

CX150 | AUGUST 2019 \$7.50AU



LIGHTING | AUDIO | VIDEO | STAGING | INTEGRATION

# THE VIDEO ISSUE

- › FORMATS, CONTAINERS, & CODECS
- › INTEL EXTREME MASTERS
- › KLING-NET
- › WICKED @ HOTA
- › CONTENT MANAGEMENT
- › MEDIA TRANSPORT

## NEWS

- Sydney Coliseum
- The Helpmann Awards
- New Phase for dBTechnologies
- The Empire Strips Back

## REGULARS

- Andy Stewart
- Jenny Barrett
- How To
- Duncan Fry

## ROAD TEST

- Astera AX1

## ROADSKILLS

- Skeggs
- FKA twigs

IT'S ALL ABOUT WIRELESS<sup>NAS</sup> SOLUTIONS

U Series Interactive Displays – 55"/65"/75"/86"/98"

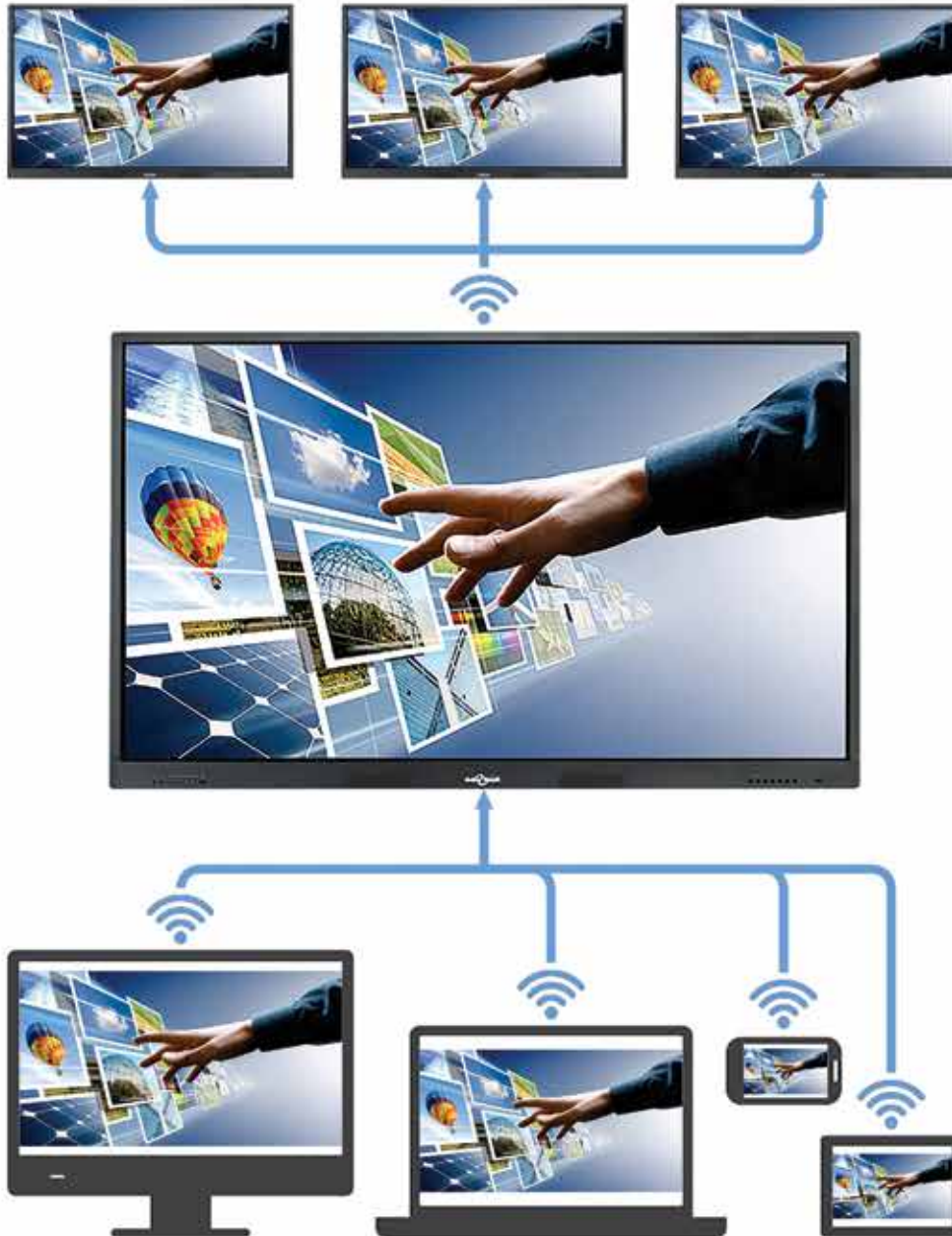
Available with standard or Anti-Glare Tempered glass



FURTHER INFORMATION ON INSIDE COVER



# IT'S ALL ABOUT WIRELESS SOLUTIONS



- LED Display – Commercial Grade
- 4K Resolution
- IR 10 touch (Finger, Pen)
- IR Touch MAC Compatible (Finger, Pen – Single)
- Built-In Speakers
- USB Media Player and PVR (Personal Video Recorder)
- A2T Whiteboard Software (Single User)
- Solid state design (no moving parts)
- Speaker Output for External Speakers
- Connectivity: HDMI, Component, Composite AV, SCART, VGA, USB, SPIDF, audio in / out, Touch Control, RS232 connection
- Control: IR Remote Control, Press Key Buttons, RS232
- Standby Power <0.5W
- Full Intel PC Module Option Available

U Series Interactive Displays – 55" / 65" / 75" / 86" / 98"

Available with standard or Anti-Glare Tempered glass

Compatible with Mac, Windows, Android and iOS devices/operating systems. Wireless software included.

**Activ<sup>2</sup>Touch**

# VISIT

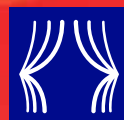


# INTEGRATE

AUGUST 27-29<sup>TH</sup>

JANDS BOOTH **i32**

L-ACOUSTICS DEMO ROOM **109**



## SEE THE LATEST FROM OUR LEADING AUDIO & LIGHTING BRANDS

Exclusive Demonstration Sessions

Complete Solutions for AV Conferencing

Be among the first in Australia to experience  
L-Acoustics L-ISA

Visit [jands.com.au/integrate-2019](https://jands.com.au/integrate-2019) to learn more  
and register for our Demonstrations



biamp.



ROBE®



QSC  
PROFESSIONAL





## NEWS

2000 seat theatre will transform Sydney	6
The Helpmann Awards	8
New phase for dB Technologies	8
The Empire Strips Back In America	10
Scene Change invests in VuePix	12
Elite Event Technology Gears Up	12
EAW in SA with AALT	14
Biamp Acquires Community, Apart Audio	14
Amber Technology takes on Avonic	16
Comms Plus 'Silent' And Live PA For 6,000	17
Sennheiser invests in VR/AR	18

## NEW GEAR

Industry Insider: Crewing Services	
- From an Unashamed Loader	
by John O'Brien	50
Opinion: Mind Health	
- How Tech Is Consuming Our Crew Brains	
by Julius Grafton	53

## THE VIDEO ISSUE

Video File Formats, Containers and Codecs	
by Simon Byrne	27
How To Shoot on A Submarine	
by Simon Davies	30
A Wicked Production	
by Cat Strom	32
Creative LED Programming with the P3 Mix Channel	
by Martin Lighting	35
Intel Extreme Masters	
by Cat Strom	36
Media Transport	
by Chris Dodds	38
Avid reimagines Media Composer	58
Arkaos Kling-Net	
by Simon Pentz	62

## HOW TO

The Unofficial Lighting Programmer's Golden Rules	
by Alex Hughes	47
Arkaos Video Content Management	
by Simon Pentz	60

## ROADSKILLS BY CAT STROM

Skeggs	24
FKA twigs	56

## 20 QUESTIONS

with Craig Gordon, audio engineer	65
-----------------------------------	----

## REGULARS

Listen Here: Poor Man's Video	
by Andy Stewart	44
International Flavour at the ETNZ Conference	
by Jenny Barrett	40
Dunk's World: Turning Japanese Part II - It's Sumo Time!	
By Duncan R Fry	66

## ROAD TEST

Astera AX1	63
------------	----

\* Cover Photo – Wicked.

\* Contents Photo – Skeggs. Photo Credit: Troy Constable

Published by Juliusmedia Group Pty Ltd ACN 134170460

under licence from CX Network Pty Ltd ACN 153165167.

Locked Bag 30, Epping NSW 1710 Australia

Phone: +61 2 408 498 180

Email: mail@juliusmedia.com

Editor: Jason Allen

Publisher: Julius Grafton

Business development and sales: Steve James

Layout: mark wood design – Mark Underwood & Alisha Hill

All contents COPYRIGHT CX Network Pty Ltd 2019.

Nothing herein to be reproduced in any format without  
express written consent.

**CX DIGITAL NETWORK**  
juliusmedia.com | cxnetwork.com.au | CX  
weekly news email | Roadshows

**f JOIN THE CONVERSATION**  
facebook.com/cxmag





JBL SRX800

# PORTABLE SOUND DEFINED



[facebook.com/jblprofessionalaustralia](https://facebook.com/jblprofessionalaustralia)



[@jbl\\_professional\\_au](https://instagram.com/@jbl_professional_au)

Proudly distributed Australia wide by CMI Audio. Contact: [harmanpro@cmi.com.au](mailto:harmanpro@cmi.com.au) | (03) 9315 2244



by **HARMAN**

# 2,000 seat Lyric Theatre set to transform Sydney

by Julius Grafton

**Sydney's new Lyric theatre, the Coliseum, will open in December. Sitting in the heart of the west, and built by West HQ (formerly the Rooty Hill RSL club), it is emblematic of the shift in the centre of Sydney's gravity. With freight, logistics, and businesses relocating ahead of the opening of the new international airport in 2025 and the establishment of the intermodal transport interchange that will see trucks excluded from the city, the west is the place to be.**

There are 2.3 million people in a 20km arc, and the catchment extends across the Blue Mountains to the Central West, down to the Southern Highlands, and north through the Hills. That is roughly one-half of the greater Sydney population. Such is the density and topography of The Harbour City, people increasingly balk at travelling large distances. Sydney is unique in that it enjoys the largest number of toll roads in the world, which further discourages travel.

The board at West HQ reasoned that they were sitting in the middle of a massive population which was resistant to going to see a show in the City, a mission that requires time, costs a lot for parking, and if driving, collects several tolls as well.

At West HQ, the parking is free, and two toll roads pass nearby. They ditched the Rooty Hill RSL branding and took on West HQ. They really are at the centre of Western Sydney.

The insanely great (or as some say, greatly insane) decision was taken to build a 2,000 seat lyric theatre on land they owned across the road. The budget was around \$75 million, with another \$25 million for expanding the car parking across the site.

## History

Originally Rooty Hill RSL was simply a very large RSL club with poker machines, a showroom that handles mid-sized music gigs, and some basic eateries.

Someone had a vision. They built and opened the largest purpose-built gymnastics facilities in the Southern Hemisphere, with

two indoor pools. A Novotel hotel and soon a Pullman Hotel are on the site, with 2,000 free car spaces. There is a fitness club, a Zone Bowling venue, and at least eight restaurants.

In effect West HQ is like a casino resort although they operate under the NSW Government's registered clubs act, which restricts certain kinds of gambling and requires a community contribution fund from proceeds.

"A smart musical producer will open in Sydney, do Melbourne, Brisbane then come back here for six weeks," Technical Operations Manager, Bicci Henderson told CX. "A concert promoter could do a concert at Enmore and do one here. Postcode sales in the city show not a massive movement from the west into the city. We can draw on the west - and the country as well."

Consider also that with the right show program, people from as far as Canberra can motor up without a traffic light (until the last 2km) and book into a Novotel or Pullman. With free parking. That sets the scene.

The thinking is that Coliseum will grow the market. With just two lyric theatres in Sydney, the current government telegraphed no interest in investing in more. Having just won another four-year term, that is unlikely to change.

It is telling that at the season launch for the Coliseum, the NSW Minister for the Arts did not attend. West HQ have funded the Coliseum themselves. It's a bold new move that many regions will watch with interest.

## Programming

On June 11 the initial programs for late 2019 and 2020 were announced and are impressive. A week of pre-opening concerts include Tina Arena, presented in association with the Michael Cassel Group, with two shows on Saturday 14 December and Sunday 15 December.

The grand dame of world theatre, Dame Edna Everage, has been forced out of retirement by the demands of her adoring possums, and will bring her housewife megastar power with two performances of 'Dame Edna: My Gorgeous Life' on Wednesday 18 December and Thursday 19 December.

The grand opening on Saturday 21 December will then feature a special 'Keith Urban and Friends' concert, created especially for the Sydney Coliseum Theatre with performances by special guest Australian artists.

Sydney Symphony Orchestra will run various formats at Coliseum, booking as much as four weeks each year. Bangara, Sydney Dance, and a slew of other arts bodies have signed commitments, but not Opera Australia.

Craig McMaster, the Executive Director, is talking to everyone. Many promoters will test the potential new market with music concerts, at a capacity that closely matches the Enmore Theatre. All that is missing (so far) is a mega musical season. Many are certain this will happen.

## The Facility

Designed by Cox Architecture's Tim Morgan, the building rises from the plains and makes a statement, with curves and tall vertical slotted windows. Morgan knows about theatre design, and it shows.

From an initial design with 42 flylines, Craig McMaster came on board at an early stage and changed that. Now it has 83 flylines - similar to Lyric, Capitol and QPac. Whatever goes into those theatres can come in to Coliseum.

Bicci Henderson, the Technical Operations Manager, showed CX around the venue recently.

Entry into the theatre is a skybridge from the Club across the road, because the narrow footpaths don't suit entry to the theatre. The entry foyer will be stunning because even in bare concrete, the lines and space worked for





Exterior



Early render of interior before 5 hang immersive PA decision



Bicci Henderson



Green Room



Richard Errington, West HQ CEO, with Bicci Henderson

me. Backstage parking is a-plenty, it will be easy to get trucks and even busses in. Bicci specc'd a 1500 kva full backup generator to run everything.

The dressing and rehearsal rooms all have windows. That's unusual.

The stage is 15m wide, 9m high with 14.9m from the back wall to the stage edge, a sprung floor, and an enormous 45 player orchestra pit with a lot of room for a maximum of 55 if they tighten up. Originally it was designed for 30. They changed it. The pit can rise, to give a thrust if you want it. It can sit at four levels.

The house is versatile, offering modes made possible by an ingenious retractable seating system of 780 seats. Built in 16 rows and 4 sections, by Jezet of Belgium, it has an amazing level of contraction. It is a big telescopic design that packs back into a cavity under five metres deep.

This allows various configurations – 2,000 seats in Mezzanine and Stalls, which reach all the way down to the floor. Or more intimate modes of 1,300 or 800.

Then you can have a flat floor, with all-seated balconies, for an official capacity of 2,200 which is clearly conservative. Using the flat floor, a banquet mode caters for 550, with a full commercial kitchen included.

Another 'running change' was the lighting. The original lighting specification was dimmers and traditional tungsten fixtures.

### Tech Spec

"I have Socapex plugs in the now empty dimmer room if someone wants to bring them. The air conditioning was specified for the extra heat of the lighting, now with LED, that reduces the load", Bicci said.

He ordered 16 Ayrton Mistral and 16 Ayrton Levante LED movers, 34 LED Fusion profiles, the same number of Fresnels, and 48 LED Fusion Par H X11, with a grandMA3 console plus a bunch of truss. There are 12 cycs and 12 blinders as well. It's all powered by 20 LSC APS 12 distros.

That forms a very solid base lighting system. Bicci obtained the system from Colin Baldwin, who operates HF Event Services in outer Sydney.

It's at audio land the real wow comes with an L-Acoustic L-ISA system made up of five hangs on ten Kara-I cabinets across the top of the proscenium, for a hyper reality immersive audio experience that will amaze audiences. Six KS28 subs are flown as well, and X8 do the lipstick fills with X12s down house for delays.

Budget issues mean there are no 360 degree speakers so far, but these probably should be added later to give the entire immersive experience. A pair of DiGiCo SC 12 consoles, and a L-ISA processor do the business.

Jands Theatre Engineering will install the fly system and theatre fitout.

### Holistic. Design.

It really all works so well, and that is looking at a concrete shell before the finishes go on. The rehearsal room is the same size as the stage. "It has a sprung floor. You could plot your whole show and rehearse it while the tech prep is happening", Bicci says, "and that will save producers money!"

There are seven bars, three on the ground floor, and two on each level after. The theatre has more female toilets than any other. Disabled access is to every level.

There are two main catwalks over the auditorium.

Dressing rooms for 98 performers, including 4 large (2 x 18, 2 x 26) chorus rooms. Also a service lift is installed for cast and crew pre and post show.

Access is all figured out with multiple pathways around backstage.

The green room is a touch small, not a bad size – but you could use the rehearsal room instead. The various theatre types at the program launch all lauded the layout, so take it from them, not from me!

Backstage, the history wall is blank. Just watch it grow! Exciting times.



## Helpmann Awards Light up Melbourne - Entertainment Industry's Big Night

Melbourne turned on the excitement at the State Theatre July 15 where a full house whooped and hollered the winners at a tightly run awards presentation. After just two hours, the show concluded with a performance by the young cast of School of Rock (yes, they were playing those instruments) and we all busied over to the Sofitel Ballroom for some serious schmoozing.

Live Performance Australia always intended the Helpmanns would alternate between Sydney and Melbourne but somehow it never happened, and then the Victorian Government offered a three year deal. It was less about Sydney losing the awards, more about the Melbourne arts industry really wanting it at

the hub of the arts in Australia. Melbourne has six full sized theatres while Sydney has three. Both have a state managed centre - Arts Centre in Melbourne, Opera House in Sydney. Both have smaller theatres. But Melbourne just kicks the ball harder.

A big difference this year was the Melbourne definition of Black Tie, which is 'anything goes'. It really felt fresh, exciting and...just right. On stage audio management was this year well handled by NW Group, long serving Helpmann Lighting Designer Gavan Swift took it to a whole new level; it was BEAUTIFUL. Dawn Martin produced, R.M. directed the tech, Gary Young directed the show, and Eamon D'Arcy did design. You can have a



look at ABC iView where the show is available to see.

Industry winners included Neil Austin for Harry Potter and the Cursed Child, and Stefan Gregory for Counting and Cracking at Belvoir. A complete list is at [www.helpmannawards.com.au/2019/nominees-and-winners/industry](http://www.helpmannawards.com.au/2019/nominees-and-winners/industry)

by Julius Grafton  
Photos by Getty Images

## Italian powerhouse emerges - New phase for dB Technologies



dB launch pic



NAS's Shane Bailey and Stage & Audio's Tim Buchholz at the dB Technologies launch

dB Technologies have been around for decades but over the last five years have really hit their stride. Recently they were joined under the same umbrella as EAW, RCF, and DPA, and say these brands will remain independent businesses that share technology. With turnover doubled in just a few years, the Bologna-based manufacturer will soon float the group on the Italian Stock Exchange.

With that background, a significant group of live sound professionals gathered on July 15

at Sydney's cavernous Carriageworks Bay 20, to hear the entire range of dB and to meet the new ViO L212 full sized line array. Several I spoke to said the same thing - that this Italian brand has stepped up while priced at around 40% less than the market leaders.

When a larger line array system costs well into six figures once amped, cased, rigged and cabled, 40% is a lot of money. I overheard some discussions about brand placement - some operators were looking to move up and considering the various European, Canadian and American options but also looking hard at dB.

Some top line operators were there to consider an alternative to what they already own and to see whether dB meets the same or a different performance standard. So the level of interest was high, from both sides of the buying pool. And to dB itself, they told us that a few years ago 70% of their sales were what they call 'retail', with the balance split between concert sound and installations. Today it is flipped over - 70% is concert and installations.

At the launch function in Sydney, Marco Cantalu from dB showed the entire range, which spans small X point source (with 4 models) up to ViO which contains 8, 10 and 12" models. They also showed a sneak peek at an ultra-low profile wedge.

Here's some of the claimed factors that seemed to resonate:

- Active two-way is now the preferred modality because the newer compression drivers can cross over as low as 950Hz and it is better to have less sources in the cabinets. So they port

the low frequencies very close to the single central high transducers.

- The latest electronic designs enable more power at less weight. That is, of course a truism for most loudspeaker manufacturers!
- dB say that all ViO match up, the FIR filters allow the same phase response and sensitivity and coherency from each model so you can easily mix and match.

There was a whole lot of detail around rigging options, transport dollies and the one single wet weather raincoat, but I glazed over. Marco said the powerCON connectors are weather rated, and you can use the ViO range in the rain.

They then demonstrated the new top end ViO L212 full scale line array module designed for large touring sound reinforcement applications, which promises great sound pressure levels in one of the most compact and lightest active 2x12" line array enclosures.

At a time when immersive 3D audio is quickly taking hold, the market for speakers is on the up and up. dB Technologies are right there, in 120 countries, and they are serious about our region.

