

Hipsters, craft beer, and Q-SYS Training on tap

by Jason Allen

Opening during last year's Integrate tradeshow and perfected since, TAG's new multi-storey Collingwood complex is home to a slick and flexible training room built to service the industry as a whole, including the insatiable market for QSC's Q-SYS.

It's refreshing to visit the office of a major AV supplier that isn't in a distant industrial estate. Easey St in Collingwood is as inner-northern Melbourne as it gets. Right next door, the famous train carriages on the roof that house Easey's burger joint provide Insta-perfect photo ops. The neighbourhood is thick with graphic designers, web gurus, fashion, art, design and other creatives. TAG's building blends right in with typical Melbourne understatement – industrial look, tiny signage, and effortless cool.

Inside you'll find the office that houses TAG's Melbourne staff, including National Sales Manager & Q-SYS Product Manager Giles Brading, and Q-SYS System Design & Support Specialist Jason Foord. The centre of the operation is the beautifully and functionally fitted out training room on level two – Swiss-made tables and chairs, touch panels and QSC cores on every desk, QSC and Martin Audio speakers on swivel mounts around the room, great lighting, and city views. It's designed to be reconfigured at the touch of a button to deliver training across

TAG's brands, including QSC's Q-SYS, Allen & Heath, Audio-Technica, and Martin Audio.

'We needed a space in Melbourne that could deliver training to the same standard as our space in Sydney,' explains Giles Brading. 'That's partly because of the scale of activity in the industry here in Melbourne, and partly because of its sheer density of AV consultants. Since we opened, we've had both integrators and consultants coming in for Level 1 Q-SYS training. We've got a great 'Lunch n Learn' programme that we host in the room and it's all just easy. We're 12 minutes on a tram from the city, and Jason has got all of the infrastructure in the room to the point where you just walk in, press a button, and get on with what you're doing.'

Easey Street has already hosted the big guns of AV integration for hands on Q-SYS training; Engie, Rutledge, Corporate Initiatives, and Fredon. Hospitality installers working across restaurants, pubs, and clubs have also been through the doors.

'We've had a total cross section of the AV

industry come by for training,' elaborates Giles. 'While you can do Q-SYS Level 1 training online, a lot of people prefer to come in and do it in a classroom environment, which we feel is the best way to learn anyway. We offer Q-SYS Level 1, 2, and 201 here, with 201 being the control-focussed programming training. We're seeing a lot of Crestron and AMX programmers coming in for that, many of whom may not have looked at Q-SYS up to this point. What we find interesting is that 64% of our Q-SYS cores shipped out last year with a UCI license, which means they were going to installs where they were going to be controlled by a user interface, be that QSC's panels, an iPad, computer, or third-party hardware.'

Anyone working with AoIP, distributed audio, and DSP has noticed QSC's increasing presence in the field, as they have relentlessly innovated out of their HQ in Boulder, Colorado. Uptake of the range has spread across the board, from basic audio distribution installations right up to heavily featured integrated solutions. The biggest install in Australia in 2019 was at Melbourne's own MCG, where Q-SYS's revolutionary software-based platform is delivered on a redundant pair of Dell servers with audio ins and outs via QSC's I/O-8 Flex Channel Expanders and CXD-Q networked amplifiers.

The amount of plug-ins being created to control third-party devices via Q-SYS is constantly growing. Whether it's a Shure MXA910 ceiling mic array or Atлона video



Giles Brading and Jason Foord

switcher, tools are available in the Q-SYS Designer software, created to QSC's standards and managed with updates and improvements. Interesting synergies are afoot, with QSC recently acquiring Attero Tech, who manufacture a huge range of 'Swiss Army Knife' networked AV widgets, including wall panels, converters, and extenders. 'Attero Tech by QSC' products are expected soon in 2020.

So why should an AV professional take time out of their work schedule to come to TAG in Collingwood for training? "Do it for the catering!" jokes Giles. "But the reality is that professionals need to make sure they've informed themselves about all the options, whether they use the product in the end or not. It's not going to cost anything to attend, bar your time out of your workplace. There's a level of knowledge our staff can impart,

whether on a deep technical level, or a sales architect level, that helps people understand how a system goes together. It's always beneficial."

For all training enquiries, contact Giles and the team at training@tag.com.au

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ELTON JOHN

by Cat Strom

Having spent 50 years creating some of the most memorable songs in the world, it's no surprise that Elton John's latest show lasts close to three hours.

The Farewell Yellow Brick Road tour will wind its way around the globe for three years playing approximately 300 shows. In Australia and New Zealand alone, Elton has parked himself for three months playing to thousands of fans eager to see him for the last time.

Like so many shows these days, the stage designed by Stufish and built by Tait is dominated by a massive LED screen which is used not just for IMAG but also as a way to tell the story of Elton's life and career. This is wrapped by a frame fashioned with highly intricate detailed scenic elements depicting moments that have influenced Elton's life. At the top is a pixel-chasing lightbox that spells out Farewell Yellow Brick Road whilst light fixtures and LED strips illuminate the portal during the show.

The mainstage video screen is made up of two screens. Either side of the upstage video

wall and rake are IMAG screens. Below the main LED screen is a video screen ramp made from Tait double-deckers with a built-in performance space for Elton John's band. The mainstage video screen relies on 13 Nav Hoists to remain stationary when needed and then lifts up and down to reveal a lighting truss underneath the video screen. Six Nav Hoists move the lighting truss at various times throughout the show.

The set also features a custom-curved Tait stage equipped with a downstage piano platform that tracks right and left, and rotates via Tait Navigator automation platform.

According to lighting designer Patrick Woodroffe, matching video and lighting was key to giving each song its own distinct look, to blur the lines between these two elements so that there are times when you don't know where one begins and the other ends.

Kevin 'Stick' Bye has been Elton's Lighting Director for 20 years and says that his job is to make sure that Elton and management don't have to think about lighting.

"Also, Patrick doesn't have to worry that his concept is not being adhered to," he added. "I ensure that the design team's vision goes forward. It's been a great ride, very challenging and it's not done yet!"

Whilst lights are concealed within the set, above the stage are simple straight trusses and two lengthy trusses stretch out over the audience in order to light up the room. The IMAG screens also host lights thus stretching the lighting design out horizontally.

As the set is so large, the lights trim really high which presents its own challenges. Just the building of the set in an arena is a mammoth task especially as it is not scalable.

"It has to be built the way it is," said Stick. "You've got to hit your trim marks every day and I'd say that's the biggest challenge of lighting the stage. The stage is so video-intensive the lighting needs to work around the video, you often have to match what's going on in the video."

Sometimes it all gets too much...

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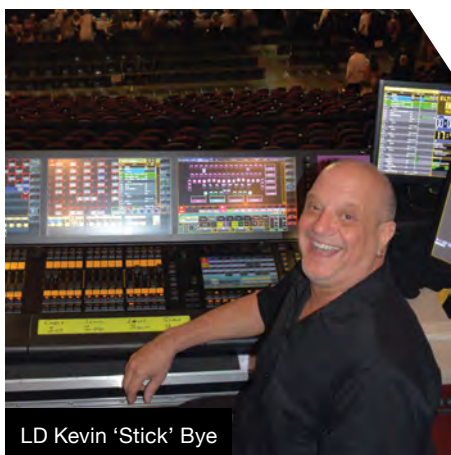
Alberts

Levi's

AccessEAP



FOH Engineer Matt Herr



LD Kevin 'Stick' Bye



Normally the lighting rig is built on one side of the room and the stage on the other, backline is then added to the stage, the rig is flown and the stage rolls into place. The whole process takes a day. Unfortunately, this was not possible at Sydney's First State Super Theatre at the ICC because of the layout of the venue.

"We had to assemble the lighting rig and fly it first, there were no available points for the audience trusses so we had to flatten them out and reconfigure that," explained Stick. "Once that was done and everything was trimmed, we came in the next day to build the stage and add backline."

A really bright fixture was required to cut through the video and be able to add punch from the high trim height and hence 78 Claypaky Scenius Unicos were specified with Stick noting that he also likes their gobos and framing ability. A total of 15 Claypaky Mythos are located on the flying truss upstage as well as on the band riser.

"Everything in the air is Unicos," stated Stick. "So far, the Unicos have been very dependable and I think it helps that we tour of our own. Plus the lighting crew are so good at what they do and they are maintained very well."

PRG BestBoy HPs were out on the audience trusses, with some used for followspots with the PRG GroundControl system, and 11 PRG Icon Edge used for floor lighting. Around 38 4-Lite square DWE moles are flown for added audience lighting when required.

46 GLP impression X4s, painted gold to match the frame around the stage, are used for the scenic framing whilst 16 impression X4 Bar 20s are also onstage. Copious amounts of ribbon LED are all over the stage as are 24 Chauvet COLORado 2 Quad Zoom.

Stick ran an MA Lighting grandMA2 console which, during the rehearsal period at Rock Litz was programmed by Eric Marchwinski. Stick is kept on his toes controlling all of the video content, lighting, and calling the spots.

"This is not my first experience with Eric and he knows exactly how I like the board laid out," commented Stick. "I can have it laid out to my liking with his speedy programming talent and then it's just a matter of adding in my own custom buttons; song-specific accents that I trigger manually."

"The video programming for the media server is done on a separate MA2 by Zach Peletz. Having said that, I'm running video content and IMAG switching is also programmed into my console. We do have a video director calling the show, but the cameras are programmed through the MA2."

During the show, the other grandMA2 is operated by Lars Kristiansen, the tour Media Server programmer/FOH Guru/CAD draftsman/what-would-we-do-without kind of guy!

