

# CX

INTEGRATION / AUDIO / LIGHTING / VIDEO / S

## THE THEATRE ISSUE

**Manifesto in Melb  
Wagner's Ring Cycle  
Here Lies Love  
Back to my Roots  
Digital Projection  
Magic and Mischief**

### News

- / Isovox Appoints Group Technologies
- / Nexo and Quest Engineering Get Nautical With Oasis
- / The P.A. People Discuss Venue Engineering
- / Sphere Immersive Sound And Haptic Seating

### Regulars

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

### Road Test

- / Martin MAC Aura PXL
- / Linea Research 44M06

LIVE

# IT'S SHOW TIME!

KISS and Mushroom Events Deliver an all time Epic Pre-Game Show at the 2023 AFL Grand Final

## FIFTY LINE

- Quick installation
- Easy transportation
- Great versatility
- Newly designed internal amplifier
- Suitable for high sound pressure requirements

dBTechnologies



FIFTY SUB

FIFTY TOP



VIC: (03) 8756 2600  
NSW: (02) 9898 0670  
sales@nas.solutions  
www.nas.solutions



INTRODUCING  
**AMX MUSE**  
INSPIRED AUTOMATION

YOUR CONTROL, **YOUR WAY**



**AMX MUSE INSPIRED AUTOMATION Controllers and Software**

No-Code to Low-Code to Pro-Code. Develop solutions collaboratively using multiple standard languages and visual, flow-based programming all on one platform. AMX MUSE empowers everyone to deliver AV control.



# CONTENTS

## NEWS

Isovox Appoints Group Technologies	4
Nexo and Quest Engineering Get Nautical with Oasis	6
The P.A. People Discuss Venue Engineering – Safety, Experience, Equipment & Capacity	10
Sphere Entertainment Partners with Powersoft for Sphere Immersive Sound and Haptic Seating	12

## NEW GEAR

## FEATURES

AFL Grand Final 2023 <i>by Jason Allen</i>	22
Book Review: Stage Lighting Design – The Art, The Craft, The Life, by Richard Pilbrow <i>by Kurtis Hammer</i>	60

## THEATRE

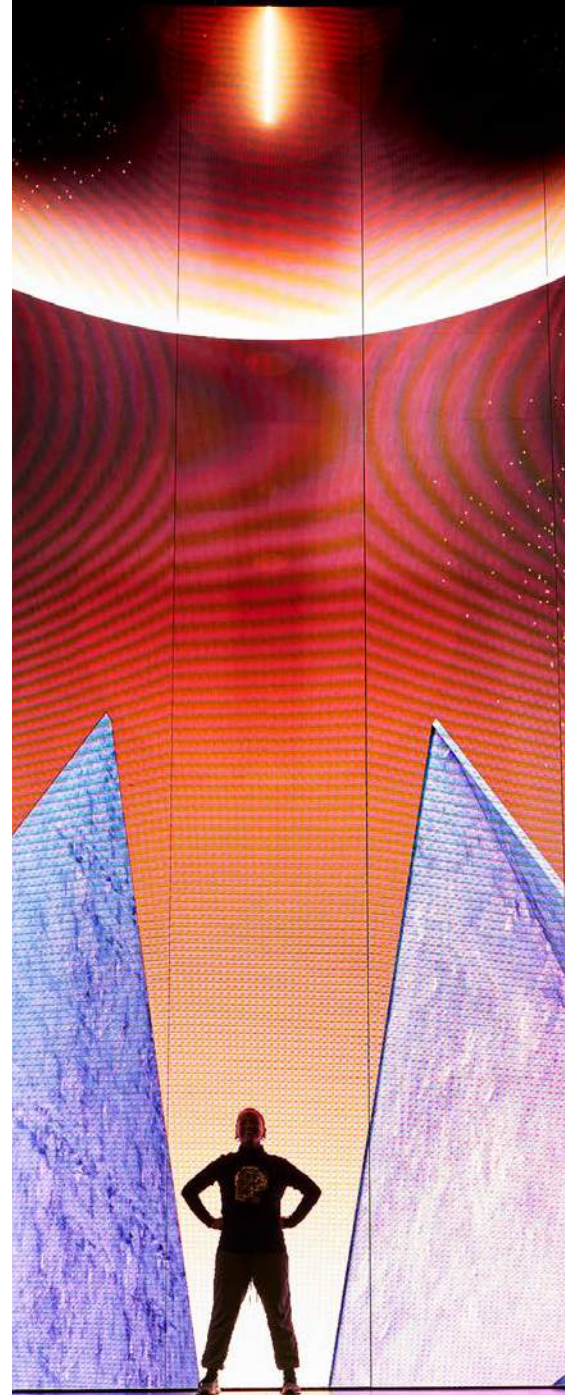
Manifesto <i>by James Wilkinson</i>	36
Wagner's Ring Cycle <i>by Artemis Horton</i>	41
Here Lies Love	46
Back to my Roots - The Northern Festival Centre <i>by Jason Allen</i>	50
Digital Projection's Satellite MLS puts in star performance at Gärtnerplatztheater	52
Magic and Mischief in the Park for grandMA3	56

## REGULARS

New Zealand: 2023 New Zealand Fashion Week <i>by Jenny Barrett</i>	30
Listen Here: Multitrack-Tasking for Producers (Part 2) <i>by Andy Stewart</i>	34
Backstage: From treading the boards to R&R and back <i>by John O'Brien</i>	66
The Gaffa Tapes: Here's your problem! <i>by Brian Coleman</i>	68

## ROAD TEST

Linea Research 44M06 <i>by Tim van den Berg</i>	63
Martin MAC Aura PXL <i>by Kurtis Hammer</i>	64



Cover Photo – KISS, 2023 AFL Grand Final. Photo Credit: Mushroom Creative House. Tim Lambert  
Contents Photo – Wagner's Ring Cycle, Opera Australia. Photo credit: Keith Saunders.