Web: [www.nas.solutions](http://www.nas.solutions)  
Free Call: 1800 441 440  
Email: [sales@nas.solutions](mailto:sales@nas.solutions)

by Julius Grafton



ViO L212



**SHURE**

MV88+ VIDEO KIT PREMIUM STEREO MICROPHONE

# A CREATION FOR CREATORS..

JUST ADD PHONE.

Professional sound for Vloggers, Filmmakers, Musicians & Podcasters.

Just add your phone and you've got superior sound, all the accessories you need, plus a choice of creative set ups to pick from.

Flawless Audio. Anywhere. Anytime.

Distributed by

**JANDS**

[www.jands.com.au](http://www.jands.com.au)

[shure.com](http://shure.com)  
#MadewithMOTIV

© 2019 Shure Incorporated

SRH1540 Premium Closed-Back  
Headphones Sold Separately



# THE EMPIRE STRIPS BACK IN AMERICA

Photos by Peter Rubie

**Hugely successful Australian burlesque Star Wars parody “The Empire Strips Back” has just completed its most extensive North American tour to date, also visiting Canada for the first time, complete with a suitably boisterous lightshow designed by Peter Rubie, featuring 30 Robe Spiider LED wash beams as the core moving light fixtures.**

The show has stormed its way into intergalactic reviews and delighted audiences since it launched at the Vanguard Theatre in Sydney in 2011. A colourful, highly visual action-packed performance offering up an array of elaborate body costumes including alien creatures, a fully robotic remote controlled R2-D2 and a life-size Jabba the Hutt operated by four puppeteers.

Peter has been involved with the show for the last four years, taking over from original lighting designer Ross Graham. Since then, it has evolved into the performance spectacle it

is today including brand new acts and songs, and in 2018, a complete refresh of the lighting rig.

It was at this stage that Peter decided to replace the previous LED wash lights with Robe's latest generation Spiider – a fixture known for its power, smooth colour mixing and fantastic range of hues.

Peter wanted Spiiders in the rig to help add some of the theatrical detail needed – in addition to all the big beamy rock ‘n’ roll style colour and movement cues. They are positioned on a 5 high by 6 wide staggered

grid above the stage which also has a wall effect from the front, a powerful look that Ross created when the show first started touring.

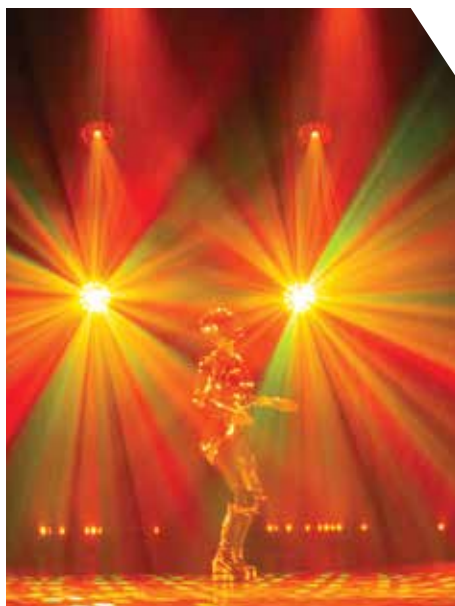
“The Spiider has a beautiful quality of light at the right brightness,” he commented, adding that while they can do all the rich bold saturates that are fundamental to the primary style and vibe of the show, they can also produce all the pastel shades and subtleties needed.

Upgrading from the previous single-angle LED wash light to the Spiiders also opened up a range of other possibilities whilst still being able to reproduce the original looks “minus the LED ‘smarties’” by turning off the outer ring of LEDs and zooming right down to a tight 4 degree beam.

This is great for the rock and pop numbers, with the advantage that the fixtures can also cover the entire stage for more scenic moments.

Flashy-trashy-fun moments abound explained Peter, including a mash-up dance-off between Han Solo and Chewbacca, a scene where the Spiiders excel themselves and he maximises





the front lens pixel macros to create multiple fun looks.

Talking about the Spider's flower effect, Peter feels it's essentially like having another light in the rig.

He's built a custom profile for the Spider in his grandMA2 console which enables him to treat the flower as if it is an individual fixture. "At its simplest this is like someone had added a classic shimmer effect light inside the central chip, given it some steroids plus colour mixing and control for the rotational direction, speed and focus!"

When combined with other LEDs on the rig, this can be used for a gentle breakup coming from overhead whilst also bathing the scene in colour.

This looks especially good in haze. The point where the audience sees C-3PO for the first time and the flower effects flick on and glisten through the highly reflective gold suit worn by the dancer is met with audible 'OOOHs' from the crowd every night. Those moments are always a joy for any lighting designer!

"The individual chips also have a good hard-edged focus" he elucidates, "you can use



the centre chip in standard mode focused tight for a profile-style edge". He adds that on more than one occasion lighting professionals have sworn they saw moving spots in the rig, which really appeals to Peter who likes to try and be different and think out of the box when creating exactly the right ambience for the scene.

He likes the glossy finish to the Spider lens: "It has a certain lustre to the eye, but not the massive glare you get from other wash lights of similar brightness. So, the disc of the LEDs is not constantly catching your eye from the truss or side stage, and your focus can properly stay on the actors and the action".

When the new rig was initiated, he added some moving LED bars which formed a continuation of the Spiders over the stage.

The biggest challenge with lighting the show was covering the diversity and dynamics of the performance and getting the sheer amount of looks required to light the different characters and scenes in a rapidly moving show that goes "from the sublime to the ridiculous" in a high energy romp of singing, dancing and fun!



Princess Leia performs a delicate ballet style number to a Lana Del Rey number one minute and then launches into a no-holds-barred Christina Aguilera rock track.

Some acts have minimal settings and rely entirely on lighting to set the ambience and convey the mood, whilst others are crammed with set pieces and props.

In the US, the lighting equipment was supplied by Felix Lighting. "They have been a dream to deal with," states Peter, "from helping us choose the right supporting power systems and cabling in unfamiliar territories to running to our aid whenever we had a problem and having consistency and support on the tour across all of the states has been very comforting."

In Australia, the lighting vendor was Chameleon, who pulled out all the stops to purchase the Spiders in time for the most recent tour there, which were delivered by Robe's distributor Jands.

The North America run concluded on Broadway in May.

## Scene Change Sydney invests in VuePix Infiled ER2

Hire and production company Scene Change, has recently expanded on its AV rental inventory in Sydney, investing in yet more 160 ER Series panels.

This is the third major investment into VuePix Infiled technology from Scene Change. The initial purchase of 90 ER3.9 panels was for their Melbourne branch, followed by an additional 90 ER3.9 VuePix Infiled panels for their Brisbane office.

Scene Change's business is built around new technology and their tech experts don't compromise when it comes to investing in the best available on the market. The decision to invest in more VuePix Infiled screens was based on comparison of major brands on the market, and also on the experience with the technology from their other branches.

"The VuePix product delivered the best combination of image accuracy, reliability and roadworthiness. A lot of our work is corporate events displaying fine software details, and the 2.9mm product delivers that nicely," says John Dinh, Director at Scene Change.

The Scene Change tech experts were then invited to join the VuePix Infiled team during

QC process in the factory. "Seeing the building process, quality checks and the factory, helped instil even more faith in the VuePix Infiled purchase for Scene Change," comments Nathan Wright, VuePix Infiled Product Manager at ULA Group. "We love bringing our customers to the factory to showcase our facilities and experience our first class technology in person. This is one of the factors that sets us apart!"

The new VuePix Infiled screen provides Scene Change Sydney even more versatility when offering their loyal clients first class AV productions.



## Over 350 Acme Fixtures and New Astera Wireless Tubes – Elite Event Technology Gears Up!

Elite Event Technology (EET), a major rental production specialist based in Canberra and operating nationwide, have recently invested in more Acme Lighting fixtures and introduced Astera Wireless technology into their high profile productions.

With over three decades of Audio Visual expertise, Darren Russell, MD of EET, doesn't compromise, when it comes to technology and providing the highest level of technical equipment for their productions and high profile clients. "Keeping up with the latest in technology is a huge part of what our business has been built upon over the years. We have also become a bit of a 'go to' for other companies in terms of cross rental, so keeping up with demand here is also important to us", explains Darren.

Their first purchase of Acme lighting technology was over a decade ago and EET have been growing their Acme rental inventory since, with 350 fixtures and counting.

The latest purchase included high-powered XA-400 Energy Pro Spots, versatile CM300ZRII wash lights, compact XA100BSW hybrid fixtures and dynamic Acme Dotline 360s.

"We have found the quality and reliability of the Acme products to be very good with ULA's support and service second to none, as it has always been for us", says Darren. "We visited the Acme factory in China with the team from ULA group at the end of 2017 and to be honest were very surprised by the quality of the factory, R&D, quality control, and the overall operation".

EET is also the preferred audio-visual partner at the majority of Canberra's prestige venues and institutions, where some of the Acme lighting fixtures are used as permanent rental lighting.

EET philosophy is to approach every event as a unique production and deliver fresh new

ideas and creative solutions that complement the venue, the client and occasion. The new Astera AX1 tubes are perfect to reinforce their approach, offering an incredible versatility when it comes to creative lighting.

In this first phase, EET has invested in 48 Astera AX1 pixel tubes. The entire team is loving the more manageable and faster setup that these new products bring to the table. "The creative possibilities with this product are endless, and all of our team are absolutely loving them," confirms Darren. "From the creativity in the design phase through to the delivery, they are just an amazing product. We will soon be investing in a substantial additional number of these to fulfil some big ideas we have with using them".



The EET team





# PacketAV™ SENTINEL

## Network AV Monitoring

In today's world of network savvy customers, organizations are placing increasing importance on ensuring their critical Network AV systems are available and performing acceptably.

### Introducing **SENTINEL** Network AV monitoring simplified by Visionary

**SENTINEL** offers a number of benefits for organizations, improving efficiency by ensuring that time is not wasted waiting for problems to be reported, but is more usefully spent on resolving issues.

This proactive approach to Network AV monitoring allows issues to be identified before they impact end users and cause disruptions. This increases system uptime and reliability. As a result, user satisfaction is significantly improved.

**SENTINEL** represents an opportunity for integrators to offer new services, including scalable service programs, and developing sustainable revenue streams.

The **SENTINEL** service uses a local agent to communicate with Network AV devices in the system. It can then interact with local or cloud systems for reporting and logging, as well as API based integrations.

The **SENTINEL** is competitively priced and can scale from small, standalone systems to global enterprises

**It's powerful because it's simple.**

### Be Alert

- ▶ Proactive Network AV Monitoring
- ▶ Sentinel Real time alerting allows AV/IT personnel to focus on the solution, rather than the cause
- ▶ Alerting for downtime prevention and reduction of repair time
- ▶ Flexible & customizable alerting options - Configure alerts to match your specifications & thresholds.



Over 30 Years in Business

To find your nearest Integrator/Reseller, please visit [www.pavt.com.au](http://www.pavt.com.au) and click on 'Where To Buy'



Production Audio Video Technology Pty Ltd

4/621 Whitehorse road, Mitcham 3132 Victoria

Ph: 03 9264 8000

[sales@pavt.com.au](mailto:sales@pavt.com.au)



# EAW in SA with AALT – Radius Line Array Rocks Adelaide

EAW's newest line array, Radius, has landed in Adelaide and is in the hands of proud owners Australian Audio & Lighting Technology (AALT). With a full-sized concert system of RSX208L array elements supplemented by RSX218 dual 18" subwoofers, AALT are ready to deliver the advantages of Radius's intuitive set-up, rigging, optimisation, and control to their roster of theatre, corporate, and government clients.

With two array modules in the Radius range, AALT have opted for the more compact RSX208L self-powered three-way, producing a peak SPL of 128 dB averaged across its tri-amped LF, LF/MF, and HF drivers. Six elements can be ground-stacked safely, each weighing a comfortable 18.4 kilograms, which is impressively light for a powered array.

"We wanted a small line array that one person can set-up by themselves, if need be," explains Peter Azstalos, owner of AALT. "We tend to work many smaller jobs, with our gear and people moving around a lot. We need an intuitive system that any of our staff can use, that looks the part for corporate gigs, and travels well. Radius ticks all of those boxes. Apart from sounding fantastic, it's the little things that make it great to work with, like the



fact the flying frame sits in the included road case with four RSX208Ls; you don't have to remember to pack anything extra, it's all just there."

Radius features technology that was developed for EAW's top-of-the-line Adaptive PAs, including OptiLogic, a system that enables the array elements to automatically detect the configuration they're being used in and load DSP settings accordingly. All Radius products are part of the EAW Mosaic software environment, providing design, prediction, optimisation, and control from a single GUI. Signal infrastructure includes both Dante and analogue connectivity, which can be set as Dante with analogue fail-over for ultimate peace-of-mind.

"It's clear how much thought and consideration has gone into the design of



all of the loudspeaker products under the EAW brand," observes Peter. "The innovation filters down through the range, and that's why Radius stacked up for us as the best value for money. It shows when you take delivery of such an intelligent product, have a crew set it up for the first time, and have it running beautifully with almost no effort."

EAW products are distributed in Australia and New Zealand by PAVT, industry leaders in customer service and support. "I drove the truck over to Melbourne to pick up the Radius rig at PAVT's HQ and was given a full day of training on the system," reports Peter. "I've dealt with a lot of manufacturers and distributors over the years, and PAVT's after-sales service has always been exceptional. I've found that if you have any technical issues, PAVT will drop everything and help get your problem solved."

## Biamp Announces Acquisition of Community Loudspeakers and Apart Audio

Biamp have announced the acquisition of Audioprof Group International, parent company of Community Loudspeakers based in Philadelphia, Pennsylvania, and Apart Audio based in Antwerp, Belgium from 3d Investors of Gent, Belgium.

Founded in 1968 by speaker design pioneer Bruce Howze, Community Loudspeakers has a long history of speaker design firsts. Today, Community Loudspeakers is a well-established and respected manufacturer of a broad range of premium speakers targeting demanding indoor and outdoor applications including commercial, leisure, stadiums, and other large venues. Most recently at InfoComm 2019, Community Loudspeakers introduced the new L SERIES LVH-900

Beamforming Venue Horn, continuing its tradition of innovation.

Apart Audio is a strong competitor in full signal path, commercial and leisure audio solutions for small and mid-size venues including retail, food service, education, and small offices. It offers a broad array of speakers as well as amplifiers, mixers, controllers, and paging stations to make Apart Audio a single vendor solution for these markets. Apart has a well-established business in Europe and just entered North

America in 2018, a market in which Biamp's extensive distribution system can provide an immediate boost.

In Australia, Biamp is distributed by Jands, while Community is handled by Hills, and Apart Audio by Amber Technology. As is usually the case with acquisitions of this nature there are no distribution changes slated for the near future, with Amber indicating that "While Biamp evaluate the local market following the acquisition of Apart Audio, nothing has changed in the day-to-day operations of Apart in Australia and New Zealand," with similar sentiments voiced at both Hills and Jands.



Community

biamp.

# It's never been so easy to think big



AXCOR  
LED FAMILY

## AXCOR 300



BEAM  
300

SPOT  
300

WASH  
300

The new Axcor 300 family of moving LED fixtures brings Claypaky's no-compromise quality and performance to the broad mid-market. Now, more designers than ever before can achieve their biggest ideas.

With a physical size, power consumption, price-point that disguise their strength and creative potential, the Axcor 300 range enables a new world of expression in touring, events, TV, theatre and installed lighting markets.

The Axcor Spot 300, Axcor Wash 300 & Axcor Beam 300 are available now!

AXCOR 300: small body, big personality, mass appeal.

**SHOW**  
TECHNOLOGY

[www.showtech.com.au](http://www.showtech.com.au)

SYDNEY • MELBOURNE • PERTH • BRISBANE • AUCKLAND

**CLAYPAKY**  
AN OSRAM BUSINESS

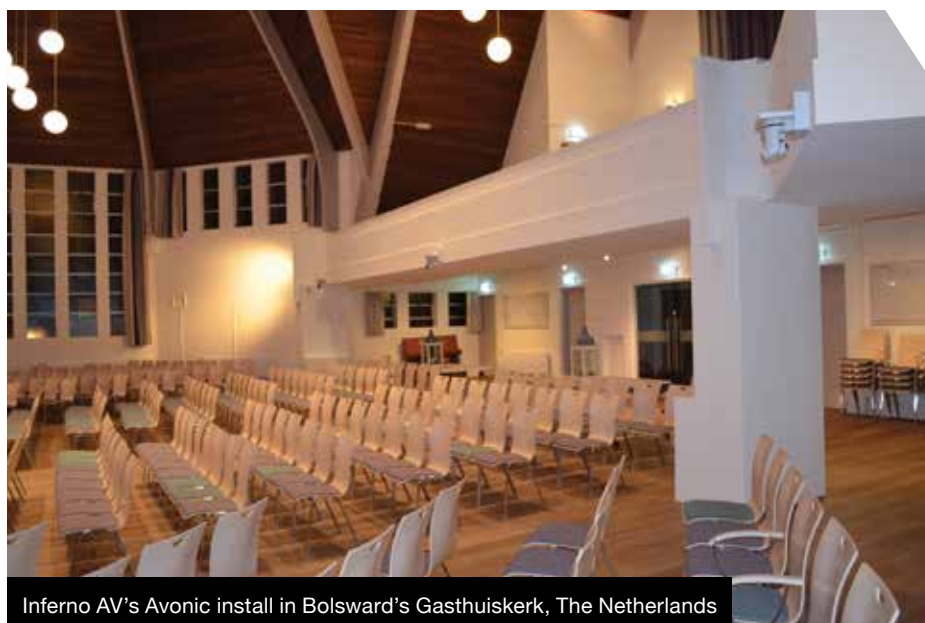
[www.claypaky.com](http://www.claypaky.com)



## Amber Technology is named the exclusive distributor of Avonic in Australia and New Zealand

Amber Technology has announced an exclusive partnership with Avonic, as the brand's distributor of high quality PTZ cameras, AV solutions and unified collaboration solutions in Australia and New Zealand.

Based in the Netherlands, Avonic provides high-quality audio-visual capture solutions for a vast range of applications, including education, healthcare, places of worship, video conferencing, webcast studios and webinars. Each camera provides an affordable and easy to integrate solution, delivering pristine image quality and outstanding reliability.



Inferno AV's Avonic install in Bolsward's Gasthuiskerk, The Netherlands

"Australia represents an exciting and untapped opportunity for Avonic and with over 30 years in the Australian and New Zealand market, Amber Technology is an ideal partner to help us build our market presence," said Walter Harrewijn, managing director of Avonic. "Amber has an impressive dealer network that includes the leading system integrators and resellers who are known for recognising the value of implementing pristine video solutions."

"We're pleased to add Avonic PTZ cameras and accessories to Amber Technology's brand portfolio," commented Peter Amos, managing director, Amber Technology. "Avonic products sit neatly within our current

offering, allowing installers to integrate a complete AV solution."

"We're also excited to be introducing Avonic PTZ cameras and associated products at Amber Technology's Showcase road show."

The Amber Technology Showcase road show is running in major cities across Australia during July and August.

The Avonic range is available now from Amber Technology.

For stockist enquiries and Showcase information please visit the Amber Technology website [www.ambertech.com.au](http://www.ambertech.com.au) or contact 1800 251 367.



# THE P.A. PEOPLE DELIVER FULL COMMS PLUS 'SILENT' AND LIVE PA FOR 6,000 SEAT CONFERENCE

**At a recent international conference held in Sydney, The P.A. People provided an intricate Clear-Com system, incorporating over 30 desktop panels, 85 FreeSpeak II wireless belt packs and 20 IP transceivers supported by the venue's fibre network, to provide seamless wireless communications coverage over five exhibition halls, two theatres, one ballroom, and a quantity of breakout workshops and AV control rooms.**

A comms team of three managed the needs of around 120 event crew. An engineer monitored the system, battery life, and performed live configuration changes as user numbers varied or event staff were re-deployed to different areas, while two field engineers supported the event crew across three linked buildings. This ability to communicate across such a large venue provided a new dimension in agility and flexibility to the production team in responding to the minute to minute needs of

the event as well as providing deep links into each "show" for the executive producers.

As part of a turnkey system, The P.A. People provided 6000 seats of 'silent PA' utilising low power FM transmitters in five separate purpose-built theatres of around 1200 seats. Each had its own FM technician for audience support and off-air monitoring for quality control.

Added to the silent PA were three live PA systems. One was integrated into an

exhibition stand theatrette and two further systems provided reinforcement in draped theatrettes, complicated by being side-by-side. The PA People's Bose ShowMatch rental system featured in the two theatrettes to provide a listening experience with plenty of dynamic range for the on-screen content and clarity for the spoken word, with very little acoustic interference between rooms. Two audio engineers operated and managed the Bose ShowMatch and exhibition space PA systems.



The P.A. People's custom FM receiver

# DEAR REALITY BECOMES PART OF THE SENNHEISER GROUP



Audio specialist Sennheiser has taken a majority shareholding in Dear Reality GmbH on 1 July 2019. The expert in spatial audio algorithms and VR/AR audio software will continue to operate as a separate company based in Düsseldorf; customers will be able to rely on existing dearVR products and can look forward to joint VR/AR workflows by Sennheiser and Dear Reality. Uwe Cremering, responsible for AMBEO Immersive Audio at Sennheiser, will support the company as a third CEO alongside founders Achim Fell and Christian Sander.