At FOH mixing audio was Matt Herr on a Yamaha PM10 Rivage. This tour was his first foray into the digital world for Elton, having previously always mixed on analogue.

"I needed two analogue consoles which weren't an option for me on this tour," said Matt. "It was time to switch to digital and as I had worked with smaller Yamaha consoles for other projects, I went with the PM10, which sounds fantastic. The layout is great, intuitive, and it's super easy to use. I still mix in an analogue style with no snapshots. Yamaha consoles are solid and they are super reliable."

Out front Matt also had three Bricasti M7s; one for drums, one on the vocals, and one for other instrumentation. He uses the Delay and Harmoniser on the console, which is a H3000 live emulation which delivers the sound he requires. He's not a big plug-in person but did utilise a Neve Portico 5043 compressor on the vocals, Yamaha Opt 2A on the bass, and Neve 773 EQ on the kit, tamps, and roto toms.

Elton likes a big, full mix and it's a totally live show with no backing tracks. Whilst the same songs are played at every gig, Elton will often play them differently which challenges Matt every night. Getting Elton's vocal to stand out in the mix is easy due to his amazing voice, but Matt has to battle bleed from his two Clair 12AM wedges which Elton runs very loud.

"He uses a stereo mix of two Clair 12AM wedges which just have vocal in them and two 212AM wedges for piano and instruments," added Matt.

Fortunately, Elton's microphone is an Audio-Technica AE6100, a close proximity mic that affords extra cancellation and a wise choice



considering the volume of his monitors. The same mic is also used for the band members' vocal mics with the exception of drummer Nigel Olsson. Ray Cooper also has onstage monitors whilst everyone else has IEMs. Nigel mixes his own monitors on a Soundcraft GB8 and wears headphones.

The rest of the microphones are tried and tested favourites: Sennheiser E825, AKG 414s, AKG 460s, Sennheiser 609s, E604s, MD421s, Shure SM56s, SM57s, SM58s, and Beta 52.

Fitting instrumentation around other instrumentation is another daily challenge for Matt. Getting the timps to sit in the mix is tough at times, as they come in on quite a few solos.

"If it's a guitar solo and the timps are so overwhelming when they come in, you have to let them be heard but not drown the guitar solo and that balance can be a bit jerky," remarked Matt.

The Clair Global Cohesion PA comprised of 16 CO-12 for the main, 16 CO-12 for the side with six flown CP-218 behind the mains. Six forward-facing CP subs on the floor aside and four cardioids inside. Six CO-8 are located underneath the stage for front fill. There's a 270 hang that would normally hang in an arena to cover behind the video screen but that was not required at the ICC.

"The Cohesion Series has great headroom and the separation is amazing," said Matt. "When you have a room that isn't the best acoustically, you have a better chance with that PA than with some others. The clarity and separation really are the best."

The Cohesion top speakers are powered by Lab.gruppen PLM 20000Q and PLM 20K44 amplifiers and a total of six Lake LM44 processors. The system runs on proprietary Clair Lake iO software for system management, along with Smaart Live V8 for time alignment.

Elton has been a Clair client for decades and whenever he has toured Australia, JPJ supplied the audio. In fact, JPJ did his first Australian tour back in 1971 when they were still Jands (check out their Facebook page for images from that tour). JPJ's Nick Giameos is out on the entire tour as the system engineer and he praises the Cohesion Series saying "I have worked with all the leading brands of speaker manufacturers and the Clair Cohesion series goes up, sounds great and comes down quicker than any other speaker brand."

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I CAN'T TAKE YOUR MONEY

by Andy Stewart



In my role as a mastering engineer, occasionally a mix crosses my path that's just so bad it can't, in all honesty, be mastered. Not because it's physically impossible, mind you, but because it's morally objectionable! I can't do a whole lot of work on something that's clearly sub-standard or faulty, and then demand a fee for it. It's immoral. Being 'the last set of ears' before a song is released online, or sent to manufacturing, I consider it my obligation to call a halt to proceedings whenever it becomes clear that something has gone horribly wrong!

This doesn't happen all that often, but when it does, I rock back in my chair, mutter a gentle expletive to myself, and pick up the phone. Whatever I'd had in my work diary for that day was now out the window, and I was proceeding with Plan B.

When I'm wearing my mastering engineer's hat I consider it part of my job to run a quality control filter across the work I'm doing right at the outset – during the first listen. I don't do it consciously or even intentionally; the music triggers an almost visceral response in me.

So it happened recently, where a band rang me to say they had a song that was "sounding cool – we think" and would I master it for them?

"Of course! Send it over!" I said. It was only a single so it was no drama to fit it in.

After a brief chat about the song they went away and organised to get it to me via Dropbox.

A couple of days later I was invited to download the song, and a couple more after that I was in the studio sitting down, preparing to get the job done.

Take One

I opened up the song, hit play and sat back for my first listen... remembering that it was 'sounding cool'... apparently. Turns out it was a 20-carriage train wreck, complete with multiple fatalities. I hadn't heard something

that bad in years, and my instinct was immediately to assume that something was technically amiss.

I conjectured that maybe the bounce was accidentally of an auxiliary send somehow, given that it's possible for a DAW's mix output settings to be fed from virtually anywhere. Firstly, the song was mono (which was unusual, and typically accidental), but more importantly it sounded like mud from the bottom of the Yarra River. The vocal was blasting yet extremely dull, as was the bass, and the multiple electric guitars were all laid on top of one another like a pile of old dish rags, and searingly bright into the bargain.

"That simply can't be the mix they described on the phone," I muttered to myself. "No way!"

So I immediately called the band and told them to please check with their mix engineer that the bounce was correct, and to re-send it as soon as possible. While they were at it, could they please also check that what they send over this time is a hi-res file, not somehow a dithered version of the mix (it had originally arrived 16-bit/44.1kHz, which I thought was odd).

Dutifully, they did everything I asked of them: checked the mix send, re-bounced the file at 24-bit/96kHz, and uploaded it to Dropbox. I slated time in my diary again, and a few days later got back to the job. This time the file size looked healthier; it was now higher in resolution, and in my gut this looked like the problem solved.

I hit play...

What came out of the speakers this time was as before... a dull, yet searingly bright mish-mash of inside out tones and upside down

volumes, all resplendent in their monophonic glory! It was the same exact disaster as before.

This was getting ridiculous.

So I stopped work and rang the band... again!

This time I was more assertive and explicit about my requirements, as well as my suspicions. They listened to my polite rantings, reacted swiftly and re-sent the mix... again.

This time the file was 64-bit/32kHz floating (or something), which piqued my curiosity again, and not in a good way. "Why is the file size growing each time like mould on an old tin of tomato paste?" I wondered. "That seems really odd."

I wasn't liking these small technical surprises, and my suspicions were once again raised.

This time I steeled myself for what I was about to hear...

And sure enough... a train wreck: mono, sounding like garbage, and stupidly high res into the bargain!

WTF is Wrong This Time!?!

I was getting cranky now. I had entered this job into my diary three times, all for a piddling amount of money, which had – if I were to be hard-nosed about it – already been spent twice over without even starting!

I rang the band... AGAIN!

At this point I'm not sure who was getting more sick of hearing from whom: the band, the mix engineer, or me. All I knew was that, in preparation for this next conversation, the gloves were coming off.

"Hey there again guys," I started out, knowing full well that they knew my calling so soon must not be a good sign.

"Bad news I'm afraid... it's still sounding like garbage at my end, but given that this is our third attempt at a solution, I think it's probably time I spoke directly to the mix engineer. Do you have his number?"

"Yep, we'll text it to you right now."

Which they did...

Moments later I rang the engineer (whose name I didn't know) directly on his mobile.

"Hey Fred," I said, "It's Andy Stewart here, I'm mastering..."

"Hey Andy, great to talk to you man," he interrupted.

Fred started on a bit of chit-chat rant about mixing, and my Mill studio, and who knows what else... but I quickly turned the conversation on to his mix of the single in question.

"I just wanted to ring you to triple-check a few things," I said, "to eliminate any technical problems we might be inexplicably having somehow." I was trying to be polite yet assertive (I had already wasted so much time on this song that I didn't have another hour to waste on pleasantries with a fellow engineer.)

"Yeah man, fully understand. What seems to be the problem?"

Without wanting to launch into a tirade about how abominably awful the song sounded, and still holding onto a shred of hope that the song had a DAW-related bounce problem somehow, I stayed cool and talked plainly with Fred about what I was hearing at my end.

"I just wanted to check for starters about the issue of the song apparently being mono. Is it possible that I'm getting a folded-down version of the mix somehow?"

"Nah man, it's stereo. Definitely."

"Well, that's weird," I said. "Because it sounds virtually mono at this end, and the goniometer on my console confirms it. So are you saying that things like the big electric guitars are wide left and right in the stereo mix?"

"Nah man, they're all mono... I was going for a mono vibe on the guitars. The only thing that's stereo are the overheads, but they're hard left and right."

"Riiiiight," I said, trying to conceal the hesitation in my voice. "So only the overheads on the drums are, in fact, mono, yeah?"

"That's it!"

Suddenly the penny dropped. What this guy

was now telling me about his mix made me realise that A: we did not have a technical issue here, but rather a mix problem, and B: clearly Fred didn't know what the hell he was doing!

"So how many guitars are in the mix Fred... I can't tell?"

"About nine or 10, some of which are acoustics."

"Oh right, okay, I've not noticed the acoustics in there but I'll double check that now and get back to you... thanks for your time Fred."

Click.

Ring Ring

I rang the band... unfortunately for them, they answered!

I proceeded to do something I have only done a handful of times under very rare circumstances. I threw Fred under the bus. Sorry Fred.