“For us, 3D audio is the future. With AMBEO, Sennheiser is active in all areas of immersive audio production, from the initial recording to mixing and processing and, finally, reproduction,” said co-CEO Dr. Andreas Sennheiser. “Audio software is an important building block in this production chain, especially as regards VR/AR applications.”

Co-CEO Daniel Sennheiser explained: “We are pleased to have gained additional highly qualified software experts and further 3D audio products with the acquisition of Dear Reality. At the same time, leveraging the strength of the Sennheiser brand and its global distribution network will give Dear Reality a larger scope of action.”

“We have been working closely with Sennheiser as an investor and partner for the

past one and a half years, and are excited to now become a part of the Sennheiser family,” added Dear Reality founders Achim Fell and Christian Sander. “3D audio software has an ever-increasing importance in audio production. Together, we will expand our innovative, professional end-to-end workflows – and develop new ones.”

Dear Reality is a leading company in the field

of immersive audio controllers, well-known for its dearVR PRO binaural, Ambisonics and multichannel encoder with totally realistic room virtualisation. The company’s products are used the world over by sound engineers, sound designers, broadcasters and musicians. The latest Dear Reality software is dearVR SPATIAL CONNECT for immersively mixing VR content in VR, for example with the Nuendo 10 DAW.



The CEOs of Dear Reality GmbH (from left to right): Uwe Cremering, Achim Fell and Christian Sander





**THINK  
BEYOND.**

**INTEGRATE**

IN ASSOCIATION WITH



Melbourne Convention & Exhibition Centre  
**27-29 AUG 2019**

**Lose yourself in the technology  
of tomorrow at Integrate 2019.  
Discover new waves of innovation  
in AV technology to transform  
customer experiences.**

**REGISTER  
ONLINE TODAY.**

**#INT2019**  
**INTEGRATE-EXPO.COM**



# NEW GEAR



## **Chauvet DJ Xpress-512S and Xpress 1024**

The Xpress-512S and Xpress 1024 are DMX interfaces that let you control ShowXpress lighting control software on Windows and Mac OS X systems. You can store and play back one show without a computer. The 512S controls one full DMX universe and one ArtNet universe, while the 1024 controls two DMX universes and one ArtNet universe. Additional universes can be connected by adding additional interfaces. Xpress-512S is hot-swappable and automatically re-connects within seconds.



## **EF-100 Series**

The EF-100 is a stylish, compact and portable laser projector. It runs a 3LCD Laser Light Source with over 2,500,000:1 dynamic contrast ratio and WXGA resolution. It produces 2,000 lm colour brightness and 2,000 lm white brightness in a small, portable unit. It is available in both matte black and neutral white, and can project in any angle. Auto vertical keystone correction means flexible positioning and quick adjustments, and the unit is protected by a 3 Year Warranty.

**Australia: Epson - [www.epson.com.au](http://www.epson.com.au) or (02) 8899 3666**  
**New Zealand: [www.epson.co.nz](http://www.epson.co.nz) or (09) 366 6855**

## **LSC Lighting Mantra Mini**

The Mantra Mini is a new addition to the award-winning Mantra range. The 9-module DINrail-mounted recording and playback unit offers all the functionality of Mantra in a simple-to-install package. Control up to 48 fixtures across two DMX Universes, replay any show from a Mantra console or record something new via the offline editor. There is also a Wi-Fi access point built-in for system configuration, a day/date time scheduler and remote triggering over Ethernet via UDP and OSC.

**Australia and New Zealand:**  
**[www.lslighting.com](http://www.lslighting.com)**  
**or +61 (0) 3 9702 8000**



## **PROCAB Touring HDMI Cable**

PROCAB have created the world's first armoured active optical HDMI 2.0 cable. Constructed with an internal stainless-steel armour and military-grade Kevlar, they are able to withstand a crush test of 200kg and can transmit resolutions up to 4K@60Hz 4:4:4 with a bandwidth of 18Gbps. The heavy-duty HDMI connectors (which are protected by impact-resistant connector guards) and the external Highflex cable jacket make this range perfectly suited for rental and production applications. Available as either a 25 metre lead, or supplied on light-weight, impact-resistant retractable cable reels in lengths of 50 and 100 metres.

**Australia: Audio Logistics [www.audiologistics.com.au](http://www.audiologistics.com.au) or 1300 859 341**



## **Neutrik NA2-IO-DPRO**

The NA2-IO-DPRO is a 2IN, 2OUT breakout box designed to connect legacy audio equipment to Dante networks. It features high-quality microphone preamps and 2 Dante ports for either redundant setup or daisy chaining. Audio parameters are adjusted by the DPRO Controller app. All connectors are lockable and, together with the removable rubber protection, offer a reliable solution for tough stage conditions. With optional mounting brackets or a rack panel, the box can be mounted below tables, in floor boxes, racks or on a truss.

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



**Chauvet DJ  
EZLink Q1BT**

The EZLink Par Q1BT is a compact battery-powered quad-colour (RGBA) wash light with built-in Bluetooth. It can be controlled from the free BTair smartphone app (patent pending) with no additional hardware needed. Easily warm sticks of truss or bring the tightest spaces to light with EZLink Par Q1BT's magnetic base. EZLink Par Q1BT features a single RGBA LED for rich colour mixing including punchy amber.

**Australia: AVE** [www.avecorp.com.au](http://www.avecorp.com.au) or (03) 9706 5325

**New Zealand: M.D.R Sound & Lighting** [www.mdrlighting.co.nz](http://www.mdrlighting.co.nz) or (06) 355 5073



**Novastar C1**

**Novastar N9**

#### **NovaStar C1 and N9**

The C1 console, when paired with the N9 switcher and splicer, provides total stage control from input to output. The C1 has a dual-LCD touchscreen design, with the left screen for monitoring and the right screen for touch control. The C1 features an integrated aviation-style T-Bar and includes 10+ transition effects. It also supports 1024 levels of fade in/fade out. 9 channels of all-digital input sources, including two 4K source inputs are paired with 8 redundant outputs (4 main, 4 backup). There is support for 7 layers + OSD + BKG + Logo, allowing for a wide variety of layouts. MVR Output allows you to monitor the information for all 9 inputs including resolution and refresh rate in real time. You can also view PVW PGM and OSD together all on one LCD monitor.

**Australia and New Zealand: NovaStar** [www.novastar.tech](http://www.novastar.tech) or +61 (0) 435 970 315



**STEALTH WALL™**



**GEO WALL™**



**Ripple Wall™**



**Infinity Wall™**



**Mode Wall™**



**Lux Wall™**



**ORB WALL™**



**KLOUD WALL™**



**Tri Wall™**

Coming  
Soon



BACKDROPS  
**Fantastic**  
AUSTRALIA

**1800 737 037**  
[www.backdrops.com.au](http://www.backdrops.com.au)

#### **OUR BRANDS:**

EVENTS  
**Fantastic**  
AUSTRALIA

**Modular**  
BACKDROPS  
AUSTRALIA/USA

BACKDROPS  
**Fantastic**  
AUSTRALIA

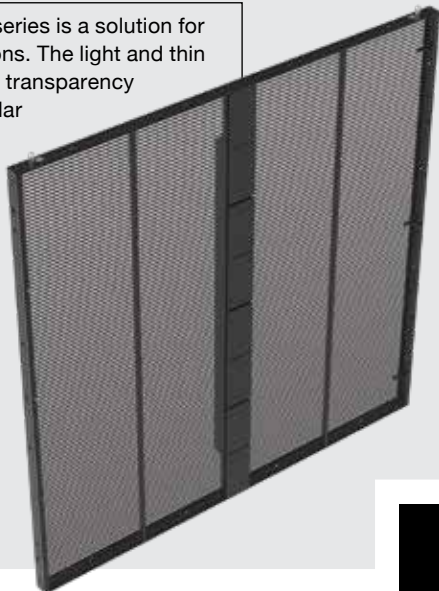
**PartyDrops**  
Powered by Backdrops Fantastic

**Light Up**  
LETTERS



### VuePix Infiled AM series

VuePix Infiled Air Mesh series is a solution for creative rental applications. The light and thin LED mesh panels offer a transparency of up to 80%. The modular design and fast locking system helps to achieve creative LED displays in no time. The unique frame structure protects the edges of LEDs from physical damage during transport and handling, providing extra protection for your investment. The Air Mesh series comes in both indoor and outdoor IP65 versions.



### VuePix Infiled AR series

VuePix Infiled AR series offers lightweight rental panels with unique features - screwless design, magnets to pre-lock the panels and positioning pins which assist to cut the build-up time to minimum. The user friendly system allows for easy stacking and hanging, either straight or curved. Separate and exchangeable power and data units assist with fast maintenance, the smart module with flash memory function saves time when it comes to module calibration. The AR series panels interlock with VuePix Infiled ER panels. They also come as half size panels, with front or rear service option and advanced outdoor IP rating.

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

# NEW



### Visionary Solutions PacketAV Sentinel

The Sentinel service uses a local agent to communicate with Network AV devices in the system. It can then interact with local or cloud systems for reporting and logging, as well as API based integrations. Sentinel offers a number of benefits for organisations, improving efficiency by ensuring that time is not wasted waiting for problems to be reported, but is more usefully spent on resolving issues. This proactive approach to Network AV monitoring allows issues to be identified before they impact end users and cause disruptions. This increases system up-time and reliability. As a result, user satisfaction is significantly improved. Sentinel can scale from small, standalone systems to global enterprises.

**Australia: PAVT**  
[www.pavt.com.au](http://www.pavt.com.au) or (03) 9264 8000  
**New Zealand: NSL**  
[www.nsl.co.nz](http://www.nsl.co.nz) or 09 913 6212

### Digital Projection MLS

The Satellite Modular Laser System (MLS) offers installers simple building blocks that address projects of all sizes, from single projector installs to complex, multi-channel domes, caves, and simulators in a wide range of applications. This development provides installers with numerous options, particularly where space and access are restricted. Key to the design is the separation of the projection head from the light source, and its associated power and thermal management. Linking the two by a robust and flexible fibre-optic cable up to 100m long, it creates a compact projection head that is quiet, light-weight and easy to install.

Created as a modular design, it allows a one-to-many or a many-to-one relationship between the light source and the projection head. Intelligent control mechanisms ensure matching of any number of channels and reduce system downtime for scheduled maintenance. Each projection head is designed with a closed-loop cooling system. The Satellite MLS is available with WUXGA, Native 4K and 8K resolutions and can incorporate Digital Projection's industry leading 'MultiView' technology.

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





## ShowPRO Neptune

Building on the success of their Pluto range, Silver Star has launched a range of IP rated LED lights entitled Neptune which are available under Show Technology's ShowPRO brand.

**NEPTUNE 400 HYBRID** is a powerful IP65 rated hybrid moving head light with high-efficiency optics and a wide zoom angle from 3-30° that provides a strong beam and spot effects.

**NEPTUNE 400 FX WASH** is an innovative IP65 moving head LED wash light combining 7x40w and 1x60W RGBW LED sources in an advanced optical design as well as a creative LED ring effect.

**NEPTUNE 200 BEAM** is an ultra-compact IP beam moving head light which delivers a strong and powerful output and provides a solid fat, sharp and clean beam at 1.7°

Australia: Show Technology

[www.showtech.com.au](http://www.showtech.com.au) or (02) 9748 1122

New Zealand: Show Technology

[www.showtech.nz](http://www.showtech.nz) or (09) 869 3293

Neptune  
400FX Wash

Neptune  
400 Hybrid

Neptune  
200 Beam

# GEAR



**PR  
LIGHTING** +   
**EVENTEC**

Eventec are now the exclusive distributor of PR Lighting in Australia!  
Contact [sales@eventec.com.au](mailto:sales@eventec.com.au)

02 9897 3077  
[www.eventec.com.au](http://www.eventec.com.au)

See us in Melbourne  
**INTEGRATE**

by Cat Strom

Photo Credit: Troy Constable



# SKEGSS

**After a triumphant showing in this year's triple j Hottest 100 and a stint touring the country this summer with Laneway Festival, Skegss hit the road once more in support of their debut ARIA #2 album My Own Mess.**

Skegss are an Australian surf music and garage rock trio originally from Byron Bay who have made a name for themselves with energetic, ripping live performances, and an infectious on-stage chemistry. Skegss fans go off and at the Enmore Theatre gig, someone even smuggled in a surf board so they could really crowd surf!

When not on the road, their FOH Engineer Billy Johnston works as the Production Manager at Sydney's Oxford Art Factory, where he is also the in-house sound engineer.

Billy met Aaron Girgis, Skegss' manager, whilst doing FOH on tour with another act that he was tour managing at the time, about five years ago.

"He had just started managing Skegss and was keen on me coming to work with them, but they didn't have the budget at that time," said Billy. "They came through my venue a couple of years later, and I ended up mixing them for the first time on a few sold out shows they had there. Fairly soon after that I started touring with them as the band were really happy with the sound for those shows."

Eighth Day Sound supplied FOH control for the tour and also supplemented the in-house PAs with additional d&b B22 subs, d&b Q7s for front fill, and d&b Q10s for rear fill for the

back of the room where the main PA can get lost under the mezzanine.

The last few tours that Billy has done saw him behind an Avid Profile, however he decided to move to the Avid S6L for this tour.

"I just finished a tour mixing the support for Rüfüs Du Sol and Cam Trewin was on the S6L," explained Billy. "It sounded incredible and he said to me it was night and day between that and the Profile he used to tour. Another mate of mine made the same move for the DMAs and said he'd never look back. So I hit up Damo at Eighth Day and went in to play around on it before the tour and made the call to try it out on the first show at the Enmore. Whilst at first I found it a little clunky to move around on, after the first show I was sold. It really does sound that much better, though there are still a couple of small things that I don't love about the work flow."

The only outboard Billy uses is an EL8 Distressor on lead singer Benny's vocal, saying that he loves the energy and warmth it adds to his voice. Billy also has a Waves Server Grid added to the console, as the S6L does not have Waves plugins integrated on board as of yet, unlike the Profile.

"This is probably my biggest issue with the console," lamented Billy. "That being said, the

console sounds amazing on its own, so I have actually eliminated a lot of the plugins I used to employ on the Profile."

Effects are pretty minimal with this band as the records are fairly dry, and they sound great as is. Billy uses a bit of Slapback (Waves H-Delay) and Hall Reverb (Waves R-Verb) on Benny's vocal for depth and in some of the sweeter moments of the set. There are a couple of moments where he does some big Tap Delay throws.

"Toby likes his vocal super wet as he does a lot of backing "ooooos," added Billy. "Drums have some large plate reverb on Snare and Toms, that I push in some bigger chorus moments to fill it out and on the clean guitar amp I also use some reverb in a couple of the softer sections. Other than that there really isn't need for much."

"I buss all of the drums, bass, guitar, and vocals out separately to their own stereo groups and have EQs and various plugin compressors across all of them so that I can treat them in their compartmentalised elements. On the main LR master Buss I use the SSL G-Master Buss Comp, Waves Non Linear Summer, and C6 Multi-Band Comp."

The microphone setup for the drums is fairly standard; Sennheiser 901 for kick in, Shure B52 for kick out. On the snare top it's an Audix i5, however Billy uses an acoustic baffle over the top, made by Primacoustic, to stop bleed from hi-hat as Jonny sometimes plays quite softly on the snare with a lot of open hats which can be tricky to eliminate from the snare mic. There are Sennheiser 904s on snare bottom and rack tom.

"I use an Audix D6 on floor tom which I love,





they just sound huge but also nice and tight, as long as the tom is super dead,” explained Billy. “I like to close mic the cymbals with a Røde matched pair and the hi-hats with an ATM450, all underhead rather than on top, again just trying to eliminate that hi-hat spill as well as monitor spill.”

On bass there was a DI straight out of the Fender Super Bassman head, with Billy remarking that it sounds great without doing much to it. There is also a separate DI out from a Sans Amp downstage, for extra drive. On the Bass cab is a Sennheiser 421.

There are two guitar amps for Benny, both split from the same signal. On the left is a Fender Deluxe which is the dirtier amp that Billy dual mics, with a Heil PR31 on the left speaker and an ATM450 on the right which he pans hard left and right. The other amp is a Fender Twin Reverb, which is super clean, with a Palmer DI coming out of the external speaker output of the amp.

“This just gives me a nice and clean direct signal from the amp itself, which eliminates any spill from the Deville or drums,” Billy said. “The Twin is straight up the centre and provides a nice clean top end to contrast the dirt of the Deville. Both Benny and Toby’s vocals are Shure Beta58s, which have always worked great from the start with these guys.”

When mixing a Skegss show Billy’s main consideration is the onstage sound as the amps are super loud, as are all of their monitors. This means there is a lot of bleed through all of the mics and containing this aspect, and working all of the elements in without it becoming messy, is probably the most difficult thing for him. Other than that, he says it’s a fairly straight forward rock band.

Adam Kaye was mixing monitors at The Enmore and Forum shows on the house Yamaha PM5D and Avid Profiles respectively, although usually in-house engineers are used.

“I’ll normally go through the monitors with both the monitor tech on the day and our stage tech, Bunny, before the band turn up and make sure that it’s at a solid starting point for them,” commented Billy. “As long as there is a ton of vocals, guitar, bass, kick and snare everywhere, they are happy. The only difficult part is getting the vocals as loud as they can be.”

At The Enmore the house Nexo PS15 monitors were used with a downstage pair for Benny and Toby each and a pair behind Jonny, the drummer, with a drum sub as well. Jonny has tried IEMs on and off but hasn’t managed to get comfortable with them as of yet, however Billy hopes to move them all to IEMs on the next tour.

“Both of the Enmore shows were awesome,” concluded Billy. “Moving to the S6L was an exciting challenge for me that definitely paid off. It was the band’s dream venue to headline, so they were all really excited and played a couple of the best shows I have seen from them. This was reflected in the energy from the crowd, which was absolutely insane.”

LD Cello Mandrino moved to Sydney from Italy in 2011 and says his love for lighting started about 12 years ago, moving from an audio background.

“I was very intrigued by the creative process behind each show and wanted to be a part of that,” he revealed. “Having played in bands since I was 14, I felt the part that lighting plays in the delivery of a show and complementing

the band’s overall sound and aesthetic was very similar to writing songs and suited my artistic personality more.”

A few weeks after arriving in Sydney, Cello secured work at the Enmore Theatre which gave him the opportunity to meet world class touring LDs and seeing their work kept him motivated and focused to always improve his skills and push his creative boundaries.

It was while working at Century Venues that Cello met Billy and the pair have worked together for several years.

“We fantasised about going on tour together and he put my name forward for Skegss, so I guess I’ll have to thank him for making it happen,” said Cello. “When I first started working with Skegss the initial brief was very minimal and all I was told was “it’s a big party!” I then presented the band a few concepts with 3D renderings of how the show would look and they then become more involved in the creative process. From then onwards we always wanted to step it up and make it look bigger and bigger. For this particular tour we focused a lot on silhouettes, big rock looks with solid colours, and key timing on audience lighting.”

Cello remarked that there was a lot of back and forth between himself and management that led to the current design. The main constant is that the show needs to look big and old school rock’n’roll.

“Martin MAC101s were the first pick and then we evolved from there,” explained Cello. “I wanted to challenge myself and not use any spots for the first time, as I found myself only using gobos during a few moments in the songs so I thought maybe a spot light wasn’t





**“Skegss fans go off and at the Enmore Theatre gig, someone even smuggled in a surf board so they could really crowd surf!”**

the best decision for this show. All in all, I am very happy with how it turned out.”

The lighting rig was supplied by EI Productions and being an up-and-coming band, the budget was not huge. The rig included 24 MAC101s, 6 MAC Auras, 15 Claypaky B-EYE K10s, 20 Molefay Duets and a couple of hazers. However Cello proves that it's not always about how many fixtures you have but what you do with them that counts.

Cello always tries to maximise the love/hate relationship between design and budget. The MAC 101s were chosen to recreate old school rock looks, while the Claypaky B-EYES are not only a very powerful wash light, but can also deliver texture with the beam FX and ring macros.

“In this particular case, it is like having two fixtures into one which always helps to keep the budget in line,” added Cello. “I think the most important thing to create big looks is not how many fixtures you have, but their placement in the rig, trimming your truss right



and the positions you have programmed. To look big it needs to fill the space. The pairing of MAC101s and the Molefay Duets on this design are a perfect example. Being on different length dropper pipes trimmed accordingly, alongside with the ones on the floor uprights gave the stage an incredible sense of depth without having to cloud it with too much.”

Cello remarked that the MAC101s are one of his all-time favourite fixtures, adding that he has used them with Skegss since their first tour as he needed a compact and very fast fixture that could somehow resemble a PAR Can look. They've been part of the show look ever since.

The MAC Auras are his stock standard wash light as he favours their colour mixing and zoom. The B-EYES were deployed as the main texture and FX fixture with 12 on the floor (six upstage and three each side) and three more as band key lights. Cello noted that the versatility they provide with their FX engine allowed him to swap between looks without

having to hire two different fixtures.

For control, Cello runs a HES Hog4 as it is a platform he has been using for a decade. Since the release of Hog4, he doubts he'll ever move away from it.

“High End Systems have really delivered a stable, powerful, versatile and intuitive platform,” he said. “The simplicity of the operating system is like no other. Complex programming can easily be achieved without having to delve into an endless series of sub-menus. Comment macros are definitely one of the functions I couldn't do without. Also cloning fixtures and merging show files is by far the easiest and least painful I've experienced, which comes incredibly handy when you keep jumping between different fixtures, designs, and festivals rigs on never enough sleep.”

# Video File Formats, Containers and Codecs. Yes... it's complicated.

by Simon Byrne

**Video is a huge part of events, so reliable playback of video files is essential. Enter Formats, Containers and Codecs.**

High definition, high quality uncompressed video file sizes are massive, about 650 gigabytes per hour. That is more than 10 gigabytes a minute! This is unmanageable for most applications because it is costly and impractical to store that amount of data. Also, the bandwidth that is required to transport and stream those file sizes is insane.

A way to compress the data is required. Enter the Codec.

Codec is short for Coder Decoder. It is software or a device that takes uncompressed video data (which we know is huge) and makes it small enough so that it is manageable. As technology evolves, new

codecs are always being developed for better file size, quality and playback.

No one codec does all jobs well. Therefore they are designed with an intent. That is, what is its primary goal? Is it for acquisition, editing, delivery, or display? All of these uses have different needs which in part, explains why there are so many different codecs. Some are proprietary, which product manufacturers must pay a fee to use (such as all the Mpeg variants), and others are open source.

Obviously the more the video is compressed using lossy techniques, the more data is thrown away. Also, the more efficient a codec



is, the more processing is required to encode, and decode. These competing requirements must be balanced.

For acquisition, you need quality because it is the master footage. Because the storage is local, reasonably large file sizes are okay, however you don't want much processing

**THE LOOK**

DRAPE HIRE  
www.thelook-sydney.com

New Address: 17 Greenfield St Banksmeadow NSW 2019  
Email mail@thelook-sydney.com • Ph 02 9797 6068 • Fax 02 9798 9243

which could impact on the speed at which the data is written to the disk, and the hardware needs to be capable of writing large amounts of data in real time.

For delivery, small file size is the major consideration. Consumer level storage needs to be cheap and therefore quite a bit smaller with low bandwidth. At this level, codecs are highly compressed and employ lots of tricks such as Interframe coding.

Interframe coding encodes differences between frames rather than each full frame.

Interframe coding provides substantial compression because in many motion sequences, only a small percentage of the pixels are actually different from one frame to the next. The amount of compression does however depend entirely on the content.

This is a great way to save data, but Interframe coded material really bogs down editing software because it needs to read and process several frames to get the required data before it can display a single frame.

For editing, minimal decoding is preferred so that the computer resources are not tied up in just randomly accessing the footage (as you do in editing), but is available for the editing itself. Large, lightly compressed files are usually used for editing. As an alternative, to make things work more smoothly, editors will often render low resolution, duplicate copies of the master files. These lighter weight "proxy" files are used for the edit, then when the final edit is rendered, the master files are swapped back in, thereby maintaining quality, but with the ease of working with smaller files.

Some special case codecs support a fourth channel (on top of red, green and blue) - the Alpha channel. The Alpha channel is transparency which means it can be overlaid on other content. For example, lower third graphics.

It is for these competing reasons that lots of different codecs exist. There are literally hundreds of different codec combinations.

People often associate the file extension as the codec, but that is not quite correct.

A file format is a standardised set of rules for storing the codec information, metadata and folder structure, a container if you like. Described by its extension, such as MP4, MOV or WMV, it is a container which incorporates all the files required for playback, the video stream, audio stream and the metadata. For example MP4 files can be put together using different codecs which means, a device might be able to playback one MP4 file, but not another.

The most common file format for playback is MP4 using a H.264 codec for vision and AAC codec for the sound. Sometimes called AVC (Advanced Video Coding) and Mpeg-4, the H.264 codec is extremely well supported by most devices.

H.264 is a popular standard for high definition digital video, and for good reason. A codec based on the H.264 standard compresses video to roughly half the space of MPEG-2 (the old DVD standard) to deliver the same high-quality video. This means you can enjoy HD video without sacrificing speed or performance.

H.265 (HEVC High Efficiency Video Coding) is the new version of H.264. It has twice the compression of H.264 which is superb for bandwidth and storage reasons. However, it needs triple the resources to encode and decode. At this stage it is not widely supported but will no doubt gain traction.

There are other factors that affects video quality in a file too:

Resolution - obviously the less pixels there are, the less resolution there is to see. However, I see lots of gigs that run at ultra high resolution for no noticeable benefit. All you are doing in that situation is pushing more bandwidth through your systems which opens yourself up to more likely failures. For most standard screen jobs, 1280 by 720 is just fine. For example, a 1280 by 720 image requires less data than a 1920 by 1080 image (2.25 times less).

Bitrate - bitrate is the amount of data per second. It is a setting used when encoding. A lower bitrate encode will produce a smaller file, but at lower quality.

Colour Bit Depth - determines the maximum amount of colours that can be displayed. 8-bit displays 256 shades for each colour. This still delivers 16.7 million colours (which is 256 to the power of 3) but explains why you can sometime see banding on Blu Ray discs because they use 8-bit. Most video is 8-bit.

10-bit is 1024 shades which produces over a billion different possible colours. 10-bit is important for colour grading in production, but not so much for delivery. Finally, 12-bit is a step up again, which is 4096 shades (theoretically capable of 68 billion different colours!) which is used in large-scale cinema production and projection. Combined with higher resolution, the 12-bit colour means the ultimate experience on the big screen.

Chroma Sub Sampling is Bit Depth's sidekick - chroma subsampling is a type of compression that reduces the colour information in a signal in favour of brightness, or luminance data. The human eye notices more change in brightness than colour. This reduces bandwidth without significantly affecting picture quality.

A video signal is split into the two different aspects: luminance information and colour information. Luminance, or luma for short, defines most of the picture since contrast is what forms the shapes that you see on the screen. For example, a black and white image does not look less detailed than a colour picture.

Color information, chrominance, or simply chroma, is still important, but has less visual impact. What chroma subsampling does is reduce the amount of colour information in the signal to allow more luminance data instead. This allows you to maintain picture clarity while effectively reducing the file size up to 50%. In the common YUV sub sampling format, brightness is only 1/3rd of the signal, so reducing the amount of chroma data helps a lot.

Chroma sub sampling is denoted in the following way -

4:4:4 - Out of 4 pixels, no colour information lost (over the top, rarely used).

4:2:2 - Out of 4 pixels, 2 pixels get their colour information from the adjacent 2 pixels (used by professionals).

4:2:0 - Out of 4 pixels, 3 pixels get their colour information from the last remaining pixel (most common in delivery format).

HLS (Adaptive Bitrate Streaming) - Developed by Apple, HLS is a technology where different resolution and bitrate versions of a H.264 file are encoded (small to large) and the highest resolution is streamed until buffering occurs. When that occurs, the player automatically switches to the next lower resolution/bitrate version. If that buffers, it will switch to the next and so on. HLS stream have .m3u8 extension.

So...what to use? For most playback operations with the widest compatibility and MP4 file, with a H.264 Codec, 8-bit colour for the vision, and an AAC Codec for the audio is going to work. Bitrate depends on the resolution and frame rate, but a 1920 by 1080 pixel, 25 frames per second high definition video should have a bitrate of around 10 Mbits for the vision, and 384 Kbits for the audio.

## Links

VLC Open Source Media Player - Highly compatible media player which opens most file formats, streams and codecs (including HLS streams).

[www.videolan.org/vlc/index.html](http://www.videolan.org/vlc/index.html)

FF Works - Comprehensive media tool for macOS which is great for batch transcoding files into workable formats.

[www.ffworks.net/](http://www.ffworks.net/)

MediaInfo - Superb and lightweight application that tells you all the technical details of a media file including the codec, bitrate, bit depth, chroma subsampling and so on.

[www.mediaarea.net/en/MediaInfo/Download](http://www.mediaarea.net/en/MediaInfo/Download)

Comparison of File Sizes

[www.digitalrebellion.com/webapps/videocalc](http://www.digitalrebellion.com/webapps/videocalc)



# Finally! 4K the Right Way

Every input can freely mix and match resolutions from HD, Full HD and DCI 4k, as well as PC resolutions from UXGA to DCI 4K – with no converters needed.



## High Dynamic Range [HDR]

The V-600UHD uses High Dynamic Range [HDR] so you don't just see more pixels, you see better, more dynamic-looking pixels that preserve the details in the darkest and brightest areas of an image.

**10bit 4:4:4 Pixel Accurate Colour** sharpens high detail sources from computers

## Region of Interest (ROI)

Increase your production value without increasing your camera count by pointing a single 4K camera and use the V-600UHD input sharing to crop out up to eight separate shots.

- Audio Integration
- Creative Composition
- A more vivid colour space
- Ideal solution for LED displays

# V-600UHD

4K HDR MULTI-FORMAT VIDEO SWITCHER



# HOW TO SHOOT ON A SUBMARINE

by Simon Davies

Director of Photography at SDDP

**Step 1: Watch ‘Das Boot’.**

**Step 2: Haze.**

**Step 3: Thank Astera for making Titan Tubes!**

I recently wrapped on a short film, part of which was set on a submarine. We shot on the HMAS Otama, built in 1978 and retired in 2001. As this sub is non-operational it meant there would be no power supply onboard. That and the fact it's moored 30 minutes off the coast of Hastings made this a difficult shoot straight off the bat.

I knew that we'd be locked into small fixtures, more than likely practicals with the option to be battery powered. After a bit of searching I ended up purchasing the Astera Titan tubes.

The Titans are full colour (RGB, Amber & Mint) tubes, each with a battery life of 2hrs at max output and up to 20 hours if needed. Everything is controlled off either my phone or on the fixture itself.

Each tube can be split into 16 sections which are capable of animating not only across themselves individually but also in a flow. Basically transitioning from one tube to the other. We wanted to contrast the handheld look which was being used for the other scenes so we decided to go with a stedicam.

Add a little haze and a few kids and our working environment just got a little tighter. Cinematographer Aaron Foley, ever the professional, took it all in his stride.

This scene was one of our quickest setups taking 10 minutes to block, light and haze. Basically three Titan Tubes on the ceiling set to a teal hue on a slow strobe. That mixed with the colour contrast of the torch and heavy shadows makes for an interesting image.



**“Add a little haze and a few kids and our working environment just got a little tighter.”**








# THE SHAPE OF THINGS TO COME

**SYD 9<sup>th</sup> | MELB 12<sup>th</sup> | BRIS 24<sup>th</sup>**

**SEPTEMBER 2019**

Technical discussions and a sneak peek into what's to come from Martin! PLUS special guests from Denmark visiting Sydney and Melbourne:

**Wouter Verlinden**  
Product Manager  
(P3 | VDO Sceptron | Atomic Dot)

**Mark Buss**  
Product Manager  
(ERA | ELP | RUSH)

**FEATURING:** P3 | VDO RANGE: VDO ATOMIC DOT | SCEPTRON | FATRON | DOTRON  
ELP ELLIPSOIDAL PROFILE | ERA | MAC RANGE: ALLURE | ENCORE

**RSVP your attendance by 30<sup>th</sup> August to [marketing@showtech.com.au](mailto:marketing@showtech.com.au)**

SYD: 101 Derby St. Silverwater | MELB: 210 Lorimer St. Port Melbourne | BRIS: 3/459 Tufnell Rd. Banyo.



# A WICKED PRODUCTION

by Cat Strom

**As more and more video and projection technology is used in theatre, the role of the set designer is changing. While the technologies become cheaper and more readily available, shows have embraced the latest digital technology, to the point where video is now just one part of a broader design process.**

Media server technology allowing integration with other staging elements such as lighting has enabled a whole new world of effects. The lighting and projection has seamlessly converged.

It can be argued that using video technology for settings is the 21st-century equivalent of the painted backdrop. However, no matter

how much technical wizardry a show may have, the final outcome still depends on the production and the vision of the creative team.

When the Broadway smash hit musical *Wicked* opened last month at the Gold Coast's HOTA, critics raved about the use of digital design, saying it was fantastic.

The ambitious production design was the work of Maria-Rose Payne who worked closely with Brisbane's content and video specialists IKONIX to produce the shows design elements including scenic design, construction, and special effects.

"When IKONIX were approached by *Wicked*'s producer Matt Ward, we knew something exciting was on the cards," commented Richard Saunders, Director of IKONIX. "IKONIX specialise in custom, bespoke productions and when Matt said he wanted to incorporate projection mapping and holograms into a local production of *Wicked* we were sold!"

A 10m x 5m Holo-Gauze screen was utilised throughout the show to add an extra dimension to the stage and to bring the Wizard to life in a way never seen before. Holo-Gauze is theatrical gauze combined with a highly reflective metallic coating. That means it will solidly reflect projected images,



**SYNCING AUDIO AND VIDEO  
CAN BE TREACHEROUS,  
LIKE CROSSING A CHASM.**

**ZOMBIES!**

**SHARKS!**

**LAVA!**

**PEOPLE WHO DON'T  
USE TURN SIGNALS!**

**LET TESIRALUX™ BRIDGE THE GAP.**

Distributed by

**JANDS**

[www.jands.com.au](http://www.jands.com.au)

**biamp.**

[biamp.com/tesiralux](http://biamp.com/tesiralux)

**“...critics raved about the use of digital design, saying it was fantastic.”**

but it also means anything behind Holo-Gauze, when carefully lit, can also be seen.

IKONIX also utilised several other projection methods including a large upstage rear projection screen, floor and scenery mapping, plus a large flown cyclorama during intermission.

The entire design was built and managed using Notch, which not only allowed IKONIX to build and visualise the environment in real time, but also make changes onsite before rendering them out as video files for cue playbacks in their Avolites AI Media servers. The ability to do this not only saved them a lot of time but allowed the director to see his changes come to life as he thought of something different; an invaluable asset to have.

“We knew that the Wizard had the potential to create a real visual impact so the pressure was on to get him just right,” added Richard. “IKONIX used motion tracking technology on the real wizard, which meant our hologram wizard would not only have the same mannerisms and mouth movements as our actor, but he would be more realistic.”

Although some say that technology replaces the power of the imagination in theatre, it would be crazy for theatre not to embrace new technology especially, as in this case, the results can be incredible.





# Discussing The P3 Mix Channel: Revolutionizing Creative LED Programming

The Martin range of P3-compatible creative LED and lighting fixtures has been growing steadily over the last eight years. But with the introduction of the latest Martin product families, including MAC Allure Profile, MAC Allure Wash PC and VDO Atomic Dot, a new function that revolutionizes the way of programming was added: the P3 Mix Channel.

When controlling these new fixtures via the Martin P3 System Controller, you can drive their colors and intensity from the lighting desk, a video signal or a mix of both. This offers a new range of possibilities to create looks on stage. For some songs or cues within a song you might want to dial in colors or pixelmap effects from your lighting console, while for other songs or cues you might want to treat your fixtures as pixels within an entire videomap.

DMX Value	P3 Mix
0 - 26	DMX-Mode
27 - 228	Mix-Mode
229 - 255	Video-Mode

The P3 Mix Channel is a dedicated DMX channel, available on these new fixtures, with three different control ranges:

**DMX Mode** - In this range, the fixture is fully controlled from the lighting desk. **Video mapping** on the P3 System Controller is ignored by the fixture, as colours and output are fully controlled from the corresponding DMX channels. **Mix Mode** - In this range, you can provide a crossfade between colours, dialled in from the lighting desk and video mapping from the P3 System Controllers. For example, you might have full red dialled in on the desk, and video with blue patterns feeding into the P3 System Controller. With the P3 Mix channel set to 27, the fixture will output full red. With the P3 Mix channel set to 228, the fixture will output the blue video content. With the P3 Mix channel set to an intermediate value, it will output a crossfade mix between the two (for example, when set to 127, the fixture will output half red with the blue video content overlaid). **Video Mode** - In this range the output from the fixture is controlled from the video-content being fed into the P3

System Controller. But, the colour channels on the lighting fixture can still override the colours from the incoming video. So if you have video content with white patterns being fed into the P3 System Controller, you can still use the colour channels of the fixture to give that content a different colour. This enables you to use any content (regardless of colour), but still match the colours coming out of the fixture to the rest of your look on stage. It's also worth noting that the built-in effect macros (and all other channels) from the fixture will work, regardless of what range the P3 Mix channel is in, allowing you to run the fixture in Video Mode, but still apply effects such as strobe, gobos, spectrum shift, etc., on top of the video, which offers even more control possibilities to achieve the desired look on stage.

Last but not least, fixtures offering different "layers" of light will offer multiple P3 Mix Channels. The VDO Atomic Dot is a great example as it has the main white beam/strobe/blind LED and the Aura backlight LEDs. Therefore, the VDO Atomic Dot offers two separate P3 Mix Channels: Beam P3 Mix and Aura P3 Mix, enabling you to determine how you want to control each "layer" of the fixture. Drive the white strobe from the desk, while running video content over the Aura layer. Dial a solid colour on the Aura while running video-patterns over the white blinder. Run video content but apply a strobe inside the fixture on top of it. Run video content, but let the fixture add a tungsten emulation effect to it. The possible combinations and achievable looks are endless.

Make sure to check out the creative potential the P3 Mix Channel offers, once you get your hands on one of these fixtures.

**Presented by Martin Lighting.**



## We're Hiring!

**Interested in joining Australasia's #1 Sound, Lighting and Vision company?**

**Exciting career opportunities NOW AVAILABLE in Sydney, Brisbane, Melbourne, Adelaide, Wellington and Auckland.**

**Send your CV to [jobs@nwgroup.com.au](mailto:jobs@nwgroup.com.au)  
[www.nwgroup.com.au](http://www.nwgroup.com.au)**





# INTEL EXTREME MASTERS

by Cat Strom

**Intel Extreme Masters, the elite global pro gaming tour operated by ESL, was held at Sydney's Qudos Bank Arena across three action packed days from May 3 to 5.**

Principal technical supplier for the event were Woohah Productions, working with stakeholders to deliver an unforgettable show in accordance to esports rules and the demands of the online broadcast of the event. 2019 was Woohah's third year of delivering Intel Extreme Masters and close to eight years working with ESL Australia to deliver the biggest esports event in Australia.

Working with their client of almost ten years, Woohah Productions designed the audio, video and lighting with Chad Spencer from Litesauce Designs as the lighting designer and operator. Scott Landgren, Senior Production Manager, spearheaded the whole project from initial client briefs to onsite delivery working

with ESL Australia and NEP Broadcast.

"Large events need big approaches," remarked Arosh Fernando, managing director of Woohah. "Coordinating a team of suppliers, we provided a complete production solution for the single largest event on the Australian esports calendar."

Woohah's work included the complex installation of various LED video screens, supply of an arena-capable PA and control system, and an energy enhancing lighting design with pre-visualizations to allow for client input.

Over 250sqm of LED screens were used for the event with two main program screens of

ROE Visual Carbon 5mm and Qudos Arena's in-house 5mm screen used as part of the set. A series of 3mm panels were deployed into custom cabinetry set pieces and player pods as well. The long banner screens were also in 5mm and there was a 20K Lumen Panasonic Projector for the delay screens.

Woohah's Barco E2 was used to manage the multiple LED and auxiliary screen outputs used in the main arena, allowing for client-provided 4K inputs. Using 4K inputs in this instance reduced the total number of inputs required, allowing multiple LED surfaces to be mapped from a single input, rather than congesting the video ops with multiple machines and operators.

These 4K inputs were then split into various 1080 inputs via the E2, to address the high number of video outputs across the arena. Involving two main program screens, six independent LED surfaces were utilised for in-game information and stage dressing, multiple auxiliary video sends for VIP seating, and a





20K projector flown high for the furthest and highest seating banks in the arena. The E2's advanced video mixing and output capabilities were used to their maximum potential.

All content was custom made by ESL Australia with overlays to player gaming content.

Approximately 10,000 people attended the event at Qudos Bank Arena with over 733,000 peak concurrent viewers for the online broadcast. In total, the event has had over 20 million unique online views.

"With an event like IEM Sydney, the largest

of its kind in the region, we need suppliers we can count on and Woohah are the best in the biz at what they do" said Josh Inman, Operations Manager at ESL Australia. "No matter what we throw at Woohah, even in the fast-paced world of esports, they always deliver exceptional results."

## GlenSound DARK 88 MKII

The new GlenSound DARK88 MKII is a versatile, eight channel ethernet audio interface featuring Dante.



Find out more about the whole GlenSound Dante I/O range shipping now from TMS Online. [online.tm-systems.com.au/glenSound](http://online.tm-systems.com.au/glenSound)

**P** | +61 2 8011 0500  
**E** | [info@tm-systems.com.au](mailto:info@tm-systems.com.au)  
**W** | [www.tm-systems.com.au](http://www.tm-systems.com.au)

bringing technology together

**tm**  
STAGETEC  
SYSTEMS

Dante  
Domain  
Manager™

**Dan Dugan**  
SOUND DESIGN  
[WWW.DANDUGAN.COM](http://WWW.DANDUGAN.COM)

**TiMax**

**dataminer**

**DirectOut**  
TECHNOLOGIES

**DIO**  
DANTE INPUT/OUTPUT

**Smart pi**

**EDC**  
EDC ACOUSTICS

**digital PA**

**brähler**  
SYSTEMS

**STAGETEC**



# MEDIA TRANSPORT “THE BORING BIT”

## FLX S24

Affordable. Easy. Fun.