No offence was intended towards Fred, of course. I simply couldn't stand by and let this band release Fred's so-called mix of their single with it sounding so breathtakingly bad. Nor could I put my mastering engineer's name on such a train-wreck. I was simply acting to avert disaster for a client that I was, at some point, intending to invoice.

"You guys need to remix this song with anyone else, frankly. This mix won't fly in its current form, and I suspect it needs to be revisited from scratch. I could do it; virtually anyone else I know could do it. It certainly doesn't have to be me," I said, knowing full well I had just dobbed myself in for a job I really didn't want.

And yep, I remixed it, and it sounds pretty cool now. One thing's for sure, it's wider!

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 the last 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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The Civic Roars into the Twenties

Auckland's Civic Theatre Turns 90

by Jenny Barrett

On 20th December the grand old lady of drama, musicals and cinema, The Civic, turned ninety on a definite high. Near derelict in the 80s, she was almost demolished to make way for a train station, but is now roaring into the 20s, a globally significant exemplar of cinematic and theatrical history.

The Civic is an 'atmospheric' theatre, a style popular in the late 1920s, predominantly in the USA but with a few others scattered around the world, including Sydney's Capitol Theatre and Dunedin's Empire Theatre, now a six screen Rialto. Atmospheric theatres were designed and decorated to evoke the feeling of a particular time and place through the use of projectors, architectural elements and ornamentation with twinkling stars and drifting clouds across the ceiling. Japanese, Aztec, Moorish, Egyptian, and Roman influences abounded, often combined in a garish mish-mash. The Civic's Eastern theme, with Indian-inspired motifs in the public foyer including seated Buddhas, twisted columns and domed ceilings is supplemented in the

main auditorium by Spanish courtyard turrets, minarets, spires, tiled roofs and not forgetting the Abyssinian panther statues for extra kitsch.

By the 1980s the majority of atmospheric theatres were severely compromised or demolished and only a handful remained. At 2,800 seats, The Civic was one of the largest anywhere in the world, but neglected and under threat. It is testament to the power of a campaign group and a well-placed passionate individual that The Civic lives on, not only as a venue but as a part of history.

George Farrant, an architect, was the right man in the right place at exactly the right time. Whilst assessing and ranking heritage



buildings in downtown Auckland to inform the Council's urban planning, George became aware of The Civic's national and international significance, "Working with The Friends of the Civic, we got the backing of councillors to restore it to its former glory and \$42 million to spend." The decision was made to assimilate live theatre, requiring a new stage, fly tower and all the necessary equipment and technology, but George and the Friends also fought to preserve The Civic's cinematic roots. Although Auckland Live (then The Edge) had doubts, the now 2,379 seater venue was packed out within two weeks of the theatre's 1999 re-opening with people flocking to see *Blade Runner – The Director's Cut* and the touched up version of *Gone With The Wind*.

For George this is what he relishes most about his heritage work, "I enjoy the dual challenges of trying to integrate the new technologies, whilst preserving what is unique about a building." One of his biggest challenges at The Civic was recreating the ubiquitous starry ceiling and the cloudy sky, "The sky was a notorious acoustic reflector. Someone would start a monologue and you'd only hear the first three words before the echo would drown out the rest of the speech. It had to be replaced and person after person told me that it had to be a replica of the original; the Southern sky at night."



“The original starry sky had been created using tiny little lightbulbs designed for use in aircraft control panels peeping through holes in the ceiling,” explains George. “They were 9 volts but ran at 6 volts to extend their life, changing a light bulb being a heroic feat!” With most of the wiring destroyed by pigeon droppings, George was unable to just turn on the lights to look at the supposedly accurate map. Instead he had to stuff each hole with paper, take photos and then compare it to a map of the sky. “Turns out it was not a map of the Southern sky at all, just completely random. After the Council gave us some extra money, we decided to put back what everyone thought they had been looking at rather than what they had been looking at and replicate the actual Southern sky at night.”

George chose the night sky from 20th April at 10pm when the Southern Cross is high and Orion, Scorpio and the Milky Way are very visible, “We now have five times as many stars as in the old ceiling, thirteen with colour and all positioned accurately to two decimal places. We used fibre optics and have enabled them to all twinkle individually.” The team also managed to resurrect the old cloud projection machine, even down to sourcing a replacement for the misappropriated lens, and supplemented it with a new projector. Lastly they decided to add a shooting star. This required an invisible slit in the ceiling



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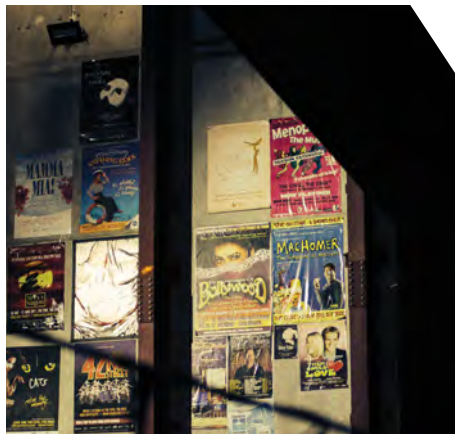
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and 320 white LED pilot lights. The University of Auckland designed a circuit that would strobe and pulse the LEDs along the slit, with a bright flare at the start, fading out along its journey, "Initially we had the meteor programmed to run just the once, two minutes into the sequence but we had complaints that people missed it. We now run it two times, a minute apart, but if you miss the second one it is hard luck!"

Maintenance lighting was another challenge for George and his commitment to preserving the integrity of the venue as an atmospheric theatre, "We needed five lux of lighting for maintenance work. We knew what we didn't want due to lessons learned at the Capitol Theatre in Sydney, where they had used twelve watt halogen bulbs in amongst the stars. Only problem was they didn't look like stars." The Lighting Engineers advised that twenty five to thirty 1500 watt lights would create the required amount of light, but they needed six inch holes. George was not going to have six inch holes in his ceiling. Instead he undertook a survey and identified that a thirty millimetre hole was beyond the vision of most people so that was what they would work with, "We made chrome plated funnels to fit the six inch lights into, then the light barrelled down this fitting and out through a thirty millimetre hole, invisible to the naked eye."

And of course live theatre often needs extensive stage lighting not just from the fly tower directly above, but also from the auditorium ceiling, "The idea of obtrusive

lighting booms with masses of fittings below our magnificent electronic starry sky just wasn't on." George and his team elaborated on a solution that he had used in the recently restored Auckland Town Hall, "I had the big 'follow spots' mounted above the ceiling that were exposed for use by raising a large trapdoor in the ceiling, so that if they were not needed there was no evidence that they even existed. The Civic lighting problem was of course much more significant, so we designed a series of very large hatches, big sections of the 'night sky', that are down, complete with stars, when the sky is displayed, but then as the stars and clouds dim to black they whisper up on near-silent cable lift mechanisms to reveal masses of stage lighting and follow-spots. The lift mechanism also had to be able to smoothly drape all the star fibres inside caterpillar tracks as the hatches move." George recalls with great satisfaction hearing theatre patrons exclaiming in astonishment, after just having admired the night sky, "Where the hell did all those lights just come from?"

It was a large team of committed and passionate individuals who made George and the Friends of The Civic's dream possible, George describing himself as "the conductor of a large and talented orchestra." George particularly recalls the contribution of Peter Stoneham of Fibre Optics Ltd, the clever services design developed by Jasmax Architects and The Edge, even down to the Fine Art students who helped with the paint

restoration. Many of these same individuals are now waiting in the wings for the go ahead to restore the St James Theatre, another Auckland treasure, once the politics is out of the way.

To this day George, now aged seventy-seven, continues as a consultant to Auckland Live, who manage The Civic with Regional Facilities Auckland, "Auckland Live are very good custodians and will never authorise anything without talking to someone first to measure the impact." When big shows want to drill holes in the ceiling it is always run past George, "I'll try and work with the production team and although I might say no to what they want to do, I'll offer an alternative, but we are not like other theatres and can't be horsed around with. Welcome to The Civic!"

With spectacular audience attendance figures and recent hits such as Matilda the Musical, Mary Poppins, Disney's Aladdin, School of Rock and with The Book of Mormon opening in February, Auckland Live and George's approach seems to be paying dividends, "It is hard to believe that now we worry about finding the time to fit in maintenance work or backstage theatre tours, so popular is the venue." Definitely worthy of a 90 year celebration.

George Farrant takes groups backstage for fascinating three hour tours when he gets the chance between shows and saving historical buildings. See the Auckland Live website for details.



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JUNE JONES SELECT AUDIO VISUAL

by Toni McAllister

Meet June Jones, Operations Manager for Select Audio Visual in Queensland.

June has been working in the industry for over 20 years and brings a rich background of event knowledge to her work. She is passionate about customer service, loves AV, and wouldn't want to be doing anything else!

What do you love about working in AV?

I love the different aspect to every day. No two days are exactly the same. I couldn't see myself working anywhere where I walked in 9 to 5 and knew exactly what I was going to be doing and ticking boxes and just going through the motions. The thing about this job, while it can frustrate you and drive you crazy, at the same time it's very different every day and that's what keeps it fresh and new and wanting you to do it.

What motivates you?

When I do something and somebody says that was amazing or "You nailed it!" I love it when a client says "You totally got what I was asking you to do, even with that short brief I gave you, you totally brought it to life." Working together to achieve amazing results gives me everything I need every day.

What interests you more – the gear in the box or what it does?

I've always approached my work from a customer service angle, not a technical AV perspective. 95% of our clients are not technical. They don't know what they want. They just know the look or feel they want. Rather than look at the gear and what it can do, I think 'How can I make this adapt to what they want to do?' I'm less about brands of gear. I am about collaborating with the client to achieve their event objectives.

Do you have a particular gear crush?

I don't get connected to the gear in the way some techs do. And I think sometimes that is a godsend and sometimes it's a downfall.

But it works for me because that's how I approach my clients and every event. I don't have a favourite. It's just what is going to work for what they want to do.

How did you get your start in AV?

I came from a background in banqueting in London and I saw what they were doing with AV, which was in its infancy back then. I just looked at what they were doing and thought that looks far more interesting than anything in banquets. So I wanted to switch over. I didn't have the opportunity in London but when I moved to Australia the opportunity arose to work for Robin White. They could see back then that they needed someone with a customer service focus rather than technical. Because you can teach the AV but it's harder to teach customer service. When they gave me that opportunity I just ran with it. I did lots of work outside of hours and always went along with the crew.

So you did most of your learning on the job?

I absorbed everything like a sponge. As soon as someone was able to teach me something I wanted to learn. I wanted to know how they did it, how they put it together, why it went together this way.

What was your biggest challenge transitioning from banquets to AV?

Learning about the connectivity and how everything worked. You plug this in here and this should happen, but it doesn't actually because you have to make sure of all these other factors. That was the biggest challenge then, but I think it's still the biggest challenge



now. The technology is always evolving so you have to keep those skills up and keep up that knowledge base. What was rule of thumb 5 or 10 years ago, we don't even look at anymore.

AV has traditionally been a male-dominated industry. How have you been able to thrive and build a successful career?

Because I bring a different skill set. I excel in organisation and attention to detail. And all those things I think women predominantly have because they run multiple roads in their lives. I know that sounds a bit sexist. You also have to have the desire to learn the equipment and be able to hold your own technically. That was one of the challenges I had once I had started to get some runs on the board. I was challenged about my technicality – what I could bring to the table technically as well as all that other 'fluffy stuff'. That made me want to learn. Anyone coming into the industry has to want to learn. It's not a 9 to 5 job, it never has been, not if you want to make a real career out of it and have it long standing. You have to keep up with the changes, keep up with the trends and bring all these things to your clients.

How do you keep up with trends?

Everyday stuff I see. I never let an opportunity pass me by. Everything from what designers are doing, Instagram, Facebook, other events. I'll never steal what others are doing, but there are aspects from it you can make personal to your own event. It's about always listening and looking out around you.

Budgets are tightening but clients still want more bang for their buck. Any tricks or ways to best communicate around this?

Each event has a different fix or way that I would approach it. I'm a real fan of lighting and how we can use that to change the look and feel of a function space and make it

better for very little budget. I always start from the beginning and look at what the client wants to achieve, who is attending, what the space is like, what's the layout. If clients haven't thought through this early stuff first, then it can be a very long process to get to the right answer. But my transparency and openness from the beginning has always stood me in good stead.

What is one of the highlights or most significant events of your career?

An international conference on the Gold Coast last year with 11 rooms and 5 days of conferencing. It was mind-blowing. I pride myself on my attention to detail and ability to coordinate large scale events. But even this blew my mind. I remember saying "This is the most difficult thing I have ever done". The most challenging aspect was all of the moving parts. The sheer size wasn't it, the moving parts and the many variables happening in the background.

What helped you cope or succeed?

It was the team. The saying "There is no "I" in team" is not a euphemism. It's real. Because you need to have the people around you to share the load with. You can't do it all. It's all about working together. I think the key to success was also the most challenging thing, to keep everyone at the top of their

game, as well as staying at the top of my game. It was a lesson in this being more than just equipment, more than just techs, more than just the client. It's about pulling all the elements together and keeping everyone happy. It's quite a skill and that comes with years of experience. Which is why people don't manage multi-day million dollar conferences at the beginning of their career!

Any advice to young women wanting to make a start in AV?

There is an argument to having some background in events. If you are serious about getting into AV, if you have some of those other event skills then you can transition over. Then you are talking about something with some background knowledge. Quite often you can talk to AV people and they can only speak from their point of view. If you want to jump straight in, you can do that. But if you want a career in AV, you have to have the mindset that you'll need to grasp other skills along the way. It's not just how the gear works.

There was a mindset years ago that women couldn't be in AV because they couldn't load trucks or move heavy gear around. With WHS these days we're promoting safe work practices for everyone not just women. The way the rules and laws for WHS have changed over the years, it has done so

much to facilitate women coming into to the industry. And facilitating diversity in general.

What would you be doing if you weren't working in AV?

I think I would have stayed in banqueting or something in customer service. But if I have a choice I won't leave AV! I'll finish my career here. I could never do a 9 to 5 job. I need something with lots of moving parts and to do something different every day. I'd be bored if I didn't have something to challenge me every day.

Do you have a superpower?

Not sleeping much. Being able to function on five hours sleep. That has really helped me out over the years. Working in AV and needing lots of sleep – doesn't really go together. Sleep is a waste of time!

Any parting words?

I hope we do see more women coming into the industry. And I really hope that they don't think any of the old ideals are still around – because they're not. But they have to have the drive to do it. Like any industry, there are going to be gates they have to get through and hurdles they have to jump over. But if they have the drive to do it, they can. They just have to want it.

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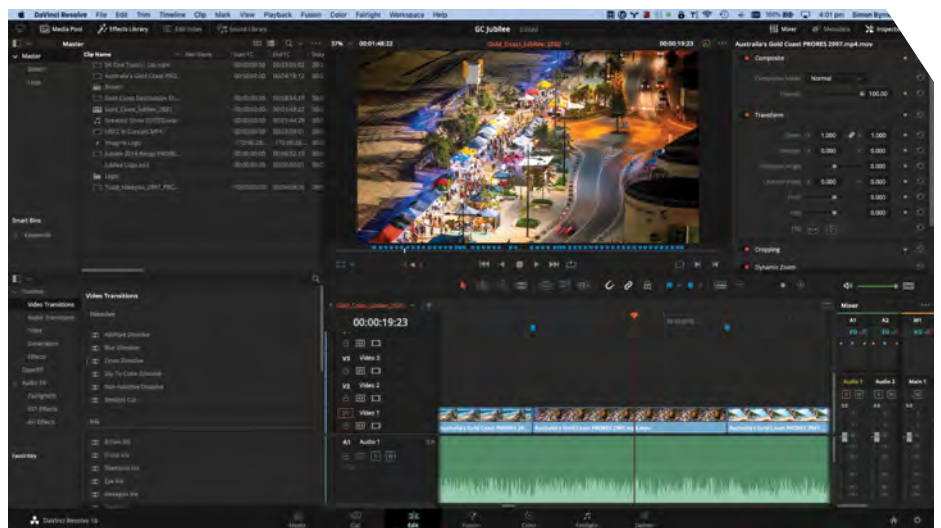
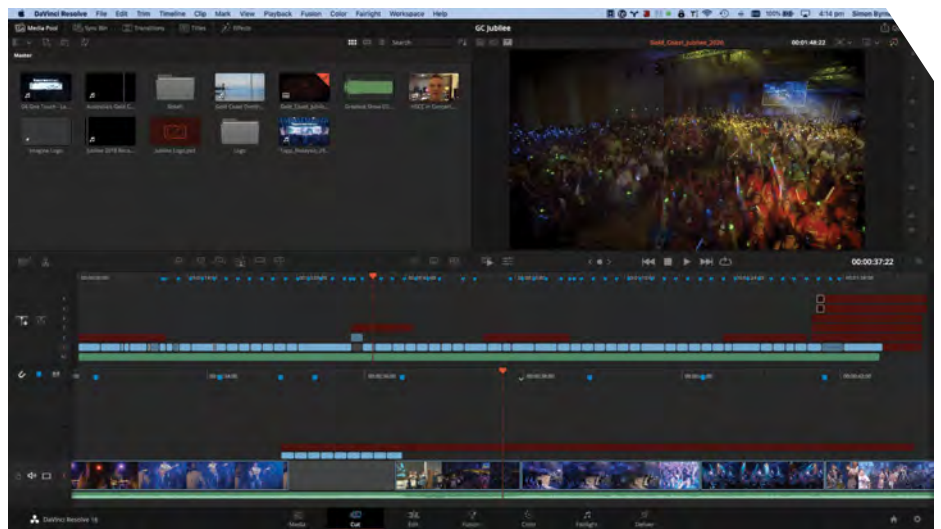
by Simon Byrne

I love learning of Australian production industry manufacturers making it big on the world stage, and there are heaps of them. Blackmagic Design (BMD) is a particularly well known example which was founded by Grant Petty in 2001, out of Port Melbourne.

We all know of their cost-effective hardware. The ubiquitous ATEM live production switchers, video adaptors and problem solving boxes, input cards as well as their cameras. But did you know they are behind some of the world's leading video editing and visual effects software? A fully featured version of which is genuinely free! It is called DaVinci Resolve.

When I say free, I really mean it. Truly professional non-linear editing software with no limitations, no nag screens, no crippled features, no licence restrictions, no monthly cloud licencing and no thirty day trials. Why is it available for free? BMD say they make their money on hardware and by making a version of DaVinci Resolve available for free, it helps drive hardware sales, and BMD have some very serious hardware controllers which are designed for high end studio use. You probably don't need them and the software runs fine on a stand-alone computer with decent specs.