FLX S lighting control consoles are easy to learn and simple to use - delivering all the features you need at an affordable price.

The FLX S24 has ultimate portability, offering a powerful LED and moving light controller in a small 19" unit with direct access to each of the lights in your rig.



Clearlight Shows Pty Ltd

[www.clearlight.com.au](http://www.clearlight.com.au)

Tel: 03 9553 1688

zero88  
[www.zero88.com](http://www.zero88.com)



Easy LED colour selection



Moving light controls



Apps & networking



'Step by Step' guidance



RigSync

By now most audio and video professionals would be aware of, or indeed have used audio networking in one form or another. Dante, Ravenna, AES67 are all current forms of audio transport based on an Ethernet backbone, as were CobraNet and Ethersound in times past. Optocore is also an example of audio transport however it is based on a TDM (time division multiplexing) platform.

What may be more of a mystery are the options available for transport of video signals, either used for display-based applications (loosely based on HDMI/Display Port) or in such broadcast video applications as SDI (coax-based distribution).

In our role as one of the world's leading event communications system suppliers, we are often asked to provide a transport solution for audio and/or video signals around a venue, across a city, or indeed around the world.

On the Professional Audio side of the equation, Ethernet networks have achieved widespread adoption for larger scale distribution. Dante and to a lesser extent AES67 have become ubiquitous for



**“We thought it might be relevant to this issue’s topic to explore a few of the options for Media Transport available to event planners and technical directors.”**

The P.A. People provided video and comms for the European Games in Baku, 2015

audio transport. Literally thousands of products are Dante compatible and with the interoperability provided through the AES67 standard you can connect to almost any type of audio device via a network. The P.A. People have used extensive Ethernet networks as the backbone signal transport for events for almost two decades – typical examples might be New Year’s Eve in Sydney or the Ceremonies of the Asian Games in Jakarta last year. A network topology can be used to transport all manner of signals – audio, comms, cue lights, CCTV cameras, as well as internet and standard file and print services.

Over the last few years there has been a number of solutions which have emerged that allow for the transport of Video and/or Audio over dedicated fibre circuits. Examples include Riedel’s MediorNet and the Broaman platform (the Video brand of Optocore). Both these systems use a combination of Time

Division Multiplexing and CWDM technology to transport multiple SDI Video and Audio signals over a fibre backbone.

Another technology that is rapidly maturing is Video over IP. Given a network’s capacity to carry almost any signal, it is no surprise that pressure has been building to find reliable and cost-effective solutions for Video transport.

Whilst the use of uncompressed Video over IP is extremely bandwidth intensive, there is an increasing availability of options that use a variety of compression algorithms that can achieve acceptable latency for use in live events. Products from BirdDog based on NDI compression and the forthcoming Dante AV platform show promise in delivering cost effective Video transport for live events.

Recently, our Event Communications team have evaluated a new Video over IP product from BlackMagic Design based on the Tico

compression engine. Our tests have shown that we are able to achieve latency of less than 1ms end to end, which to put it in context, is quicker than most network audio protocols.

There are plenty of tools now available to production professionals for the transport of Audio and Video in live events from dedicated fibre-based systems to Ethernet and IP network solutions.

The P.A. People supply both Broaman and BlackMagic Design products for the transport of video at live events alongside comprehensive network solutions. They can be contacted on 02 8755 8700 or [eventcomms@papeople.com.au](mailto:eventcomms@papeople.com.au)

**by Chris Dodds, Managing Director,  
The P.A. People**

## Audio for Sport



**Did you know that The P.A. People have been providing audio systems for Sporting Events for well over twenty years?**

120 cabinets of Bose ShowMatch including Cardioid subs  
Flown, ground stacked, tower lifter and Bose Cart options  
Linea Research amplification | Yamaha consoles  
Creative Audio monitor system

**‘STACKS AND RACKS’ or COMPLETE SYSTEMS**

**Contact us to discuss audio for your next event!**

Radios | CCTV | Wired Comms | Wireless Comms | SPL Net | Audio

[papeople.com.au](http://papeople.com.au)



PM talks to Skills Active staff

# INTERNATIONAL FLAVOUR AT THE ETNZ CONFERENCE

by Jenny Barrett

**In response to requests from membership to bring what's happening around the rest of the world to New Zealand, ETNZ served up an array of workshops and keynote speakers with a strong international flavour, laced with a smattering of issues of local concern: health and safety and mental well-being topping the agenda. Exhibitors too had grappled with their colleagues across the ditch to ensure that the latest models from manufacturers around the world were diverted to New Zealand before Australia.**

The surprise special guest could also claim a few international connections. Jacinda Ardern, Prime Minister and Minister for Arts, Culture & Heritage made a guest appearance to celebrate the industry.

## The Workshops

150 delegates flew into Wellington's Te Whaea National Dance & Drama Centre to take advantage of the impressive line-up of workshops and keynote speakers at Entertainment Technology NZ (ETNZ)'s bi-annual conference. The first keynote was

delivered by Katie Cullen Montgomerie, a Kiwi now resident in Switzerland and Head of Marketing for Verity Studios AG, a leading drone entertainment company. She provided inspirational insight into the weird and wonderful places that the entertainment technology industry can take you, with footage of eight drones whizzing through the air in a choreographed routine as part of Cirque du Soleil Paramour, and the out-of-this-world eighty-eight micro drones on stage in costume as part of CCTV's huge Chinese New Year's celebration.

The other big international draw card was Greg Pittams, Technical Director for Ptarmigan Integration, another ex-pat Kiwi currently based in Hong Kong. Leaning on his experience at Warner Brothers Theme Park in Abu Dhabi (14,000 lighting fixtures in 22 attractions) and other spaces across Asia, Greg discussed creative production in a permanent environment.

Many other slightly more down-to-earth but highly informative workshops followed over two days with Cathy Knowsley's Health and Safety sessions and Nigel Pizzini's look at Mental First Aid proving some of the most popular with delegates. The international theme continued with Eddie Welsh from Jands AU talking about how funding infrastructure in Queensland was supporting the switch from halogen to LED and Scott Harrison, also Jands AU, sharing his experiences in Europe and at Prolight. Many of the sessions had a lively interactive format with a panel of three 'experts' kicking off the discussion on a pertinent topic and the audience contributing to proceedings as much as the speakers, resulting in extremely positive feedback from delegates on how much they were taking away from the event.

## The Trade Show

Running alongside, the trade show was well supported by delegates and the scene of intense activity prior to and between sessions. Present were stalwarts of the industry the



NEW ZEALAND'S ONE-DAY A/V EXPO RETURNS IN WINTER 2020

# ENTECH

ROADSHOW  GLOBAL 

*Featuring The leading providers of*  
**AUDIO,  
LIGHTING,  
VIDEO & STAGING**

**DON'T MISS OUT  
Book Your Space Now!**

For more information contact [steve@juliusmedia.com](mailto:steve@juliusmedia.com)



**CHRISTCHURCH**  
THUR 30 JULY / TOWN HALL



**WELLINGTON**  
TUE 4 AUG / TSB ARENA



**AUCKLAND**  
THUR 6 AUG / SHED 10

[www.entech-roadshow.com](http://www.entech-roadshow.com)



PM presenting certificate to Samuel Johnstone, Graduate



Katie Montgomerie, Verity Studios and Linda Dorrington, Skills Active



Keynote speaker - Katie Montgomerie



Post pack in drinks



ShowQuip manning their stand

likes of Metro, LS Group, the revamped Jands NZ, as well as the impossible to miss relatively new kids on the block ULA, who owned the entrance to the hall with a dazzling array of product.

Everyone had a first. It was impressive to see the commitment that the companies had made getting new product to New Zealand shores in time for the conference. Almost every stand had something that had not been seen previously in Australasia.

Phil Dexter at Theatrelight NZ proudly showed off a brand new 3D printed prototype, the Z1000, a zoom spot 1200w with profile, with the company expecting to shift 4-500 units at a time into Asian theme parks. The new RackPack-S, forty of which had already gone into Life Church, Auckland was also a winner. The RackPack-S adds permanent power switches to every dimmer of the original popular RackPack I, allowing mains power to be distributed to non-dimmable loads such as DMX controlled luminaires, moving lights, smoke machines and motors. With the switches off, the RackPack acts as a normal incandescent dimmer. Other news from Theatrelight was their new sole agent in Australia - Show Technology.

And just around the corner, Show Technology NZ were getting to grips with their new product, the MA3 Lighting Control Console, offering a touch friendly, more intuitive interface than its predecessor. It is currently in beta so on sale with the MA2 software, with a free software upgrade once available. Nick

Reeves, Technology Sales based in Auckland sang 'the industry standard's' praises.

Kenderdine, not quite in agreement with Nick's statement, were keen to show off the new entry level NX Wing, based on the NX 2 Console (a complementary USB control surface to Obsidian Control Systems ONYX platform). They were also celebrating their very compact LED Moving Head, the GLP impression FR1 and the Moving Head Profile, the S350.

MusicWorks also had a first for the country, the Yamaha Steinberg AXR4, which according to Drew Mollison, their Pro-Audio Specialist, Sound on Sound Magazine had called "possibly the best interface ever". It sees Rupert Neve Design's Silk processing incorporated into a relatively affordable Thunderbolt interface (it will be in the region of \$3000NZD).

Brodie Noon, MD of MDR Sound and Lighting and Adrian Dittmer, Sales Director raved about the new offering in the Chauvet professional range, the Maverick MK3 Spot with output of over 51,000 source lumens. Another first viewing in Australasia.

Not sure if they fit under the title of newcomer or not following the dissolution of the previous company, Jands NZ were well represented with Phil Sargent, ex-Philips Selecon, now National Account Manager, fronting the stand. Supported by Wellington-based Jason Allott and his strong audio background, the two offer a wealth of knowledge for the sector.

The commitment to the New Zealand market was evident with a whole load of new product on show in New Zealand "before the Aussies even get their hands on it." This included the Robe iPointe, an IP version of the popular MegaPointe, recently released at Prolight. The new T1 Fresnel was also impressing Phil with its output - 10,000 lumens; its subtlety offering all variations of colour; and its multifunctionality - both Fresnel and PC lens supplied, "A lot of more exciting possibilities for design nerds."

Then there were ULA. These guys were working hard on making an impression. Previously operating remotely from Australia, they now have offices and a warehouse on the North Shore, Auckland with a showroom opening in August. They oozed enthusiasm for every product on their trade stand, excitement peaking when talking about Astera Titan and Helios Tubes, possibly due to the number of containers they were shifting. Move over Quasar Science.

Moving on to live technology product, Garth Reynolds, Branch Manager and Sean Rosig, Technical Sales lit up when talking about their lighting consoles - the Chamsys QuickQ, entry level consoles with one, two or four universes with a tablet interface or you can hook up your iPad, launched in 2018.

They were also impressed with their SGM IP light offering with a patented dehumidification system for wet locations. Perfect for New Zealand. And the ACME range, coming with a three-year warranty when purchased through





Delegates and the PM

ULA, and the ability to customise, Auckland's Aotea Building recently purchasing forty LED bar light Dotline360s in white for an upcoming installation. They had also brought along MDG haze machines, "The best hazers in the world according to Celine Dion and Mariah Carey." The case they had on the stand, a collaboration between ULA, ACME and MDG was certainly impressive, neatly holding two gas canisters and a DJ Power Fan. Then finally there were the VuePix LED screens... and then a beer.

Moving away from the audio-visual side of things, HME, the company that designs and automates machinery for the entertainment industry, well known in Australia, less so in New Zealand, was successfully building brand

awareness with a video featuring staggering projects around the globe.

John Herber Theatre Supplies, a family business that specialise in flame retardant fabrics, drapes and stage track brought a bit of theatre to proceedings. They now export to Australia through Theatrical Supplies Australia (TSA).

Scenic Solutions, owned and operated by Andrew Hampton and David Gill, two men who will pretty much manufacture anything a theatre or show needs, were there, accompanied by Garrick Rollinson from Stagemark who has been working under Rob Peters (Theatre Systems & Design) for the last ten years, specialising in rigging and flying systems.

Outside the trade hall sat Fiasco, a company based out of Cambridge that is crazy about rack cases. In amongst all their "heavy-duty, long-lasting, space-efficient and totally kick-ass" cases, they had a new slam rack with doors that cleverly slide inside. And in other news, they have now opened up in Los Angeles, including a full service centre.

Lastly, there was Aspiring Safety who design and manufacture full body harnesses for aerial performers and export globally. Although owner Shane Rhodes, considered "everything exciting" on his stand, he is putting a new product through the patent process, so will be back for the next ETNZ Conference with his own "first for Australasia".

## C1 + N9

High-Definition  
Stage Rental Solution



### C1

Dual-LCD  
Touchscreen Console

### N9

Real 4K  
Seamless Switcher

**NOVA STAR**

☎ +61 0435 970 315

+86 18821708279

✉ [stephen@novastar.tech](mailto:stephen@novastar.tech)

### 7 layers + OSD = Creativity

Support for 7 layers + OSD + BKG + Logo, allowing for a wide variety of layouts.

### Power = Clarity

Can output 4K × 2K @60hz, providing the high power needed for the rental market.



# POOR MAN'S VIDEO

by Andy Stewart

**What is that exactly – poor man's video? Well, audio of course. In the same time period as video resolutions have increased exponentially, and consumer products have advanced like rockets off a launch pad (my 4K TV is already old news, and as for my 42-inch 'Full HD' 1080P plasma: that's a dead-set dinosaur from another epoch), audio has advanced us what? Different coloured headphones... and vinyl.**

I'm being cynical, of course. A lot has changed for the better in audio over the last decade or so, particularly in the studio and at FOH, and specifically in the realm of software. But at the other end of the spectrum, in that crucial landscape where people consume music, along with its various playback devices (that in the distant past were simply called 'stereos'), things have gone decidedly backwards.

Today's 'hi-fi' shops seem to be little more than a bunch of sorry keyboards and Chinese-made guitars, mixed together with

'80s-styled 'stereos', all hidden in the bowels of giant retail outlets behind the cane furniture and washing machines. Turntables are back in vogue and things like vinyl cleaners are 'new'.

In these back corners there's often almost no staff, very few punters and dust on much of the 'cutting edge' technology. And as for the CD sections of these stores... they have weeds growing in the isles, and warning signs of heavy fines for dumping rubbish.

So what the hell has happened to audio, and could we have foreseen this 30 years ago? I

do not know, and very much doubt it.

If these so-called 'advancements' had occurred on the visual side of the entertainment industry, we'd be buying old Rank Arena tube TVs by now, only some of which would be in colour, and remotes would be science fiction. We'd never have even heard of screen shapes like 4x3 or 16x9, let alone video, and we sure as hell wouldn't be buying movies, streaming TV shows 10 at a time or troubling ourselves with 'spoiler alerts'. It's as if a meteor struck the earth in 1978 and people recently dug up our latest consumer audio products – 2019: The Land of the Lost Technology.

The audio world is now the (even) poorer brother to the wide collection of truly cutting-edge visual formats and consumer-related products. Film has advanced digitally at a frightening pace; online streaming Behemoths (that didn't even exist a few years ago) spend millions on new shows, employing thousands of artists and artisans in the process. Movie retail remains a massive industry and digital video consumer products, in all their forms – GoPros, UAVs etc – have taken over the planet, upping their resolutions and subjective quality every step along the way. Everywhere you go there's a camera on a surfboard, a drone, or in a phone.



# NAS IT'S ALL ABOUT SOLUTIONS



National Audio Systems, one of Australia's eminent pro audio distributors, has undergone a major rebrand to better reflect its invigorated brand portfolio and new direction.

**It's all in the name — NAS Solutions.** The company is expanding into the commercial audiovisual space.

Be assured, the days of supplying and servicing monstrous PA systems are by no means over. But the company's DNA has evolved far beyond blue ribbon audio installs and concerts. Audio now forms an important part of the overall NAS Solutions end-to-end AV offering, in whatever market that may be in — education, corporate, hospitality, government, retail, you name it. Armed with world class products and a wealth of industry knowledge, NAS Solutions is now just as comfortable helping you to hang a LED videowall as they are a line array.

"National Audio Systems' roots are in professional audio," explains Managing Director Shane Bailey. "Yet in a typical AV/IT integrated system, audio is only one piece to the puzzle. The NAS Solutions rebrand demonstrates to the market that we now offer more than just audio products but also screen technology, connectivity devices and networking — in other words, we provide complete solutions."

Best illustrating this bigger vision are the brands appearing in the NAS Solutions vendor portfolio — brands like Unilumin (premium large format LED displays), Hall Research (matrix switchers, scaling and automation products), Activ2Touch (4K touchscreens for workplace collaboration), and Ghost (a convergent network system for true Ethernet broadcast signals).

Bringing in world class brands is only the beginning. Shane says particular effort was given to the strategic hiring of key personnel. "Over the past 24 months we have deliberately sought out professionals with experience in the field of larger integrated systems. As a result the NAS Solutions Projects Team is fully equipped to join both front-of-house and back-of-house elements and build complete solutions for our customers."

The new NAS Solutions website contains several case studies of installations assisted by the NAS Projects Team.

**NAS Solutions:** [www.nas.solutions](http://www.nas.solutions)

Meanwhile audio has vinyl again (though very few know how to cut it), and 'hi res' MP3 formats... for the discerning consumer (thanks Apple). Headphones are back with a vengeance and public transport commutes are awash with audio labels plastered across everyone's head.

## Over-Simply Put

But isn't that summation of our plight a little simplistic? For instance, the audio industry has a bunch of global outlets now that allows everyone to upload their music in both audio and video formats, and sites like Bandcamp etc that provide everyone with a shop-front to the world, for a fee. This is a concept that would have seemed every bit as far-fetched 20 years ago as online streaming. And while there are more people than ever trying to make their mark in the music biz, getting your music out to the world is nevertheless far easier now than it ever was. Theoretically, at least.

And there are countless other advancements at the professional end of the spectrum that are easily taken for granted or overlooked. Wireless audio, for example, has advanced in leaps and bounds in the last decade, making stage life easier – even studio environments are starting to benefit from it. Computer software, more than any other single aspect of the audio industry, has made life far easier for designers, producers, audio engineers, collaborators, songwriters... everyone involved basically, despite what people trapped in the grip of a software malfunction might say on a chat forum. Plug-in software, more specifically, is truly the land of science fiction, and this realm alone has altered the way most of us work more than any other single facet of the industry. So it's not all bad, not by a long shot.

But technological changes have also had the unfortunate effect of robbing many people of their capacity to make a living in the industry, particularly those trying to sell their musical wares, and especially since younger crew started to eschew even online musical purchases in favour of streaming. For many, that's a scary prospect.

## Video Saves The Audio Star

What does all this mean for Australian engineers, producers, musicians, bands, and solo artists, all of whom want to succeed in an industry that grows more penniless with every passing year? Well, in truth, it's hard to say.

Every day I'm asked by my clients: "How will I sell my music?" My answer always does two things: takes up the rest of the evening, and changes every time. Mainly I advise getting out there and gigging – a revolutionary concept – and the other obvious truism: producing great songs... but I'm also a huge advocate for videos, which I've mentioned in

Listen Here articles in previous issues of CX.

To me, the distinction between audio and video is about as quaint – in the year 2019 – as the old analogue versus digital argument of 10 years ago. It's a multimedia world out there folks – has been for many decades. Most entertainment offers both without question, distinction, or bias, whether that be a gig, a hit single, a movie blockbuster, an online news bulletin or a sporting broadcast. It's also true of every podcast, documentary, YouTube video, FaceTime chat, or university lecture. I can't actually think of anything that provides audio without video these days, apart from radio... and even there, all of its online promotional work is visual. Why then do so many of us in pro audio still insist on drawing a huge line down the middle between the two senses – visual and aural – when, in the vast majority of cases, consumers listen to audio while viewing either a film-clip, a movie, a podcast, even a live concert, without giving it a second thought.

No-one in audio should question – even for one second – why they should incorporate video into their next artistic endeavour. It's just a given, and the sooner people realise that the better off they'll be. Frankly, I'm still waiting for mic stands and foldback wedges with cameras incorporated into them for this exact reason (filming performances easily from up close looks cool, and should be easier to do than current technology allows). Maybe someone's already making them. I must check.

## One Bit Forward, Eight Bits Back

So it's too simplistic to say that audio has retreated technologically while film and video has advanced. It's more that some of our consumer formats, in particular, seem to have been caught in an eddy while the film and television industries have gone ballistic, outselling audio products 100 to 1 (a made-up figure).

The main (valid) gripe of most audio professionals these days, particularly in studios, relates back to digital consumer resolutions, and their general backwards trajectory. It's a painful topic for many, and there have been many false starts in the race back to something resembling genuine high resolution.

But – and as hard as this is to admit – there might be an obvious reason for this malaise: audio quality was fantastic 40 years ago, and perhaps it was hard to improve upon at the consumer level, particularly from their perspective. At the same time fashion pushed the miniaturisation of audio too hard, right when online services took hold. The result has been a world of largely headphone-based audio consumption of recorded music, where low resolutions have sufficed and small file sizes have mattered more than pristine depth perception and dynamics.

In 2019, that can afford to change. The time has surely come where we are now able to finally dispense with low res dithering and truncating of files, and provide consumers with the same sound as studio professionals enjoy in the confines of their own control rooms. I think I'd be less concerned about dinky turntables finding a place on the shop shelves if punters could also buy my mixes undithered, at the resolution at which they were recorded. That's not too much to ask, is it?

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





# THE UNOFFICIAL LIGHTING PROGRAMMER'S GOLDEN RULES

by Alex Hughes

There seems to be some misguided ideas around what makes a well-programmed lighting show. In recent history, we have seen a rapid jump forward in the way we interact with lights in general. This has meant some of the key features introduced and designed to save us time in programming are being exploited to extreme levels, in my opinion. While some of these features produce pure works of art, others are just pretty much time wasting.

## STARTING, BUYING, SELLING OR RE-STRUCTURING A BUSINESS?

Julius Partners provide expert analysis, strategy, risk assessment and advice to new or experienced business owners.

Most businesses operate on less than 5% net profit, often with inbuilt risk that is hard to see from the coalface. Some re-structuring is difficult and needs careful management of teams and owner mindsets.

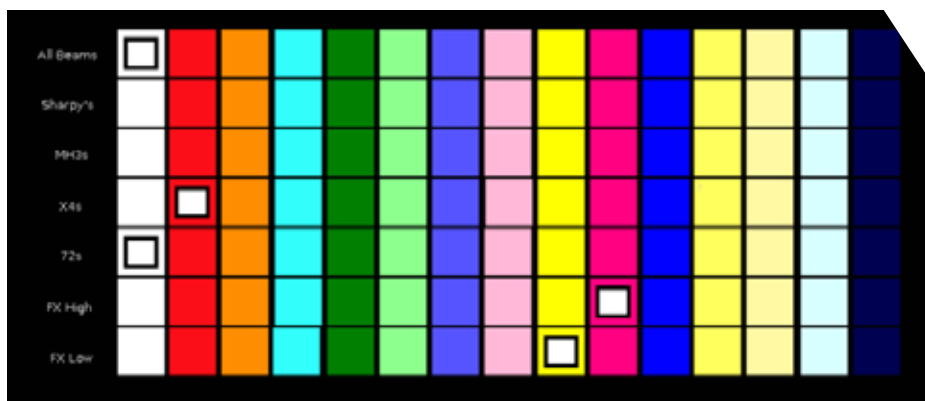
If selling, our fees are less than most business brokers. We can negotiate and refer to expert lawyers and accountants.

Operating a diverse variety of businesses since the 1970's, we offer complete confidentiality secured by a deed, and transparency in our dealings with you.



JULIUS PARTNERS

Call Julius on 0408 498 180 or email [julius@juliusmedia.com](mailto:julius@juliusmedia.com) [juliuspartners.com](http://juliuspartners.com)



A simple colour stack has been replaced with a complex set of cue lists driven by macros.

The secret to good lighting isn't much of a secret; your job is to simply and adequately light what is happening on stage. Now don't get me wrong, sometimes we get to have a huge artistic impact on the show as well, but normally this is driven from the on-stage talent or external design elements such as video content. Many people approach the way they light in their own unique way, but there are some golden workflow steps that are tried and tested.

Begin by ensuring that you have enough lighting in the right places to ensure an even coverage of the stage. Many lighting directors, programmers, or even designers will tell you horror stories of the time the artist who always stands in one spot suddenly decides, on a whim, to run around the stage in what seems to be a concerted effort to find all the dark spots in your focus. Luck will always have it that this is the show that they are recording for the DVD or broadcast, and the talent decided they wanted to make it an extra special show. Always ensure you have a full stage wash and even position for the punter barrier in case they choose to roam and interact.

The second golden rule is one that everyone discovers eventually, which is make sure you backup your show. Now, for most people backing up is just making sure that they have enabled the auto save function of their console. Over time you will discover that even expensive lighting desks fail and sometimes even USB drives bite the dust. The general rule of thumb is at least two USBs; one that is plugged in for normal backups, the other only plugged in after making major changes. Personally I like to rotate USBs and save the showfile, with a modified name, any time I get up from the desk for a coffee or fresh air. By doing this simple trick I know if I need to go back in time due to showfile corruption I can easily go back to a known point easily. Some will say that's a redundant step as the desk increments backups anyway. But incremental backups can lead to imprecision and you will be more accurate if you can just fork the showfile ShowName-1300-Coffee/Major Change. Save often and keep offline backups.

The third golden step of workflow is Presets. We could talk for hours and hours about the benefit of presets over storing hard values, but the simple reason is consistency. When you use presets in your programming, for moving light positions especially, you end up saving yourself a lot of time even on one-off shows. Spending that little bit of extra time to get everything set up so your colours match will save you time in the end, especially if you need to make blind changes or program a song between shows. A great example was this year's ENTECH Roadshow where I was responsible for showcasing a range of moving light fixtures. In each city, the demonstration area ranged in size from full exhibition bays to a low roof foyer area. Due to the one-day load in/show/load out regiment the amount of time to get up and running was very limited. As a result, I made sure everything I needed to use was built with presets. Once everything was up and running, all I had to do was update three presets to be ready to run the show. In a show like that, consistency was key to ensuring each manufacturer's products were presented in a fair and equal way.

The final workflow tip I have is more of a cautionary tale and relates to all events from black box theatres to major arenas. Always program yourself a safety/evacuation state for your lights. After having a major incident a few years ago, I had to create one on the fly. I never forget to create one now. The incident sadly involved the removal of a fair number of people from a festival location and while your first response is to just turn the blinders on to 100% this turned out to be a huge mistake as they were simply not designed to be used for more than a few minutes. In the end I had to switch to using moving lights and LEDs at the protest of the first aid supervisor. Create a nice wide white wash, and also try to record anything you want turned off, such as hazers or smoke machines, so in the event someone else has to trigger it on your behalf, the process is easy enough for them to trigger one thing.

**“The secret to good lighting isn't much of a secret...”**





---

Advertising opportunity - CX October 2019

# 'THE PROJECTION ISSUE'

---

If you supply any of the following, contact us now via [jason@juliusmedia.com](mailto:jason@juliusmedia.com) to advertise your product or service and get your editorial material published:

- Projectors • Previsualisation and Content Creation for Projection
- Projection and Projection Mapping Services
- Media Servers, Screens and other supporting equipment



**Urgent**

**September 2019 'The Installation Issue'**

Email us urgently via [jason@juliusmedia.com](mailto:jason@juliusmedia.com) to secure your editorial and advertising space.



**Soon**

**November 2019 'The Communications Issue'**

**December 2019 'The Recording Issue'**

Book your space via [jason@juliusmedia.com](mailto:jason@juliusmedia.com).

# CREWING SERVICES - FROM AN UNASHAMED LOADER

by John O'Brien

**I got my start in the black box industry by pushing big black boxes in and out of trucks. I lived with a stage tech and our house was muso central but I wanted my own way in, so I rang an agency and started humping roadcases around. Eyes and ears wide open, I also started asking questions - lots of questions.**

"What's this one called? What does it do? How does it do it? Why are you doing it that way?" Most of the time, other crew were happy to share what they knew. Some liked to keep the aces close but with them: "OK, I'll just shut up and watch and learn...". Reportedly, that is not so much the case anymore and knowledge sharing benefits the whole industry.

I learned to mix, and did ok before I trashed my ears. After switching to lighting, I kept going with a bunch of bands and ended up touring quite a bit but always returned to casual crewing in between. There was then a certain stigma amongst some touring crew that loading is a second rate career option to being the touring tech. Some forget that everyone is there to put on a show and earn a few bucks, however they do it.

## Regulations and Paperwork

In a recent cleanup, I found some old handwritten pay slips and laughed (and not just at the hourly rate). It's now all gone digital. Single Touch Payroll is a compliance regulation from the ATO. Victoria now has Registered Labour Hire regulations. Super, Workcover, - natch now, but it wasn't always so. Site inductions, production house inductions, PPE, JSA, OHS/ WHS - all new regulatory compliance to contend with this century. Perhaps implemented due to bureaucratic arse-covering but they do create a safer and more inclusive work environment than the "don't break anything or piss anyone off" eras. Boring and inept though some of it may be, I wish it was around for me and my contemporaries. Some agencies now even have Safety Officers on the payroll. Crews win with safer conditions and bosses win with less insurance claims.

"There was then a certain stigma amongst some touring crew..."



## Generalised Labour Hire Vs Specialists

There are lots of labour hire companies around the country and many require deeper knowledge than just general grunt work. Hence specialised technical production crewing services. Unfortunately, many state governments still classify this as unskilled when the difference in reality is marked. Regular production house clients know that they'll often get a mix of experience and are happy leaving the heavy box lifting and pushing to the loading crew. But when the trucks are unpacked, these clients then get the secondary benefits of any experienced and specialised crew. After the trucks are empty and loaders are being allocated to various departments, the production people grab those that they've worked with before, who they know will be of some use. Many times, my 3-hour load-in call was extended for half a day or more. What I'm saying is: "it is useful to be useful".

There are some good training resources available online too. Videos on how-to pack, lift, roll a lead, watch that fork tine and more. Gigpower's Standard Practice Guide pdf is a ripper. Courses, YouTube and inductions are all good and well but no Cert 3 is going to help you if you can't find your way around a ratchet strap or lift in time with your team. The game of 3-D Tetris can really only be learned through experience. It's fast paced on the job but true learning takes a long time.



# Australia's One-day AV Expo



DON'T MISS OUT - BOOK YOUR SPACE NOW!

EMAIL [STEVE@JULIUSMEDIA.COM](mailto:STEVE@JULIUSMEDIA.COM)

# ENTECH

ROADSHOW

ENTECH 2020 DATES

PERTH THURS 5 MARCH	ADELAIDE TUES 10 MARCH	SYDNEY THURS 12 MARCH	MELBOURNE TUES 17 MARCH	BRISBANE THURS 19 MARCH
------------------------	---------------------------	--------------------------	----------------------------	----------------------------



Crewing agencies know that it is in their best interests to keep knowledgeable and experienced crew (particularly crew leaders) on the books. However, the seasonal nature of the work presents a large obstacle to this. Flat out working over summer, flat out paying the rent in winter. TV & film productions, exhibitions and events fill the gaps a bit. Retainers, office jobs, safety or training roles help keep some old hands on. The one time mainstays of Rock and Roll gigs and festivals are dead in the water in NSW and agencies in this area have also had to diversify their client bases and crew mixes to survive in recent years.

## Leading Hand

From a purely logistical point of view, the job of crew leader is basic resource deployment. However, those resources are humans and they come with all of the foibles that us creatures possess. There is an art to being a good crew leader, getting the most out of the team yet keeping their respect. Personally, I never asked anyone to do anything that I wouldn't do myself but did expect that their primary purpose was being there to work. The faster and more efficiently that this can be done, the more chance for early home time and banter. One time, we had the truck doors closed 45 minutes after the show stopped and were drinking and playing pool with the artist while still on our 3-hour call. Nice when it works out that way.

When you are packing with a crew that you know and trust, it is almost ballet. Well practised motions, clear communications, everyone knows where and how to lift, no dropsies or crunches ... and thus mountains get moved. Cleanly and quickly. A good

crew boss knows (or can quickly see) the strengths and weaknesses of their crew and will allocate them appropriately. Mentor and buddy systems are now widely used to match up greenhorns and old hands. Some crews forbid new members from being in the back of a truck before they show competency.

My favourite bit of running a crew is keeping the vibe up. It can help to be a bit of a joker when it's late at night, or it's been a long grind of a day and everyone is fading. There are more How-Weird? stories out there than I can contemplate but I rarely failed to enjoy the infectious enthusiasm that a bit of Freeman levity added to a call. Watch and learn from a master, kiddies...

## Working Between Crews

Employers like loyalty. So do employees. It's a two way street. As an avowed freelancer, I broke this rule and worked for several crewing agencies. My logic being that making a full time living from production work and without a full time wage or a retainer from anyone, it was "first to call, first to book me." I often got another call for another (sometimes better) gig in the same time bracket but would not let down the company who were now relying on me turning up. The only way I'd break that locked in date, was if a tour opportunity suddenly came up \*and\* if I could find a replacement of equal competence. Thankfully, that rarely happened and I later made it up in spades to the agencies in question.

The harder bit about being "the freelance guy" was getting along with the crew who were staying loyal to their particular company even as the winter gigs dribbled so slowly in. I copped a bit of stick and could understand some of their resentment. However, I could

not see the sense in being on the dole to support doing only a couple of 3-hour calls a week so stuck to being a "gun for hire". In some quarters, that loyalty is now reportedly long gone anyway.

All said, I made sure that I was always (mostly?) early, came prepared with tools, worked hard individually and as a team member and tried to enjoy what I was doing - whichever crew I was working with. When I was on call, I was loading as a professional and made sure that my direct employers got value for money.

Years later I was responsible for production on a mega car launch and needed so many bodies that no single agency had experienced crew lists deep enough to make up the numbers properly. Solution was hiring 50 or so crew from each of the 2 major agencies. I got the crew bosses together and we had a bit of a laugh about the different brands on shirts but split tasks and delegated, so that there wasn't too much crossover and crews could stay with teams that they knew and trusted. There was some friendly rivalry and the odd stray look but hey, everyone got some work and everyone got paid! Share the love, payback and all that.

## Give It A Go


Temporary crewing is not a sin - we are in the gig economy after all. You get paid to keep fit, get to check out all the new gear, watch how other techs go about their business and maybe even do some networking for other gigs. If you can find a side hustle for the slow winter months, there are far worse ways to earn a living and it might even be the first step to greater things.



# MIND HEALTH - HOW TECH IS CONSUMING OUR CREW BRAINS

by Julius Grafton

I love smart. I hire smart – witness Jason Allen (editor of this publication), Jimmy Den Ouden (our former tech editor), and Simon Byrne who writes here, and works with me in and outside on various ventures. Plenty more of these in the conglomerate! And outside of hire is my scrumptious fourth wife Kate. Every one of these guys can out IQ me, think faster than I do, and solve more problems than I ever could.




**SHIPPING NOW**

**HELIOS TUBE**

0.5 METER


- 8 Pixels
- 36 Watts
- 1.340Lm



**TITAN TUBE**

1 METER


- 16 Pixels
- 72 Watts
- 2.900Lm



**HYPERION TUBE**


2 METERS


- 32 Pixels
- 144 Watts
- 5.800Lm




## MEET THE TITANS

DISCOVER THE COMPLETE RANGE OF THE TITAN TUBE FAMILY







100% Wireless



Up to 20 hours seamless runtime




IP65 waterproof housing



Aster App intuitive Control

### ASTERA NOW AT ULA GROUP

1300 ULAGROUP | INFO@ULAGROUP.COM | ULAGROUP.COM



As a working tech I was a veritable plumber or bricklayer - and that isn't denigrating those binary trades. It's just we do a thing and then do the next thing. The current working tech is dealing with increasing complexity at 360 degrees and in three dimensions (on a timeline) and I don't see it getting easier.

My Mac address is what I'm typing on. My IP address is julius@whocares? The mode I'm in is wherever I can get a connection.

Reading all the pages and groups I follow, I see endless drama with software and firmware version conflicts, WordPress extensions, utilities, pantechnicons, omnibuses and updates that occur automatically when you have least time. As Lighting Designer to-the-stars Francesco Calvi once put it, we have snapdads and doodads. But now lighties face universes, addresses, fixture profiles, and pixel mapping - stuff.

Every freaking brand of lighting console (and there are 12 in common use) has a different user interface and needs serious hours of training to even start it up.

An audio page post recently recounted the drama of a serious high level gig where the control surface and the stage box disagreed, so the input gain was decimated. Ten minutes to showtime an update to firmware restored some reality and saved the show. Terrifying business.

At the coalface, the audience expect it to look and sound better than the 4k video. Spice Girls crew in the UK were slammed when the sound wasn't pristine at row Z up in the Gods at various 80,000 seat stadiums built before Queen Elizabeth was a randy idea. Did the promoter ASK them how bad it would sound way up there through the house PA fills before selling the seats?

Ten years ago we sat dumb and happy as intelligibility swept in and out of reverberant perception. But good sound and high definition vision have lifted and keep raising the stakes as punters protest immediately on social media if it doesn't sound as good as it should. Says who?

Take it from Snake, the Spice Girls audio engineer under massive media fire, for the girls:

"Please feel free to share and help us all in team audio feel some positivity. Wigwam did a great job of coverage and our predominant issue was the chat between songs. The entire show is performed in front of the PA! I am (was) indeed mad to take it on but said yes before I saw the plans. During the show on the tower we only received one official complaint and one of the crew went to inspect. 82,500 people in attendance."

That's pressure.

At your local, things don't get easier. Take this plea found on social media:

"Yesterday I was mixing on an iPad to a (cheap digital audio box). All was good for a while until I logged back on as Admin then I got a message that said I was logging on as different user and I would lose data if I continued. I didn't know what to do. I tapped on cancel and I went to the desk, saved to a new scene, then logged on, had the same message appear and tapped on continue. Then I went and recalled the new scene and was back in business. Does anyone know why this happened?"

Plenty of people came back with answers. This is the great salve and ointment of our frustration and occasional distress!

"Check you don't have a scene selected to permission user levels to recall at log-in. We use this regularly for Basic users in installations (to automatically recall a default scene at log-in), however it's dangerous on Standard and Admin user levels." OK. Wow!

Anyway, back to Snake at the Spice Girls tour, who (according to a post), took himself off the tour. "The negative press and trolling have hounded Snake. He has taken a giant leap and handed in his notice. A sad day to see an extremely talented and experienced engineer of some 30 plus years take this course of action. Will it be the Reset the UK press are looking for? Time will tell."

Good thoughts to Snake, people. Who deserves this stuff?

"That which you speak of also applies to those of us over here in broadcast audio", Al Craig told me. "Over the past 15 years we've gone from analogue to digital, multicores to fibres, and now we are into AOIP. The rate of change is faster than day-to-day operators can keep up with. Just today, I struggled to get Sennheiser's WSM program to talk to a rack of receivers. What I eventually discovered was the laptop (not mine) should have been running Windows 10 (not 8.1), and that the latest version of the software requires specific firmware on the receivers and transmitters (which some did not have). I could go on and on about how much harder it is these days, not just because the technology has advanced, but because the expectations of the client(s) pushes the requirements to the limits."

My 1970s through to 1990s show crewing days had plenty of tech stress. "The show must go on" was the driving message, and we made damn sure it did. I never lost a show, more from good fortune than planning. Yet crisis planning was never far from my mind.

If it were now, with DSP and DMX and networks up my wazoo, I'd be slower and probably more anxious, every single show day. For the lousy money out there, I'd think long and hard about this showbiz thing. For the promoters, producers, event managers I'd suggest some real conversations with your tech suppliers and crew about risk. Ask them,

'What can go wrong?' and put a premium on making sure it don't.

With this level of high definition, immersive pixelated excellence that the tech provides us, we need better thinking, training, and remuneration to compensate for the knowledge and stress we are expected to produce and handle.

But, one of my generation begs to differ.

"Firstly, I think you sell yourself, and those of your generation, short when you take the view that your binary trade era was much easier", replied Chris Kennedy when I put this to him. "Think overnight in a truck, bumping in with few, or no, loaders, soldering broken cables at the venue, trouble shooting, trying to eliminate 'lighting' buzz from the PA, speaker systems that need real tuning without the tools to do it (cleaning up at the crossover points, feedback when the singer walks in front of the PA etc)."

"These are hardware dramas, as opposed to software dramas. But they are dramas nonetheless with all the stress (and quite possibly more) of dealing with software issues and conflicts. I could go on but you get the drift. When the control surface and the stage box disagree, either the system hasn't been prepped properly (something a lot of clients generally don't understand or want to pay for), or the system tech hasn't had enough training."

"Now to poor old Snake. The problems are not all his. In fact none of them may be his. If the speaker system isn't providing even coverage to EVERY seat in the house there is a problem with sound design or implementation. I haven't heard a single complaint about the mix (not to say there may not have been), just about coverage and difficulty hearing speech between songs because they are in front of the PA and the available level before feedback is insufficient for the output of the girls."

Kennedy is on a roll here. "And back at the local the rule has always been: don't change anything between the soundcheck and the show (or tech check if there is no soundcheck). Why would you be logging on as Admin in the middle of the show? Whoever did that needs serious counselling. And the summary? I can't agree that you, of all people, would be slower and more anxious dealing with audio, lighting and vision digital networking. And finally, I think those risk conversations are being had, or considered, more than you think. You keep your clients, and get better paid, if they know nothing is going to go wrong. Most of them are intermediaries and have as much to lose when things go wrong as you."

For crew I'd say look after your mate, the one next to you, and the one next to them. We have too many folks checking out, and remember, we are in the Hotel California. "You can check out, but you can never leave."