To be clear, they make a paid version as well, which full-time editors and colourists use. At



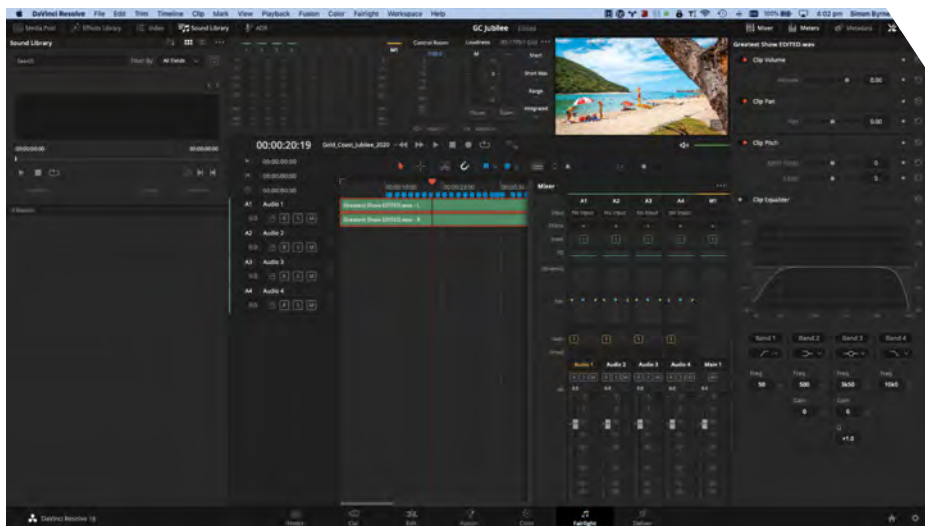
\$495 (including all future updates), the DaVinci Resolve Studio edition of the software has some extra features. Support for multiple GPU processing, resolutions greater than ultra-high-definition and frame-rates greater than 60 FPS plus other tools for working in a team.

Compare the paid Studio version with Adobe Premiere Pro which is only available by subscription with a min cost of \$343 per year.

Before I moved to DaVinci Resolve, I too was stuck on the Adobe extortion subscription train. I'd pay \$924 per year (plus the annual

price increases that always seemed to be about 10% more) for access to their software suite which was useful, but buggy and unpleasant to use and update. A lot of live event professionals occasionally have a need to be able to edit video footage and this is where the annual subscription model is particularly painful.

I also hated how Adobe tried to take ownership of my computer. For example, without any Adobe apps running, my Mac would still try to make network connections to twenty-six different Adobe servers all around the world, and when I actually fired



earliest music workstation with an embedded digital sampler, and is credited for coining the term 'sampling' in music.

The Fairlight brand was bought by BMD in 2016. The Fairlight within Resolve is a complete integrated digital audio workstation. You get a massive set of audio recording, editing, mixing, sweetening, finishing and mastering tools. It supports up to one thousand audio tracks, with a maximum of six inserts and twenty-four aux sends per track. Other functionality includes 96 channel audio recording and 3D audio mixing up to 22.2 surround.

The equivalent in Adobe's suite would be four separate programs: Adobe Premiere, After Effects, Audition, and Media Encoder!

There are lots of quality tutorials online, many of which have been produced by BMD themselves. As well as that, you can download their free 2,739 page PDF reference manual. It is really well supported.

DaVinci Resolve Free is available for Windows, MacOS and even Linux. It obviously works really well with BMD's input/output hardware as well as their monitors.

Lots of professional editors are jumping ship from Premiere over to DaVinci Resolve Studio. But for most CXers, who need to quickly edit a video for a show, place some titles on a recording, or re-render some footage for playback, DaVinci Resolve Free is just fine. Go get it!

Note for Mac users - don't install the App Store version. Due to licencing restrictions within the Apple App store, some codec features are missing. Go to BMD's website and download it instead.

<https://www.blackmagicdesign.com/products/davinciresolve/>

up Premiere, it would connect to a massive seventy-four different Adobe servers! Think about that, your computer makes twenty-six network connections to Adobe servers every time you turn it on, even before you fire up one of their apps.

But hang on, the free version is just fine for most CX readers!

The original versions of DaVinci Resolve was a software and hardware based colour correction tool which was produced by DaVinci Systems in the US. Used by Hollywood studios it was (and still is) the gold standard for colour correction and cost more than \$100,000.

BMD bought DaVinci Systems in 2009, retaining and expanding the engineering team for Resolve.

Because Resolve's genesis was as a colour correction platform for Hollywood, it still has the world leading colour correction tools built right in.

With constant development from BMD, the current DaVinci Resolve 16 has evolved to be

the only solution that combines professional editing, colour correction, visual effects and audio post production all in the one programme. You can instantly move between editing, colour, effects, and audio with a single click.

As well as powerful editing tools, DaVinci Resolve includes an integrated version of BMD's Fusion application for compositing and visual effects. That's their equivalent to Adobe After Effects.

The core functionality of Fusion is based on a modular, node-based interface, with each node forming one specific aspect of the overall effects being implemented. Prior to integration with Resolve, the standalone version of Fusion was used in the creation of effects for over one thousand feature films and TV shows such as The Martian, Game of Thrones and The Hunger Games.

If that is not enough for you, it also includes a version of the Fairlight audio workstation. Fairlight is another Australian success story founded by Peter Vogel in 1979. The CMI, Fairlight's first product, was arguably the

BETTY BLOKK-BUSTER REIMAGINED REDLINE PRODUCTIONS. LD: TRENT SUIDGEEST PHOTO: YAYA STEMPLER



AUSTRALIA'S No1 SPECIALIST LIGHTING COMPANY chameleon-touring.com.au

ONE ELECTRIC DAY ON COCKATOO ISLAND

by Cat Strom

The One Electric Day festival has been selling out annually in Victoria for the past seven years, and late last year, the inaugural Sydney show was held on the UNESCO World Heritage listed Cockatoo Island.

The lineup included James Reyne, Jon Stevens, Vanessa Amorosi and headlining act John Farnham, playing against the stunning backdrop of Sydney Harbour.

It was only the year before when One Electric Day founder Duane McDonald presented his other festival Red Hot Summer on Cockatoo Island, again headlined by John Farnham, and it didn't go too well. A total of 80mm of rain fell in one day resulting in a huge learning curve for Duane and his crew!

"It was a terrible wet day and it was almost washed out but we persevered," commented Duane. "I could see it had the potential to be a great venue so we did it again!"

Fortunately, the morning of the sold-out concert saw perfect Sydney weather for those travelling to this unique site. Managed by the Harbour Trust, the former convict penal establishment island has emerged as an iconic contemporary art and live performance venue.

Duane utilised Humm Management, who have experience of mounting shows on the island.

"They were right across all the barging and how to get everything out onto the island," he said. "It pieced together quite easily although it seems hard from a distance. We used Polaris Marine barges to ferry the semis full of gear over. They drive straight on and once we're on the island it's just a normal build."

Water taxis were hired for the day to shuttle artists and crew over. The other hurdle to overcome when staging an event on Cockatoo Island is getting the patrons there, so Duane chartered Captain Cook Cruises. The deal was that everyone who purchased a ticket received a return ferry trip from King St Wharf.

"It took a lot of organising and was Ticketmaster's worst nightmare!" laughed Duane. "It's a great venue but obviously it adds a lot to the cost of staging the event. The barging costs are huge and everything on the island is dearer, as you'd expect, from toilets, fences and all infrastructure. It's a lot more time for those companies rather than going to a city site and dropping their gear off.

However, it's well worth it for a special show."

The island can provide all the power required although backup generators were barged over for the show.

Despite its location, there are still strict noise restrictions, as the island is still open to other guests who camp or rent accommodation. Plus, once the noise hits the water it can travel well over to the city. Benbow Environmental were tasked with noise monitoring and ensuring all acts complied.

Powa Productions supplied the stage, ground support, and production lighting and audio. The audio set up comprised an L-Acoustics K2/KARA line array with SB28 Subs and ARCs. FOH control was an Avid S6L for James Reyne and John Farnham whilst the other acts utilised an Avid Profile. Monitor control was a DiGiCo SD5 for Farnham and a Yamaha PM5D-RH for the rest. As well as EV and d&b wedges, Shure PSM1000 IEMs were available.

Lighting was controlled by an MA Lighting grandMA2 full-size as well as a grandMA2 light and a Catalyst Media Server. The rig included Robe MMX Spots, 1200 Colorwashes, Robin 600LED Washes, Robin 100LED Beams, Claypaky Scenius Unico, and a 400FT Hazer.

A massive rock wall in the background made the audio a challenge, however, the guys from Powa navigated their way around it, doing what they do best. Fortunately, they didn't have a windy day - it was perfect.

Duane is quite fearless when it comes to stretching the possibilities of touring and staging events, taking risks to deliver something unique. Last year he took Red Hot Summer Tour to Bali, an experience that resulted in him losing a fair amount of money but he's a 'nothing ventured, nothing gained' kind of a guy. His One Electric Day and Red Hot Summer tours in Australia nearly always sell out as he has tapped into a large market with money to spend.

Duane will be doing it all again on February 8 and 9 when he returns to Cockatoo Island with the Red Hot Summer Tour for two nights.





Duane McDonald



Pat Kearney

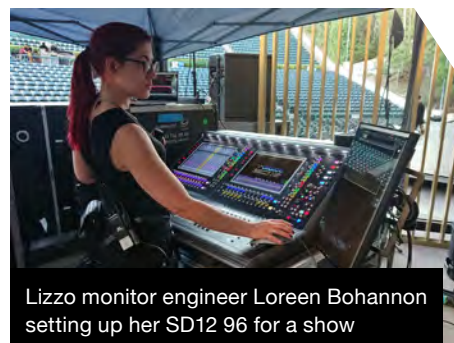


LIZZO

Millions of YouTube Views, Eight Grammy Award Nominations, and Two DiGiCo Consoles



Loren Bohannon mixing monitors for Lizzo on Clair's DiGiCo SD12 96 desk



Lizzo monitor engineer Loren Bohannon setting up her SD12 96 for a show



Brandon Blackwell mixing FOH for Lizzo on a new DiGiCo SD12 96 console

The artist behind the hit “Truth Hurts” and others is just wrapping up her Cuz I Love You Too Tour globally accompanied by a pair of Clair-supplied DiGiCo SD12 96 consoles for FOH and monitors.