# Sometimes it all gets too much...

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

**SUPPORTACT**  
**WELLBEING**  
**HELPLINE**  
**1800 959 500**

The heart & hand of Australian music

**FREE • 24/7**  
**CONFIDENTIAL**

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





# FKA TWIGS

by Cat Strom

Photo Credits: Troy Constable

## FKA twigs' visually intoxicating new show Magdalene is a bold reimagining of how music can be staged by a recording artist in the 21st century.

Internationally acclaimed songwriter, director and dancer, FKA twigs performed a one-night only show at Carriageworks for Vivid Sydney 2019.

An FKA twigs show redefines the intersection between fashion, art, music and performance and pushes the possibilities of artistic representation into exciting, previously uncharted, territory.

Lighting designer Tobias Rylander is also known for pushing creative boundaries and pioneering new design concepts particularly with the band 1975. His lighting is more than just illumination and colours, it's also about creating shapes and contrasting images to tell a story.

Tobias has worked with FKA twigs for several years doing everything from headline tours and festivals to dance performance installations. He always starts his design by looking at her, and who she is at the moment.

"We consider what she wants to show and communicate," he said. "She is such a multifaceted artist, it's never just a concert, a dance performance or show. It's always something more and all over the place."

This time around FKA twigs was working with Creative Director Theo Adams and the two of them had a clear vision of what the show needed to be; key words were Classic Theatre and Transforming Space.

"With these keywords, a very limited timeframe and budget, we started with the dance and performance, designing the show together as a classic ballet and opera proscenium stage with drapery and side light," explained Tobias. "Knowing that this theatre show was going on tour this summer and would even play festivals, we needed to keep it very simple logistically. Therefore the layers of fabrics can scale and adapt to any side stage and work in a quick change over time.

"Stu Dingley did a terrific job programing an exciting light show with very few fixtures. It's all about the dance and performance from Twigs. She is always at the centre here, and rightfully so, framed by a classic theatre show."

The stage design is highly theatrical, utilising lots of material and backdrops which hide the big reveal; the band and dancers in a three-tier scaffolding structure with an arrangement of powerful lighting fixtures. Around half-way

through the show, the fabric releases on solenoids.

Stu Dingley operated the lighting, supplied by Resolution X, which included 15 Claypaky Scenius Unico (substituting Robe BMFL), a Claypaky Scenius Profile with Follow Me, 53 GLP impression X4 Bars (substituting Chroma-Q Colour Force IIs), 22 JDC1 and two Claypaky Sharpy Wash. Added to that were two Cryo Fog CO2 low fog machines, 50 MagicFX kabuki droppers and two MA Lighting grandMA2 full size.

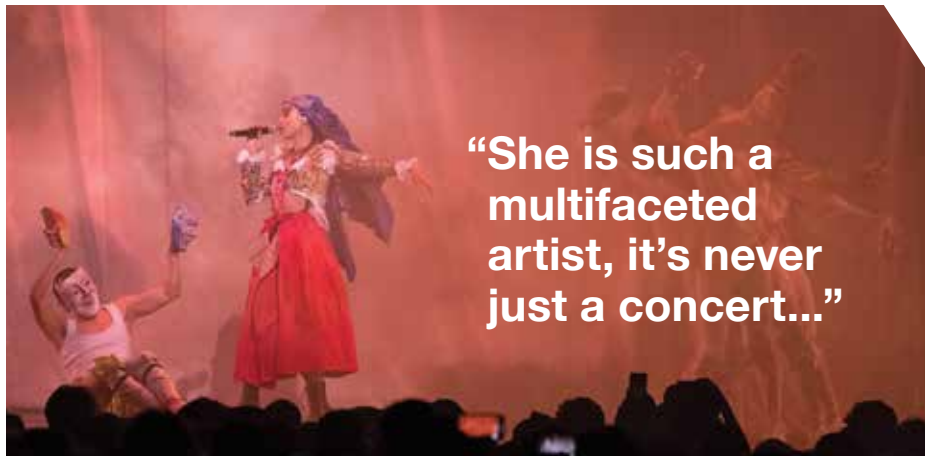
The structure's lighting package comprised of GLP JDC-1s and impression X4 Bar 20s. It is a big contrast from the theatrical beginning with its side and top key light, as the structure lighting is all backlight with the light sources visible.

"We had a mixture of JDC1s on the sides and the scaffolding structure," explained Stu. "The sides offered more key light lighting and the occasional hits from the xenon part to accent the music. The structure units are for big industrial, rock and roll looks towards the end of the show. The impression X4 Bar 20s are predominately for the fabric lighting but also backlighting the band and dancers."

Overhead, the Claypaky Scenius Unicos were very precisely focused for the choreography movements whilst the side spots were used predominately with framing shutters to shoot through the fabric legs. Stu notes that the two Sharpy wash units are excellent small key lights.



"We needed some light downstage of the curtain for a handful of moments and they are the perfect unit for this," he added. "As for the one Scenius Profile, originally we used a Robe MegaPointe with the Robe follow spot system, but it was the Scenius and Follow Me system in Australia. It's a superb concept enabling you to ensure the artist is always nicely lit. We run them around 10% most of the time to supplement the side key lighting. We also



**"She is such a multifaceted artist, it's never just a concert..."**

match the colours of the show. The console takes full control except for position and zoom which we give to the operator."

It's a very smoky show, especially after the fabric is dropped and the show moves into the more industrial sections. The opening of the show features a lot of low fog to help set a dark ominous atmosphere for when the audience arrives into the venue.

Stu programmed the show on an MA2 full-size with 90% of the show on timecode. There are occasional parts where Twigs leads the band and he has some manual cues. There is also a lot of live accents too complicated and sporadic to code so he uses audio triggers from some of the bands SPDx pads they hit.

"It was an excellent show, Carriageworks is an excellent venue and it's always great coming back to Australia to do shows and work with ResX as they are always superb," remarked Stu.

Stu was blissfully unaware of the furor that followed the concert when social media was flooded by complaints about the ridiculously low stage at Carriageworks and with no

screens, people simply couldn't see the act. It was a similar story the year before when St Vincent played.

Bay 25's large columns obscured the view with people putting their phones up not to record, but just to see via their screens. Quite a few frustrated patrons simply left the concert.

#### PRODUCTION:

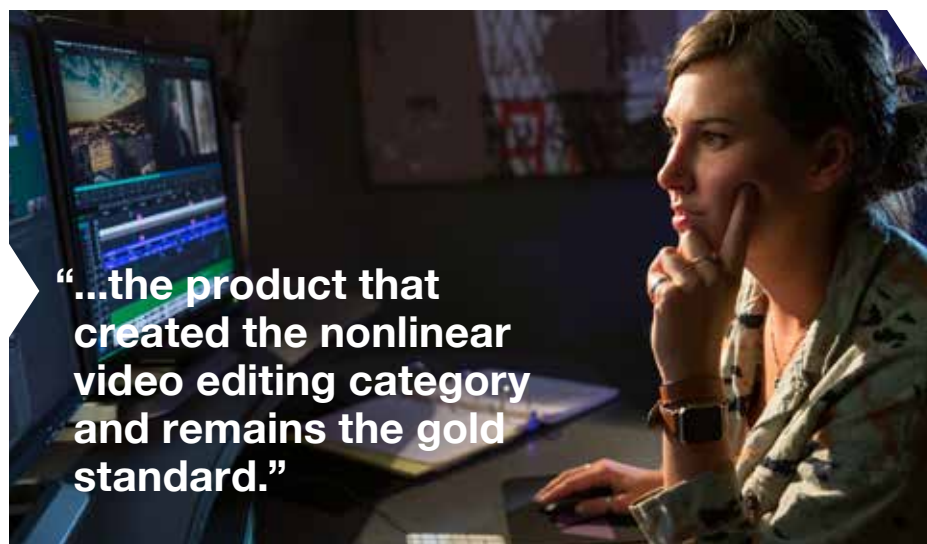
Set & Lighting Design: Tobias Rylander  
 Lighting Director & Programmer: Stu Dingley  
 Production Manager: Joel Eriksson  
 Associate Director: Jordan Hunt  
 Musical Director: CY AN  
 Additional Score: Koreless  
 Movement Director: Theo TJ Lowe  
 Stage Manager: Drew Dawes  
 Front of House Sound: Johannes Berglund  
 Monitor: James Corbin  
 Vocal Coach: Nadine Marshall



**AUSTRALIA'S No1 SPECIALIST LIGHTING COMPANY**

**chameleon-touring.com.au**





# Avid reimagines it's flagship Media Composer

**The Avid flagship video editing system, Media Composer, has been redesigned and reimagined for today's — and tomorrow's — generation of media makers.**

With the new Media Composer 2019, aspiring and professional editors, freelancers and journalists will be inspired to work more creatively by taking advantage of a new user experience, a next generation Avid media engine with distributed processing, finishing and delivering capabilities, a customisable role-based user interface for large teams, and so much more.

"After receiving input from hundreds of editors and teams across the media industry, and knowing where the industry is headed, we reimagined Media Composer, the product that created the nonlinear video editing category and remains the gold standard," said Jeff Rosica, CEO and President at Avid. "Media Composer 2019 is both evolutionary and revolutionary. It maintains what long time users know and love while giving them more of what they need today — and what they will need tomorrow."

## Media Composer 2019

With Media Composer 2019, an editor can go from first cut to delivery without ever leaving the application. Whether they are a professional editor, freelancer or someone just starting out, Media Composer 2019 inspires creative storytelling.

- New User Experience — makers can work at the speed of creativity with a panelled interface that reduces clutter, reimagined bins to find media faster, and task-based

workspaces showing only what the user wants and needs to see.

- Next Generation Avid Media Engine — puts more power at a user's fingertips with features, such as native OP1A, support for more video and audio streams, Live Timeline and background rendering, and a distributed processing add-on option to shorten turnaround times and speed up post production.
- New Finishing and Delivery Workflows — Now, users can create and deliver higher-quality content with editing, effects, colour, audio, and finishing tools without leaving Media Composer. Whether working in 8K, 16K, or HDR, Media Composer's new built-in 32-bit full float colour pipeline can handle it. Additionally, Avid has been working with OTT content providers to help establish future industry standards.
- Customisable Toolset — built for large production teams, the new Media Composer | Enterprise provides administrative control to customise the interface for any role in the organisation, whether the user is a craft editor, assistant, logger or journalist. It also offers unparalleled security to lock down content, reducing the chances of unauthorised leaks of sensitive media.

## Media Composer | Enterprise 2019

The Media Composer family adds Media Composer | Enterprise for post-production,

broadcast, media education and other larger production teams. Media Composer | Enterprise is the industry's first role-specific video editing and finishing solution. Large production teams now have the ability to customise the interface and tailor workspaces for different job roles, providing end users access only to the tools and functions they need. This capability gives teams better focus so they can complete jobs faster and with fewer mistakes. Media Composer | Enterprise also integrates with Editorial Management 2019 to deliver collaborative workflow innovation for post production and enables creative teams to stay in sync.

## Media Composer | Distributed Processing

Avid has also announced Media Composer | Distributed Processing, an add-on option that shortens turnaround times and accelerates post production by sharing the media processing load. Tasks that previously took hours can now be done in minutes, strengthening post facilities' competitive edge while delivering high-quality programming. Media Composer | Distributed Processing also offloads complex processing tasks when working in today's emerging high resolution and HDR media-rich worlds.

Media Composer 2019 is available now in all versions including: Media Composer | First, Media Composer, Media Composer | Ultimate and Media Composer | Enterprise. For a full list of Media Composer features and benefits visit, [www.avid.com/media-composer](http://www.avid.com/media-composer).

To purchase Avid Media Composer or make enquiries about the product, contact Avid Elite Solutions Partner Amber Technology in Australia and New Zealand [www.ambertech.com.au](http://www.ambertech.com.au)



## › JOIN THE CX NETWORK

Join the biggest network of like minded people across Australia at [cxnetwork.com.au](http://cxnetwork.com.au) and enter your details for FREE access to almost 3 decades of our magazines including CX, Connections and Channels Magazines going back to 1990!

## › GET INTO PRINT

We are committed to print, and each month our paid subscribers get access to our glossy Magazine the old fashioned way - In the mail.

You can subscribe online at [cxnetwork.com.au](http://cxnetwork.com.au) OR - fill in the form below and email to [office@juliusmedia.com](mailto:office@juliusmedia.com) or mail to **Locked Bag 30, Epping NSW 1710.**

## PRINT SUBSCRIPTION ORDER FORM

Name \_\_\_\_\_  
Email \_\_\_\_\_  
Address 1 \_\_\_\_\_  
Address 2 \_\_\_\_\_  
Suburb \_\_\_\_\_  
State \_\_\_\_\_  
Postcode \_\_\_\_\_  
Trading name \_\_\_\_\_  
Phone \_\_\_\_\_

Our direct debit details: **BSB: 633 000 Account number: 167384981**

VISA ☐ MASTERCARD ☐

Card number \_\_\_\_\_

Expiry date \_\_\_\_\_

CSV \_\_\_\_\_

Name on card \_\_\_\_\_

Card holder phone number \_\_\_\_\_

Card holder address \_\_\_\_\_

Tax invoice required? YES ☐ NO ☐

### PLEASE TICK ONE OPTION BELOW

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

☐ 1 Year **\$59**    ☐ 2 years **\$99**    ☐ 3 years **\$129**

You are doing business with JULIUSMEDIA GROUP PTY LTD, an Australian family owned company. Publishing since 1990.

# Arkaos Video Content Management

by Simon Pentz, ULA Group

**MediaMaster uses a library system of folders and files to help organize your content and allow for quick selection of media as required. The Library is made up of 256 folders, each of which can contain up to 255 media clips or visual effects, although only the first 240 are available to store Video or Still files. Folders above this are reserved for Generators, Inputs and Text Animations.**

MediaMaster can playback a large number of video files through its native decoder, which is based on FFmpeg. The recommended compression codec to give the best overall performances is MPEG-2. However Media Master is designed to make use of the host system resources and should be able to playback files encoded with most of the codecs installed on your system. Using non Media Master Native Codecs will increase the drain on system resources. Media Master will also accept JPG, BMP, GIF and png file types for still images.

Content can be managed directly on the server, over a network, or even in the cloud using Arkaos' new An-Ki solution.

Managing content on the server is done through the Library Management Window.

The left pane of the window shows the 256 library folders with the selected folder highlighted in blue. You can scroll through the list and select any of the folders by clicking on its icon.

The right pane displays the thumbnails of the visuals contained within the selected folder. There are 255 visuals per folder (the first one is always considered as an empty slot) and where content doesn't exist then the thumbnail will display "empty". You can scroll through the content using the scroll bar on the right side of the window.

To add content to any of the folders in the library, you have several options:

A) Drag and drop files from the explorer/finder window on the library folder where you want them to be. By doing so, the files you drag

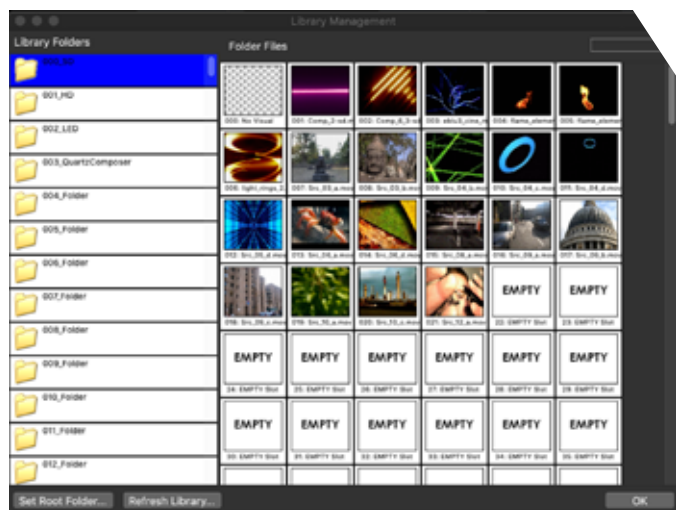
and drop will be copied in the first empty slots available in the folder.

B) Drag and drop files to a specific slot in the folder content. This allows you to specifically set the starting slot of the file or to overwrite existing files. If you drop the files to an empty slot, the files will be set in all empty slots starting with the one where files were dropped. If you drop the file to a slot already containing a visual, you will be asked if you want to overwrite the existing file(s) or start at the first empty slot after the one you dropped the files on.

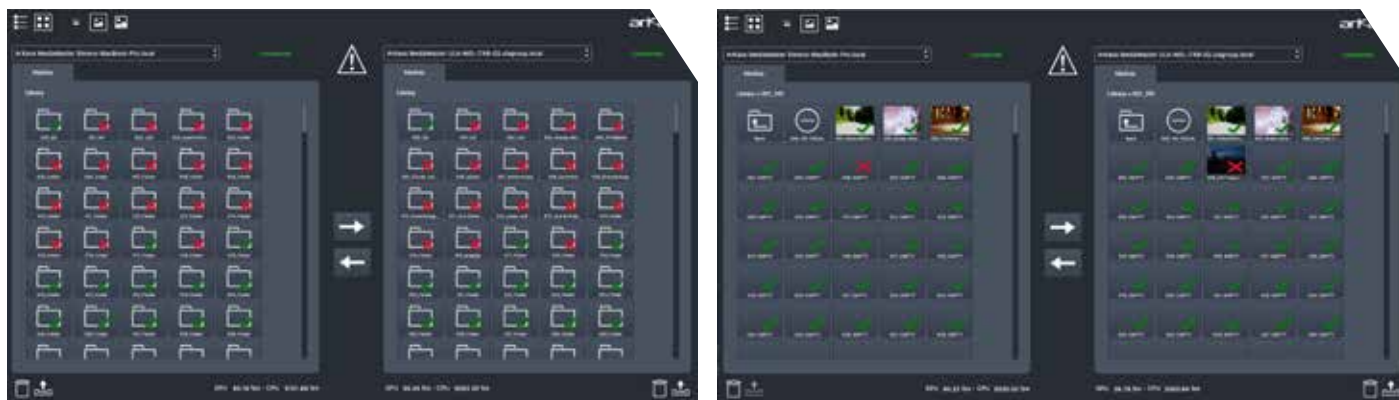
C) Right click on a slot and select 'Import/Replace Visual...' from the context menu to import a single file to a given location.

It is possible to have more than one media library folder on the server, or on an external drive and these can be accessed by pressing the 'Set Root Folder' button which opens an explorer/finder window, and selecting the location of the new Library Folder. This makes touring a show on different servers, or running multiple shows from one server a breeze. Media Master can only access one Library Folder at a time.

Managing Content over a Network is done using the Media Hub application, this allows for Uploading content to, backing up content from, and synchronising content between multiple servers. The Media Hub application is installed automatically when Media Master is installed, it can also be installed and run separately on a mac or pc.







To use Media Hub, Media Master must be running on at least one computer or server on the Network.

The Media Hub UI consists of a single main window that contains a toolbar, 2 server panels and buttons for Synchronising, Uploading and Deleting files.

Above each server panel is a drop down box to select the 2 servers for Content Management. Any folders that contain the same content are shown with a green tick, and any that are different will have a red X. The Warning Triangle appears in the centre of the window when the servers are not in sync.

Double clicking on any folder will open it to

show the media contained within, again green ticks and red X show the unsynchronised files.

To Synchronise files or folders just select them and press one of the arrows in the centre of the main window. If no content is selected the entire Folder or Server is synchronised.

The synchronisation of files happens between the selected servers and no data passes through the Media Hub application. The Trashcan and Upload buttons allow for remote deletion and upload of media on the selected server.

Managing content in the Cloud is done using the An-Ki service. An-Ki is a subscription based service where you can upload content

to a cloud account linked to a project, create cue lists using the uploaded content and schedule when these cue lists run. A proprietary An-Ki player software program is installed on a server(s) connected to the internet anywhere in the world and linked to the project.

These servers will then playback the content synchronised to NTP protocol meaning that all connected servers will be within 20ms of each other no matter where they are in the world. This makes a perfect solution for permanent remote installations. It is aimed at the Retail, Hospitality, Signage and Archtainment markets. An-Ki is currently in the Beta test stage.

## VUEPIX INFILED

## THE INDUSTRY'S PREFERRED RENTAL & PRODUCTION LED DISPLAYS



### DB-Deep Black

DESIGNED FOR FINE PIXEL PITCH  
RENTAL APPLICATIONS

- Pixel pitch 1.5-3.4mm
- Ultra-black LED technology
- State-of-the-art image quality
- High refresh rate • Fast locking system
- Cable-free connection (optional)
- Straight or curved



### ER- Rental Series

DESIGNED FOR RENTAL APPLICATIONS

- Pixel pitch 2.9-10.4mm
- Exceptionally high brightness
- Black LEDs for ultimate image quality (optional) • Ultra slim
- Convenient handling • Fast build
- Easy alignment • Hot swap
- Indoor & outdoor options



### AC-Air Carbon

THE MOST ADVANCED TOURING  
SYSTEM ON THE MARKET

- Pixel pitch 3.75-5.35mm • Fast build
- Super lightweight • Rapid transport
- Intuitive coupling system • IP65 rated
- Easy maintenance • Straight or curved
- Full range of accessories

VISIT [VUEPIX.TV](http://VUEPIX.TV) FOR FULL SPECS

Contact ULA GROUP for a [VUEPIX](http://VUEPIX) demonstration today!  
1300 ULAGROUP | [INFO@ULAGROUP.COM](mailto:INFO@ULAGROUP.COM) | [ULAGROUP.COM](http://ULAGROUP.COM)



# ARKAOS KLING-NET

by Simon Pentz, ULA Group

**“...extremely robust and high speed video signal...”**

**The Kling-Net protocol was developed and introduced by Arkaos in 2011 to provide a quick and easy way to distribute video information to lighting fixtures over Ethernet. The protocol was specifically developed to be auto configurable so that little to no knowledge of networking protocols, and no knowledge of DMX is needed to setup.**

The Kling-Net protocol is open to any manufacturer to implement into their products under licence from Arkaos, and a large number of manufacturers have already adopted the protocol. The hardware needed is inexpensive meaning that Kling-Net enabled fixtures are available from entry level brands such as ADJ and Chauvet DJ all the way up to rider spec fixtures from the likes of SGM, Robe, and Claypaky. Arkaos also have an app available called Kling-Net Tile which will turn any Android or iOS device into a Kling-Net device, opening up the possibility of turning the audience into a pixel mappable surface.

## How it Works

A Kling-Net setup consists of a Kling-Net enabled Media Server and one or more Kling-Net enabled devices.

Every Kling-Net enabled device has an inexpensive micro controller PCB inside that holds information about the device, allows for auto configuration, and decodes the incoming video data for that device. Each device must have a unique device ID. The device ID can simply be computed from a MAC address or be a serial number assigned by the manufacturer. To ensure that no collision is possible between different manufacturers, a manufacturer ID is also used. The server then uses the device ID and manufacturer ID to uniquely identify a display device.

The Media Server broadcasts a discovery message on the network several times a minute which the devices must reply to.

The device sends a reply that contains its pixel count and layout. This reply can also request an IP address if it has no address, or an address that is outside the Media servers range. These messages are what makes Kling-Net a true plug and play protocol.

Once the Media Server has discovered

the devices on the network, they can be pixel mapped to display the correct pixel information.

## Optimised Networking

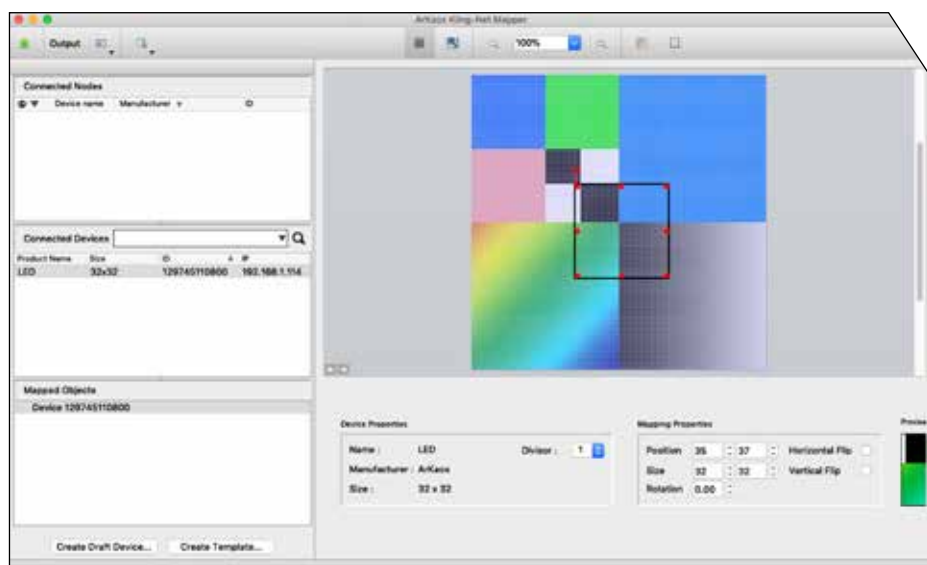
The Kling-Net protocol uses two types of network messages to optimise the network and guarantee low network loads.

Broadcast UDP messages are sent by the server for device discovery purposes.

Unicast messages are sent to each device that contain pixel and parameter information for that device only.

This allows for an extremely robust and high speed video signal to be sent to the devices, and as the media server is doing all the processing, the devices are capable of playing back video at 60fps.

**Sources and more information:**  
[www.arkaos.net](http://www.arkaos.net), [www.kling-net.com](http://www.kling-net.com)



Connected Devices			
Product Name	Size	ID	IP
LED	32x32	129745110800	192.168.1.114

# ASTERA AX1



**Brand:** Astera

**Model:** AX1

**Product Info:** [astera-led.com](http://astera-led.com)

[www.ulagroup.com](http://www.ulagroup.com)

by Steven Hill and Darren Russell

**Steven Hill is Lighting Director at Sightline, a Sydney-based event production company. Sightline specialise in vision and large-scale productions, providing service at all stage of the events process, from pre-production and visualisation, through to content creation, installation, operation, and pack down.**

## Applications

The Astera AX1 PixelTube is a simple, wireless, RGBW LED baton that goes anywhere and does anything. You can use it in so many different ways. There are eyelets built-in to the ends of the tubes, so you can hang or cable-tie the fixtures, or use the hook accessories. They are super simple to deploy, with no wires, and all run on batteries. For example, on a small gig, for something different, we might hang them up, and take just five minutes to make a lighting design out of almost nothing.

I've seen them used for so many different things; the first time I saw them, they were being used for crowd control, as bollards in front of some doors, on their stands. I've seen ushers use them to guide crowds in the

dark. At Sightline, we've used them as table centrepieces, on long tables, run down the centre. As they're IP65 rated (as long as you make sure you've put the rubber stoppers in the ends), our clients have put them out in the weather with no problems. I've even used them to work underneath my car at a racing event at night, and lit the same car in a photo shoot, changing colours for different looks.

## Output

The colour rendering and the quality of light output is excellent, and extremely consistent between fixtures. You can dial in a nice white for photo or video if you need to, with temperature adjustment available on the control app and wireless DMX, plus a couple of options on the IR remote. They're flicker-free for filming, and there's a setting in the app where you can adjust the Hz they're running at to match your frame rate.

## Pixel mapping

For pixel mapping to the AX1s, the more you have, the better the result. I've built a map with 38 units, where we created a back wall

of the AX1s that sat between two projection screens. We ran the media on our MA Lighting console, triggered from a media server, which included a mixture of our content and material from the client. I found it pretty straightforward to build a pixel map with the AX1s, and the bulk of the work involved was moving elements to fit the map within the MA. Another simpler pixel map I created recently used a few AX1s mounted at 45 degree angles in front of a DJ booth, and I had a map up and running in 30 minutes.

## Handling and Charging

The AX1s charge in their case, eight to a box, and you just need to plug in one IEC. Individual chargers are available if you like, but to me that seems unnecessary. In our experience, they've taken five to six hours to charge from flat to full, with a runtime of 20 hours, though you can set how long you need them to last and they'll dim accordingly. They've outperformed expectations as far as charge goes, and we've been blown away with their battery use. They were just on a five city tour, receiving about one hour charge

## Are you concerned about your mate's mental health?

**FACT: Most Australian tech crew and roadies have attempted or considered suicide<sup>1</sup>!**

**Support those around you and register for free mental health training**



<sup>1</sup>Passion, Pride, Pitfalls Dec 2014

[www.entertainmentassist.org.au](http://www.entertainmentassist.org.au)

Supporting the mental health of Australian entertainment industry workers



## ROAD TEST

after getting out of the truck and before being rigged on each show. They'd then run 16 hours per show, dimmed down a bit. They did the entire tour on that charging schedule.

I like the way that they're sold in boxes of eight, with all the accessories you need included, in a handy touring case. Everything about them is very well engineered, and very German.

### Control

There's three options for controlling the AX1s; an IR remote for simple colour changes and triggering the built-in effects, a powerful app for phone or tablet, and wireless DMX. The app and DMX are both connected via the Art7 AsteraBox.

Using the app via the Art7, you hold down a button on the AX1s you want to connect to until they flash blue, tell the app to search for them, and once they appear and are connected, you can accomplish anything you might want.

The app is not only extremely powerful, controlling any parameter capable of changing, it can run large numbers of fixtures. I've run around 60 from one Art7.

The GUI is pretty good, but I do feel it could be streamlined and labels improved, but this is partly a result of how much it can do. After about 10 minute's operation, any competent user will be fine.

Our whole lighting team at Sightline run the AX1s from their own phone, carrying their own shows with them. We also save and send our designs to each other, which is a great feature.

While the app is excellent, I usually run systems via DMX from my MA, as I feel I have faster and more comprehensive control.

**Darren Russel is the owner and Managing Director of Canberra's Elite Event Technology, one of the foremost production companies on Australia's East coast. Elite supply venues, large scale touring, and events, with a comprehensive and top-shelf inventory of hire stock.**

Elite have invested in 48 Astera AX1s, and we're about to buy that many again. Previous to that purchase, we'd been sub-hiring a similar product, but we found it clunky, and it had limitations we didn't like. It looked good, but its back-end wasn't practical for our rental business.

### Applications

The AX1s are an extremely flexible fixture, and we've used them in a variety of ways. We created a pixel mapped chandelier out of units hung at random heights off a circular truss. We tied them into the white socks on 25 cocktail tables at a corporate drinks and pixel mapped them. We've run them down the centre of extremely long tables at a corporate dinner for more than 1,000 people. We've put them on their stands and used them to light an outdoor pathway running a slow colour scroll. Because of their rigging options, wireless control, and batteries, the applications are almost limitless.

### Control

We use both the app and desk control, depending on the application. When they're going out as wall up-lighting, as way-finding, or on very simple corporate events, they're set-up and controlled via one of our rental iPads. That produces a great result at a budget price; in the past we would have sent out static fixtures that just stayed as they were. Now it's easy to provide a dynamic look and a bit of colour change for less. Jobs that are more complicated and involve pixel mapping, we run from our lighting consoles.

### Handling and Charging

We purchased the AX1s in cases with a full suite of their accessories – clamps for mounting, feet for standing, and everything else available! The charging process is very well thought-out; when charging, they pulse green, when they're finished, they go solid green. The charging process is quick and the battery life great. We appreciate the internal power management functions that limit the output according to a target run time.

### Optical

Colours: RGBW  
Total LED power: 28W  
Lumens: 955Lm  
CRI: up to 88  
Strobe: 0-25Hz  
Beam Angle: 180°  
Pixels: 16

### Electrical

Battery: LG Chem Lithium-ion  
Battery Lifetime: 70% after 300 cycles  
Battery Runtime: Up to 20 hours  
LED Lifetime: 50,000 Hours  
Charging time (nominal): 7 Hours

### Control

Wireless Modules:  
865-870MHz | 902-928MHz | 2.4GHz  
Range: 300m  
Wireless DMX:  
CRMX & others, excluding W-DMX G5,  
City Theatrical

### Construction

Housing: Polycarbonate, metal endcap  
IP Rating: IP65  
Relative humidity: 0-100%  
Operating T  
Dimensions: Ø42 x 1035mm



**(( bssound ))**

**BAND PA SYSTEMS, VOCAL PA SYSTEMS, LIGHTS**

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

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

**www.bssound.com.au  
mark@bssound.com.au**



**RFID**

Instead of spending hours and days, opening cases and  
bar code scanning, before you know what is missing

**Spend minutes! - Reclaim missing assets -  
Save money!**

Properly configured **RFID**,  
the right **software**, the right **tags**, the right **team!**

**RentalPoint** has the expertise!

**Watch our video now!**

**www.rentp.com/RFID | Sales@rentp.com**



**CX  
NEWS**

Get the latest industry news,  
views, and jobs direct to your  
email every Wednesday.

Register at **juliusmedia.com**

# 20 Questions with Craig Gordon

by Cat Strom

**Craig Gordon is an audio system engineer and FOH engineer for Peking Duk, The Presets, The Avalanches, Golden Features, and Bag Raiders**

**What are the 3 best things about your job?**

Travelling around the world. Meeting new people and working with some really talented artists and crew. Basically it's the fact I get to do something that I really love and I get paid for it.

**And the three worst things?**

AIRPORTS!!! Also being away from friends and family, and missing important life events. Lack of sleep that often comes with this job.

**What do you never leave home without when working?**

At least six pairs of shoes. Maybe some headphones, anything I haven't already lost....

**What was the worst nightmare you encountered on the road?**

The worst thing that can happen at a show, that does more than it should, is losing power. The whole crowd is staring at you and you just feel helpless.

**What has been the strangest request from an artist?**

Can we design the new stage set-up in a column like a totem pole and get a percussionist?

**Who was hell to work with (probably best not to actually mention name)?**

Look, as a system engineer there are a few difficult people you run into, but nothing that's been too hard to handle.

**What is the most stupid request you've had from a member of the public, artist, or promoter?**

We were down in Busselton south of Perth for a festival and some drunk chick tried to give us fifty bucks so she could grab the talk-to-stage mic and sing happy birthday to her friend through the PA. She busted in, grabbed it, and started to sing.



**In your opinion, what's the best show you've worked on and why?**

Over the years I've worked on quite a few Coldplay tours, they've been the stand out for me. There's just no expense spared, and there's a great vibe from artists right down to the last crew member. It's always a mind blowing show that's always been really fun to work on.

**What is the most bizarre sight you have ever seen at a gig?**

It never ceases to amaze me the stuff that goes on in a crowd. Especially with punters back in the days of Stereosonic, Future Music etc. I was at a Faith No More gig at Festival Hall, my friend Boz ran out on stage to fix a mic, and Mike Patton threw a haymaker (a punch) at him.

**Who do you admire in the industry and why?**

Growing up through the industry as a system tech and then into a FOH engineer, there are a few people that have guided me and taught me so much over the years. Jock Bain (who is no longer with us), Howard Freeman, and Bruce Johnston have been my biggest mentors and took me under their wing.

**Which venue is your favourite and why?**

My two favourite venues are Red Rocks in Colorado and the Gorge in Washington. Both are so breathtaking. Every time you look around, you're taken away by how insane the view is.

**Which recent piece of production gear do you view as a game-changer?**

I wouldn't say they are game changers, but at the moment, I'm really loving the Avid S6L console and the d&b GSL PA system.

**What is the most outrageous thing you have ever done on tour?**

We probably shouldn't go into that! But it probably involved Howard and similar usual suspects.

**What was the worst weather event you've encountered at an outdoors gig?**

It was Future Music Festival in 2015 in Sydney. The weather was so bad, and there were gusts of wind so strong, that it blew the side fill speakers off the front of stage and started to tear the video screen apart. The whole site was evacuated.

**What would your ideal rig contain?**

An Avid S6L or Midas XL4, bunch of the usual outboard gear and a massive d&b GSL PA.

**Which band would you most like to work for and why?**

I love all the bands I work for! However I have always stated many times that working for the Foo Fighters would be my dream .... why? Who knows, I just like them!

**Do you have a favourite mantra to get you through the day?**

When working as a system tech I loved to motivate myself by coming up with different ways to make load in/out quicker and better: Sooner it's in the truck, sooner we can have a beer!

**What do you think of the Australian live music industry at the moment?**

I think it's a little softer than it used to be! Not saying that's a bad thing, it's definitely a more PC and professional job these days.

**If you could invent anything to do with audio, what would it be?**

I've probably come up with a million ideas whilst excessively drunk in hotel rooms with crew over the years but unfortunately none that I can remember.

**What did you really want to be when you grew up?**

Like most kids I wanted to play footy.

# TURNING JAPANESE PART 2 - IT'S SUMO TIME!

by Duncan Fry

**As keen readers would know (who they? Ed) I've just come back from a couple of weeks' holiday around Japan, beginning and ending in Tokyo.**

On our first night back in Tokyo, my gf and I were getting a bit peckish, so we wandered down the street to a local restaurant in a small street market near our hotel. When I say restaurant, I'm giving it a degree of grandeur it doesn't really deserve! A shopfront with some old rickety tables and chairs outside, occupied by a group of noisy drunks in suits would be more accurate.

"Can we go inside where it's quieter?" we asked. The waiter nodded his head and gestured for us to go in. Inside were more rickety tables but no chairs - we had to sit on empty beer crates with a piece of old chipboard on top so we wouldn't fall into them, and an old cushion taken from the dog's bed for extra comfort!

We ordered a selection of food from the pictures on the menu, as reading it was well beyond my linguistic abilities. The menus were in a plastic folder stuck on the wall, and there was a sticker for a missing one marked 'English'.

Can we see the English one? I asked, pointing to the space. He looked at the space, reached over and peeled the 'English' sign off the wall, then stuck it on the front of our menu. "OK?" he smiled, and disappeared into the kitchen where we could hear him laughing with the chef.

However, when the food arrived, it was delicious. Not sure what we had ordered, but it was hot, fresh and spicy. I washed mine down with a longneck bottle of Sapporo beer, while my gf ordered a glass of plum wine. She took a swig when it arrived.

"Holy tish that's strong," she gasped, slamming the glass down on the table, whereupon our obliging waiter came over and started to refill it. "No - no," she protested, "Oh, alright then - but give me a bottle of mineral water as well" This ended up being her default drink throughout the trip, since a glass of Sauvignon Blanc was very hard to find.

When a couple of girls came in and sat down at another table, we noticed that they lifted up the lids of their beer crate seats and put their handbags inside! This was obviously a bit of a tradition in restaurants in Japan. Whenever we went to one, there was always a small wire basket of some kind underneath the table, for the ladies to put their bags in.

Of course not everyone stands up and gets their foot stuck in one of the baskets and goes clomping around trying to shake it off while paying the bill! Like good old Benny Hill I've always felt there is something intrinsically funny about someone doing that, and so did the rest of the customers.

An Australian tradition, I told the waiter!

Next day we awoke bright and early and caught the Subway train to the Sumo wrestling Tournament, for which we had mail-ordered tickets back in Oz. It was due to start at 8.30 am and we arrived at the 11,000 seat Ryogoku Kokugikan, built in 1985, bright and early, queuing up with all the Sumo aficionados who were already lined up and raring to go. When the doors opened we followed them into the vast arena and asked a security guard to show us to our seats, as we could not read a word on the tickets. Once we had settled in and worked out our seat orientation, and more importantly, where the food and toilets were located, we started to watch the Junior matches.

They may have been called juniors but they were no slouches at wrestling, easily heaving each other out of the circular ring and into the crowd, and quite often onto the judges who sit very close to the action. In fact I saw on the TV news that night that one of the judges who had ended up on the receiving end of 300 kilos of wrestlers falling in his lap during the tournament had decided to retire that day!

Watching it on TV however, doesn't give you a true picture of the matches. They are very fast, with instant action as soon as each of the wrestler's arms touches the floor. Then

'Whammo' - the two of them start grappling with each other until one of them is pushed off balance out of the ring; usually after about 30 seconds or less. They may look like giant pink babies, but don't be fooled by appearances - they are very strong with lightning fast reflexes.

We took a break after a couple of hours, and popped downstairs to the merchandising zone, where we could see the wrestlers wandering around posing for pictures and signing posters and t-shirts. It was good to be in a country where gentlemen of, shall we say, a more generously proportioned build are revered as gods.

Our hands were stamped as Pass Outs, and we caught the subway to go for lunch at the Pokemon cafe, where we enjoyed a tasty Pikachu curry and a milkshake. Halfway through, there was a commotion at the door, music started playing, and a two metre tall (and wide) giant yellow Pikachu character wobbled its way into the cafe. The older kids screamed with excitement as the enormous yellow blob danced and patted them on the head, while the very young kids just screamed, and filled their nappies with their own version of a Pikachu curry!

Then it was back to the stadium for more Sumo. The stadium had nearly filled by now, including row after row of schoolchildren in their sailor-suit uniforms. When we first arrived in Tokyo there was a trend for all the schoolgirls to wear their school backpacks on their fronts, not the back. It took me a while to realise it was the fashion, and they were not, as I originally thought, on the teen pregnancy annual outing! Some of them wore another on their backs as you would normally do, looking even more bizarre. But that's enough of schoolgirls for now.

On our way into the stadium, an old lady ran up and hugged me, patting me around the middle of my manly girth, asking "You Sumo? You Sumo?," then running off cackling before security could hustle her away.

"You didn't tell me your mum was coming today," dryly commented my gf.

Next month - stay tuned for some real-life Mario Kart driving through the streets of Tokyo. So much fun that it has to be made illegal soon! In Mario's own words - "Let's go."



A NEW INITIATIVE BY ACETA



# Interviewing our Industry Greats and Preserving our Heritage.

Visit the ACETA website to see our first interview.

INSPIRATION | CREATIVITY | MENTORSHIP | INNOVATION | ACHIEVEMENT

To join or see what else is  
new at ACETA please visit

[aceta.org.au](http://aceta.org.au)

**aceta**   
Australian Commercial & Entertainment  
Technologies Association



## PROFESSIONAL LIGHTING & VISUAL TECHNOLOGY PROVIDER

Proudly representing the leading entertainment lighting, architectural lighting,  
& LED screen technology brands from around the world.



GLASSILED