Lizzo has made her mark on the music industry: her chart-topping “Truth Hurts” was at the number-one position on the Billboard Hot 100 for seven weeks in 2019, while the music video for the song has currently amassed more than 170 million views on YouTube. Completing her music-industry conquest, Lizzo’s Cuz I Love You Too Tour has sold out all of its shows since it began this past April, with some venues demanding additional performances. All of these shows were mixed via two DiGiCo SD12 96 consoles at the front-of-house and monitor positions, provided by Clair Global, which is also the SR provider for the tour. Brandon Blackwell helmed Lizzo’s FOH console while Loren Bohannon handled her monitor duties.

“I started with Lizzo in late May of this year when her tour was in between legs, but since then we have been super busy, doing just over 90 shows in the past six months,” says Blackwell, who has toured the world with artists including Camila Cabello, A\$AP Rocky, and Big Sean, and last year was named as one of Live Design magazine’s “30 Under 30” professionals to watch. “For this tour, I specified a DiGiCo SD12 96 for FOH. I have been on a SD12 the entire year with my other clients, but I was super excited for the new update to 96 inputs and 48 busses. With the extra I/O, I was able to add some extra key

FX sends and returns, and also more parallel groups to my mix.”

“As usual, I have paired my DiGiCo console with a Waves SoundGrid setup. While Waves is taking care of processing my vocals, subgroups and EFX, most of my heavy lifting of processing the playback tracks is being taken care of onboard the console. For each playback channel, I am using the dynamic EQ and multiband compressors to shape my mix. Snapshots are a big part of my mixing, so I really enjoy having all of these settings change when I hit ‘next.’”

Blackwell adds that having the same consoles at FOH and monitorworld has made the tour’s workflow vastly simpler and more efficient. “I’m a big believer of cutting out the traditional analogue splitter, and this tour has followed suit,” he says. “Both of our consoles and the stage rack are on a fiber loop, and all of our inputs go directly into the SD-Rack, which has six new 32-bit Mic Pre-amp cards and one AES/EBU input card. With this setup, we have taken full advantage of those features that are unlocked when using an Optocore loop. Loren has control over the gains, and I use the digital trim with gain tracking engaged. We also use the Con Send and Receive feature to move key audio sources between both desks. And since the crowds can get up to 115 dBA

at FOH, we rely on the chat feature a lot. It has to be one of my favourite management features of the DiGiCo platform.”

Blackwell further says that the DiGiCo consoles, in conjunction with a DiGiCo Orange Box multi-format interface, have also made track playback during performances much more reliable and straightforward. “The progression went from a DJ rig to an Ableton playback setup, but we decided that MADI would be the next step,” he explains. “Thanks to our playback operator, Hugo Marcotte, we made the leap to a full redundant MADI setup with an analogue backup. Hugo is sending 32 channels of audio over MADI and analogue into our Optocore loop using an Orange Box with DMI-OPTO and DMI-MADI-B cards installed. This allows both of our consoles access to the MADI stream.”

Monitor engineer Loren Bohannon, who began with Lizzo in April ahead of her Coachella appearance, is also a dedicated DiGiCo fan, having been out previously with SD10 and SD12 desks with Michael Bolton. Bohannon’s Lizzo stint began with a compact SD11, a perfect fit for the smaller rooms on the tour’s early dates, and it also came with DiGiCo’s legendary support.

Both Blackwell and Bohannon give the SD12 credit for the tour’s technical success, but also for how it lets the artistry shine through. “The dynamic EQs, the quiet 32-bit head amps, integrated UBMADI for multitrack recording and playback, virtual soundcheck through the console—everything on the DiGiCo contributed to a smooth show,” says Bohannon. “I love the consistency I am able to provide for my artists from the DiGiCo platform.”



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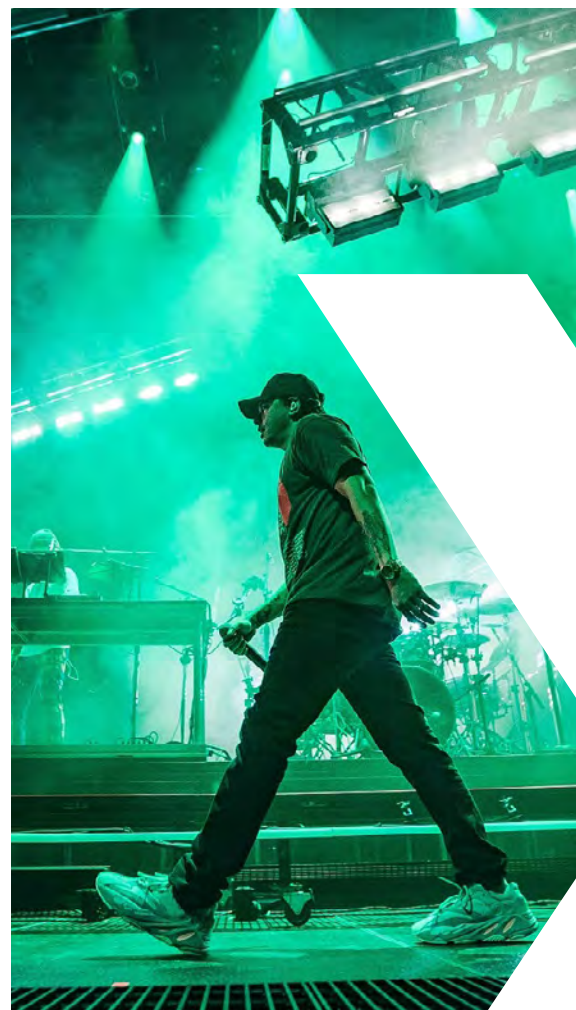
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Mitchell Schellenger and Artiste Monet Shine on Logic tour

Photo Credit: Marc Chambers, @MAUIMARCC



American rapper Logic toured 26 cities across North America from October to December 2019 on his *The Confessions of a Dangerous Mind* Tour with lighting design by Mitchell Schellenger and lighting supply by Volt Lites of Burbank, California. Schellenger employed a rig of Elation Professional Artiste Monet moving heads as the workhorse fixture in his design and says the powerful, multi-purpose LED profile was just what he was looking for.

Logic is a multi-platinum selling, Grammy nominated artist whose positive message has endeared him to an ever-growing fan base. Perhaps best known for his six-time Platinum single 1-800-273-8255, which spotlights mental health and suicide prevention awareness, he released a new album *Confessions of a Dangerous Mind* in May, which debuted at number one on the US Billboard 200.

Seeking a fresh look for the artist's on-stage performances, Logic's manager contacted Schellenger after seeing an Imagine Dragons performance and liking what he saw.

Schellenger has designed lighting for Imagine Dragons since 2018. That led to Schellenger putting a festival rig together for Logic earlier this year, something he describes as easy, and that could move around. "almost a one-off style rig," he said. "Then we took those ideas from the festival show and built it into a full blown arena tour."

That festival rig featured sets of parallel, automated trusses, a component that Logic liked that Schellenger built the rest of the arena show around. "We wanted to keep the look clean with few fixture types in the air," he explains, "so we chose to use one fixture

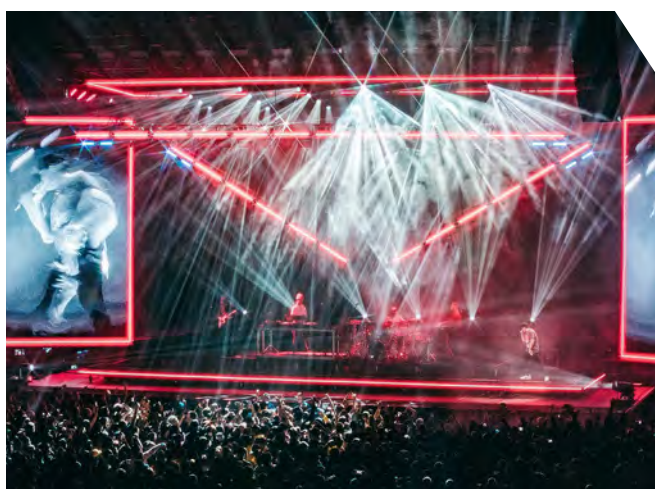
above the stage and that's where the Monet came into play."

Perfect Sense

Schellenger had visited the Volt Lites shop in LA to demo the Monet and found the fixture's multiple capabilities to his liking. "I didn't want to use the typical wash, profile, beam configuration," he says. "I wanted this to be a simplified look and by doing so I needed a fixture that was capable of doing a lot of things with the power and capacity to light the entire show from above. The Monet just made perfect sense."

What first caught his eye however was the moving head's design itself. He comments: "It's a proportionate fixture. The housing is really clean and modern looking, which is something that I personally take into consideration because even when a fixture isn't being used there's still ambient light that's catching it and you can still see its silhouette. I knew there would be times with Logic when we were lighting a song with just the floor lights and you'd still be able to see the Monets up in the rig. Having a nice shape to the moving light was important."

When the designer turned the unit on, both the output and evenness of light made an immediate impression. "Although it was incredibly punchy, there was no hot spot," he said. "We put it up against some other fixtures and it was uniform and bright. As a white LED



source, when using it in open white it has a pure white colour. If you didn't know that it was LED, there's no way to tell."

He then started incorporating colours using the fixture's SpectraColor CMYRGB colour mixing system, along with CTO colour correction and colour wheel. "When we started integrating the colours, you can get so much saturation out of them and still maintain punchiness. We dropped Congo into it and it was still bright, which other fixtures have trouble with. Knowing that this fixture had to be my primary source of light, that was key in the decision to use them." As the designer continued to play with the fixture, he took notice of the gobo selection, which he describes as "beautiful, sharp, clean and modern."

The Confessions of a Dangerous Mind

On the Logic show, an overhead rectangular rig holds 24 Artiste Monets in six rows of four fixtures each. Across the backline and lined up with the six overhead finger trusses are six more Monet fixtures used for aerial effects and to shape the band. Running perpendicular to the Monet truss fingers are four automated finger trusses, which at times disappear completely to leave the Monet fixtures alone.

Despite the large arena settings, Logic wanted the show to have an intimate feel so Schellenger abstained from LED video

graphics and used IMAG with a supporting light show. While two monolithic screens (each 4.5m wide by 9.7m tall) project live images of the artist, the upstage centre is left intentionally void. Schellenger explains: "I didn't want the IMAG upstage centre because having a big LED surface on for 100% of the show wouldn't allow the beams to have their moment. Even though the IMAG is on all the time it is so far off stage that you always see beams of light and the automation moving. The upstage centre is literally a hole of negative space that gives us big real estate for the light show." In addition, because the show relied heavily on IMAG it was important that the lights played nicely with the camera, which, according to Schellenger, they did.

The designer also placed a Monet fixture at each downstage edge of the stage for sidelight, a position that he typically would use two fixtures to get the intensity he wants. "This was the first time I've ever done a show with a single fixture downstage left and downstage right and it was more than enough," he said. "We could zoom them wide to get the full shot then shutter them down with the framing system so we weren't blowing out the video wall." Lighting programming was by Manny Conde with Sarah Parker handling lighting direction on tour.

Logic, who performs with a 4-piece band behind him, doesn't put on a typical rap

show from both a lyrical and a performance sense. Not only does he emphasize peace, love and positivity, there are slower, more intimate moments in the show, for example, where he stands at a single mic centre stage. For these looks, Schellenger hits the artist from behind with the Monets in what he calls a Sinatra-looking song but with a modern twist. "He was receptive to having those types of moments in the show because it keeps the show dynamic and gives us the chance visually to play off the dynamic," he says. "It was a great tour to be a part of and fun for us from a creative standpoint."

Production Design, Lighting Design, Show Direction: Mitchell Schellenger (Station six)

Lighting Programming: Manny Conde (Retinakiller)

Notch FX & D3 Programming: Ryan Sheppard (Darkmatter Technology), Manny Conde (Retinakiller)

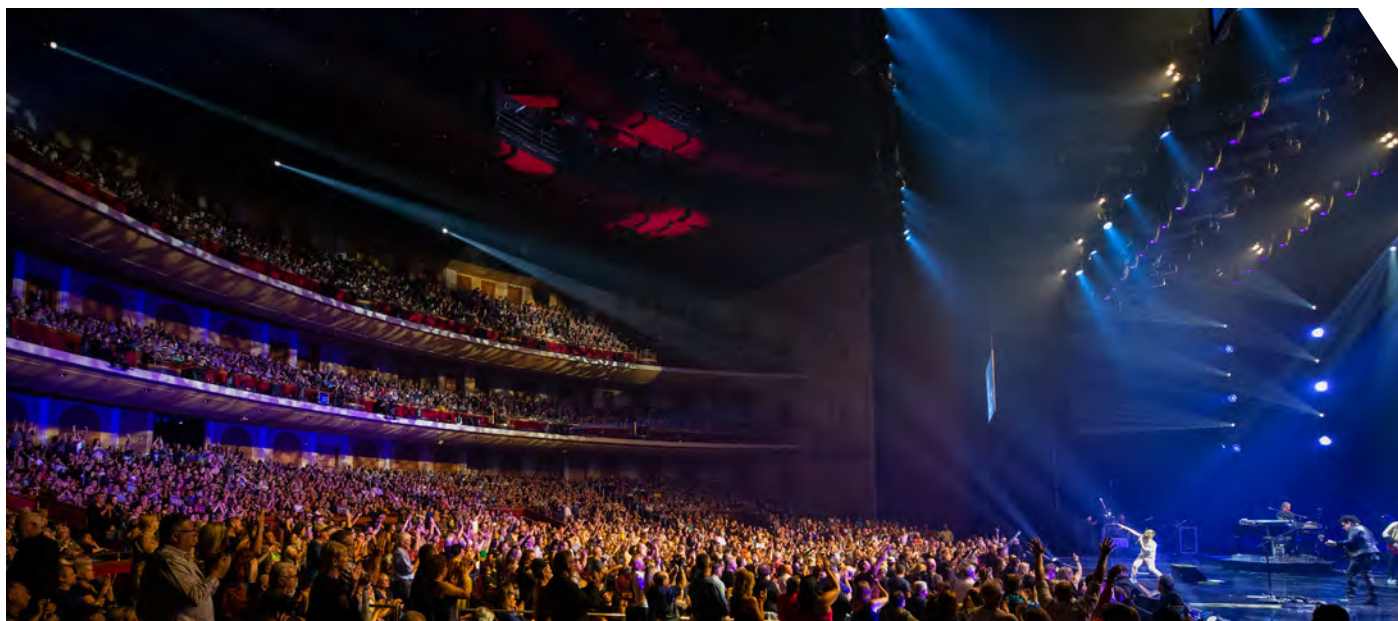
Tour Producer: Eighteenthentysix

Lighting Direction: Sarah "Sparks" Parker

Tour Manager: John Momberg

Production Manager: Will Keating

Lighting and Automation: Volt Lites



Meyer Sound LYON Powers New Era at The Colosseum at Caesars Palace

Following a summer hiatus for significant technical and design upgrades, The Colosseum at Caesars Palace relaunched in September to herald a new era at Las Vegas' premier music showcase. Originally completed in 2003 to house Celine Dion's record-shattering residency *A New Day*, The Colosseum has relied on Meyer Sound reinforcement systems supplied and installed by Solotech, a global leader in AV solutions and services. The tradition continues with the latest generation of audio technology as a new, Solotech-supplied LEO Family system anchored by LYON arrays has been installed to support the award-winning venue and ensure that guests have an unmatched live entertainment experience with some of the world's most celebrated superstar talent.

Keith Wright of Production Specialists of Las Vegas (PSLV), who represented Caesars Entertainment as a consultant on the project, was fully aware of the storied success of The Colosseum. "Meyer and Solotech had proved themselves with 16 fantastic years in that

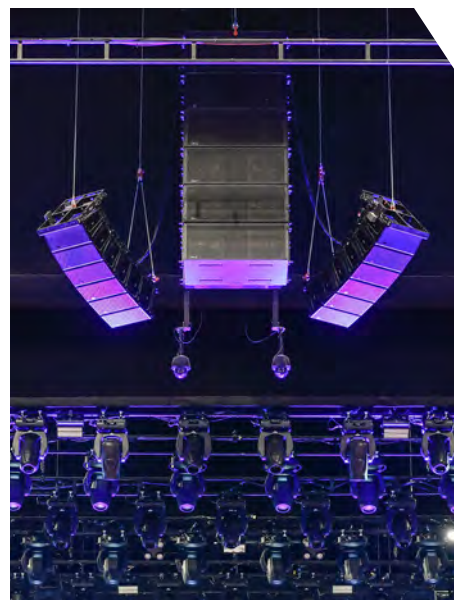
venue," Wright recalls. "They knew this room better than anybody else, and through all that time their support was unmatched."

Overall scenic and AV design was again entrusted to world-renowned Montreal theatre designers Sceno Plus, but with Wright supervising the specifics of AV design and integration. Solotech was again selected to supply the Meyer Sound system, and this time also handling the video and lighting as well. Playing an early but pivotal role in securing Solotech's participation was Francois 'Frankie' Desjardins, currently the company's vice president of R&D, who was a principal designer of the widely heralded original Meyer Sound system at The Colosseum.

"Although I was not involved in the system design this time, I felt it was important for Solotech to provide this new system," he says. "The Colosseum is an iconic theatre and certainly one of the most celebrated entertainment venues anywhere in the world. We wanted to continue as part of that tremendous success story."

Desjardins expressed confidence in the decision to select a Meyer Sound solution for The Colosseum. "The first system had served the room for more than 15 years, so reliability and longevity were important factors in the selection of the brand-new audio system. Once given the design, we worked to ensure the installed system would achieve all goals with hopes of exceeding expectations for guests of the all-new Colosseum. We always strive to achieve the best of the best. People remember your most recent project, not the one from 15 years ago."

The new LEO Family system was built around twin arrays of 16-each LYON line array loudspeakers with a center hang of 12 LEOPARD line array loudspeakers. Forceful low end is supplied by 18 1100-LFC and 14 900-LFC low-frequency control elements. Completing the design are four UPQ-D1 loudspeakers, six LINA loudspeakers, and 26 UPM-1P loudspeakers for fill and delay systems. Eight Galileo GALAXY processors are linked via an AVB network, and the main



Keith "M"



Meaux" Windhorst, FOH Engineer, Journey

arrays utilise Meyer Sound's exclusive Low-Mid Beam Control technology for uniform front-to-back response.

"All the video, audio and lighting systems here can work in unison or separately, depending on how the acts want to use them," says Solotech Project Manager David Cerullo. "We have fiber optic connections for both audio and video so if we need to send audio cues to video or lighting, that can happen. It's powerful and incredibly flexible, and from my perspective, it's an extremely impressive improvement. The Colosseum is probably the best sounding and best visual theatre on The Strip right now, and we are so proud of the work we've contributed to this beautiful venue."

Cerullo also commended project partners PSLV, IATSE Local 720, and Meyer Sound for smooth teamwork that enabled completion of the complex project within a compressed seven-week window. "The people from Meyer Sound were here from the day we walked in until the day we finished. They showed tremendous support not just for us at Solotech, but also as a vendor to Caesars Entertainment by working so closely with PSLV. All in all, it was an amazing collaborative effort."

One of the first resident acts to test the new Colosseum was legendary American rock band Journey, which dominated the schedule through most of October, then returning for four more shows at the end of December, including New Year's Eve.

"The guys on stage love the feel of this room and the way it enhances their performances," said the band's FOH Engineer Keith 'Meaux' Windhorst. "They've said many times how great it sounds on stage and that's a reflection of what's happening out here as well."

The response of the system is familiar to Windhorst as Journey has been touring with a similar LEO Family rig in recent years. "There was a comfort factor, right out of the gate," he relates. "You run up that first fader and it's immediately right in the ballpark. It sounds fantastic, it sounds familiar, and that's what I'm looking for."

Windhorst's sentiments were echoed by the band's co-founder and lead guitarist Neal Schon. "From the moment I walked on stage I felt this was an amazing place to play," he says. "We love the way that it has an intimate feel for a big venue. You can see people quite far back into the room. I can tell the sound is good because I can see that they are getting it, that we are connecting with them through this great sound system."

Following the renovation, Caesars Entertainment assumed operational control of The Colosseum and began its partnership with Live Nation, the number one live entertainment promoter in the world. To ensure a smooth transition, Caesars Entertainment then delegated responsibility for both the AV overhaul and continuing production management to Production Specialists of Las Vegas (PSLV).

Since opening in 2003, The Colosseum has welcomed nearly 10 million fans and changed the live music experience on the Las Vegas Strip by pioneering the modern artist residency model and successfully welcoming entertainment's biggest superstars to the city. Although it boasts a capacity of 4,300, no seat in The Colosseum is more than 145 feet from the stage. The current lineup of resident artists includes Jerry Seinfeld, Keith Urban, Mariah Carey, Reba, Brooks & Dunn, Rod Stewart and Sting with more exciting announcements to follow.

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¹Passion, Pride, Pitfalls Dec 2014

ROBE SPIIDER

by Dave Jackson



At Creative Productions, the time came for us to update our fleet of moving wash fixtures. Opting for the Robe Spiiders was an easy choice. We were seeing Robe Spiiders specified on lots of international riders, and as we already had a lot of success with Robe fixtures, we invested in forty-eight units nearly a year ago. We now have over three hundred various Robe fixtures in our inventory.

The Spiider is a moving washbeam LED fixture which comprises one 60W RGBW and eighteen 40W RGBW LED multichips. I primarily use them as wash fixtures, and they are great. I quite like the large head which delivers a more traditional PAR64 type large diameter beam. The wide variable four to fifty degree zoom is smooth and offers great flexibility. As well as being rigged in trusses, we use them a lot floor mounted and for side wash band looks.

They are unbelievably bright! They deliver a hefty 11,000 lumens, which we need because we routinely have to get over the top of increasingly brighter LED screens. We have to have a lot of punch, and they've got it in spades, which means we comfortably use them instead of discharge lamp fixtures. On camera they look great with no noticeable flicker.

The colours are pretty much perfect with good saturation. Colour temperature adjustment is accurate. We are seeing a trend where we need less spot fixtures because the Spiiders are just so flexible. For example, I used to do a gig with twenty-four wash

and thirty-two spot fixtures. Now with the Spiiders, I can get a bigger show look with forty-eight Spiiders and just twelve spots because I can get so many different beam looks out of the Spiiders.

They've got nineteen distinct beams and as you'd expect for any decent fixture nowadays, the LEDs are individually addressable so you can do pixel mapping. Using up to 123 channels and a daunting amount of available modes, the Spiider has lots of tricks and we haven't come close to using these to their full potential as yet.

They've got their cool flower effects built-in, which create ten or so multicolour beam effects in the air rotating in both directions at variable speed (apparently being patented). They are great effects to 'just grab' when you need to create a dynamic look really quickly.

They are lightweight at only thirteen kilograms, and their size is pretty compact for what they are. That means we pack four units to a case, which takes less warehouse space. With everyone wanting to keep trucking costs down nowadays, transporting them is efficient.

The technology Robe put into their gear, especially the motors and LED drivers, is top notch. Robe have a 'secret sauce' lens coating technology that claims to make them brighter and reduce scratches. While it is hard to determine if it does what it says (we don't want to scratch them intentionally to test it), we definitely haven't seen any problems with lenses getting scratched!

Being LEDs, they don't seem to suck up much of the festival or DF50 crud, so their mechanics are quite stable, resulting in longer intervals between service. Our units have been rock solid and we've had very few issues with them, and when we did, we've had great support from Jands.

Spiiders are definitely worth having. In terms of value for money, they are the light to have. We are certainly ready for our next batch!

Brand: Robe

Model: Spiider

Product Info: www.robe.cz/spiider/

Australia: www.jands.com.au

New Zealand: jands.nz

Dave Jackson is the CEO of Creative Productions, one of Australia's leading concert production providers. With offices in Brisbane and Sydney, Creative Productions have worked with the most recognised names in the business, from worldwide touring artists such as Metallica, Bullet for my Valentine, Paramore, Alice in Chains, The Wombats, and Marilyn Manson, to major corporate clients that include Michael Hill, MTV, McLaren, Rolls Royce, Aston Martin, and Volvo.



Robe Spider - The Specs

Light Source Types

1x 60W RGBW and 18x 40W RGBW LED multichips

Optical System

Zoom range: 4° - 50°
Fixture total lumen output: 11,000 lm

Dynamic Effects

Colour mixing mode RGBW or CMY

Variable CTO: 2.700K - 8.000K

Virtual Colour Wheel: with 66 preset swatches

Tungsten lamp effect at whites: 2.700K and 3.200K (red shift and thermal delay)

Colour rainbow effect with variable speed

Pre-programmed pixel effects with colour, dimming and strobe chases, waves and pulses at variable speed and direction

MCFE - Multi-Coloured Flower Effects - multicolour beam effects in the air rotating in both directions at variable speed (patent pending)

Strobe effect: variable speed (max. 20 flashes per second)

Pre-programmed random strobe & pulse effects

High resolution electronic dimming: 0 - 100%

Movement

Pan movement: 540°

Tilt movement: 220°

EMS: Electronic Motion Stabilizer system for Pan & Tilt reducing beam deviation caused by truss movement or vibration (Patent pending)

Automatic Pan/Tilt position correction

Electrical Specifications and Connections

Max Power consumption: 600 W

DMX and RDM data in/out: Locking 3-pin & 5-pin XLR

Ethernet port in/out: RJ45 with Embedded Ethernet switch

Dimensions (H) 477 (W)390 (D)252 mm

Weight: 13kg

Ingress protection rating: IP20

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AUDIENCES 101

by Stephen Dean

Audiences. What would we do without them? But they can also be a problem. These days audiences are as not well trained as they use to be. We need to start training people to sit through a theatre production without making it about them. We are seeing more and more problems with their behaviour. The smaller the venue the more I notice them.

As they enter the venue, they stand in the doorway, examining the seating, and search out their friends, as a crowd builds up behind them. They then move up and down the aisles, pausing frequently to look and check the view and that the seats meet their requirements. All while remaining oblivious to the people behind them.

They make their way to the seats that they fancy, and sit, realise that they have not left enough spare seats for their friends and then shuffle along the row or move to another row, or even worse, climbing over the seats and laps of patrons already seated.

Then out with their phones, taking selfies and shots of the set. Texting their friends and Facebooking that they are being 'cultural'. Then the mobile phones that illuminate the audience's faces come out, even though they try and mask the glow from others in the theatre. Little do they know that the lighting and audio techs are behind them, and we can see.

The occasional patron with a young baby will come and see a show. Not too sure that a baby will understand the subtext, but they tend to comment loud and long, regardless. Then there is the noisy eater, who only eats during the quiet intimate moments of a play. And it must be crunchy food and it must be in crinkly packaging, produced after rummaging through their backpack for five minutes.

And just as foyer doors are about to close, the 30-somethings will race to the bar for another drink.

The show is on a countdown, pre-show music finishes in seconds and it cues the cast. Crew panics.

The occasional audience member for dance school shows has come up to me and asked for the show to be brighter for their camera. My response? "I lit the show for a live audience, not your camera."

School presentation nights can offer their own challenges in regard to audiences. The presenters will trot out the usual line "Please hold your applause until the end" followed in about 30 seconds by "Good onya Tegan or Darryl." And repeat every award and certificate for the night.

At the end of the show the audience wander onto the stage to touch and fondle props. Some get a shock when they discover the food that the cast are eating is real. Or they hang around hoping to meet the cast, and we must gently tell them to leave so the crew can get on with their job.

Some folks will even talk back to the cast. I find this strange; they must be used to yelling at the television.

Then we have the reviewers, a necessary breed of audience that we encourage to attend productions to write a review, which the production company hopes will help sell tickets. We know they are there to do a job, but some use their mobile phone to make notes, thus lighting up their faces for the cast to see. I watched one reviewer mess around in Facebook Messenger. Or you get the reviewer that normally does real estate and has never been to theatre.

Thus, we have the skinny on the audience, without whom we would have no shows but who at times annoy themselves, cast, and crew.



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