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

Editor and Publisher: Jason Allen  
Layout: Hush Creative Productions – Mark Underwood and Alisha Hill

All contents COPYRIGHT CX Network Pty Ltd 2023.  
Nothing herein to be reproduced in any format without express written consent.

# ISOVOX

## APPOINTS GROUP TECHNOLOGIES



### Group Technologies Australasia has been appointed the new exclusive Australian distributor of premium portable vocal booth creator, ISOVOX.

Founded in 2016 by audio engineer and vocalist Philip Mayson, ISOVOX is a Swedish Pro Audio manufacturer focused on a range of solutions for voice and vocal recording.

ISOVOX's flagship system, the ISOVOX 2 portable vocal booth, has gathered endorsements from a range of high-profile performers and industry professionals, including multi-platinum award winner (Grammy, Brit, MTV) Seal, Emmy-award winning voice actor Monte Reid, as well as Luke Pimentel, Eline Vera, Roomie, Johanna Von Sicard, Paulo Mendonca, Devin Oliver and many more.

Offering the same benefits of an acoustically treated studio in a portable format, ISOVOX 2

is unique in that it controls soundwaves from all angles: sides, top, bottom, behind and front – making it over five times more effective in removing room sound than any other reflection filter or similar system available across the pro and semi-pro markets.

"Since 2016, we have been changing the way people record vocals," said Philip Mayson, Director & Founder of ISOVOX. "ISOVOX products are helping improve audio quality across the board, from small home studios to large record labels and world-famous artists. We are very excited to continue this journey, and with the help of the enthusiastic professionals at Group Technologies, we can finally bring our innovative products to Australia. As a new brand on the market, we

are thankful for this opportunity and excited to be in such capable hands."

The agreement between Group Technologies and ISOVOX further strengthens Group's product stable, building upon its coalescence of partnerships with globally recognised studio-centric brands like Austrian Audio, PSI Audio and Cordial.

"We are very excited to partner with ISOVOX, a brand that's doing something quite different in the studio sector. ISOVOX fits perfectly into GT's portfolio, being very much in line with our focus on brands that are leaders in their respective markets," said Scott Jamieson, Technical Products Manager, Group Technologies.

MORE READY  
THAN EVER



## K3 Full-Range. Compact. No Compromises.

Introducing K3: a versatile loudspeaker satisfying all your requirements for mid-size events and venues without any compromises. Completing the K series line, K3 boasts an optimal mechanical design for reduced weight, Panflex™ variable directivity, laminar vents for a powerful, linear low-frequency response down to 42Hz, and class-leading SPL. Optimized for audiences of 1,000 to 10,000, K3 reduces the need for amplification and dedicated subwoofer, making it faster, more straightforward, sustainable, and economical to deploy. It's ready for your next event. [l-acoustics.com](https://www.l-acoustics.com)



distributed by  
 **JANDS**  
[jands.com.au](https://www.jands.com.au)



**NEXO AND QUEST ENGINEERING**

# GET NAUTICAL WITH OASIS

If one were to look out from the banks of the Brisbane River this year, one might see a new feature on the water: Oasis Cruising's new entertainment riverboat. Dubbed 'Brisbane's newest lifestyle vessel', Oasis is a unique water-bound events venue. With a permanent residency on the Brisbane River, the three-level events boat offers voyages with sweeping views of the city skyline, while talented international and local DJs ignite each custom-designed space with high quality audio. Integral to this experience is an onboard PA system enabling extensive control, coverage and fidelity, courtesy of French loudspeaker manufacturer, NEXO.

NEXO's flagship point source system, the P+ Series, in combination with the compact full-range ID24 Series, were selected to supply audio to the dancefloors and all covered areas aboard Oasis, whilst weatherproof MX801s from Melbourne's own Quest Engineering were selected as fill for areas exposed to the elements. Both NEXO and Quest's optional white colour schemes were chosen for each system, allowing the modules to blend seamlessly into Oasis' sweeping bright white palette.

Presenting partygoers with immersive collisions of colour, décor, lighting and sound, each of the three deck spaces within Oasis exude their own personality through individually tailored interior designs. Expertly crafted, every component aboard Oasis has been through a meticulous selection process, the ship's sound systems being no exception. Chief Operating Officer of Oasis, Michael Watt, explains:

"Too many times you find that sound has been an afterthought in the development of a space, but it is so essential in delivering a complete, memorable experience. We needed a system that could handle background music and corporate presentations through to acoustic musicians and international DJ headliners. It had to have a small footprint but also be able

to offer uniform coverage. It also needed to be able to handle the elements; it was going to be installed on a floating river venue after all!"

To help meet these requirements, Michael and the crew behind Oasis set course for Showtime Production Services, one of Sydney's leading audio-visual production and integration teams. Showtime assembled a selection of NEXO and Quest loudspeakers that would both comprehensively cover the entire vessel, and offer detailed control over directivity to aid in minimising noise pollution. Asher Daoud, Director of Showtime Production Services, expands on the technology installed:

"For Oasis, we needed something functional and aesthetically discreet, so we opted for white speakers throughout. NEXO is a tier-one brand, renowned for its high quality and high output, with good distribution; knowing this, we chose a suite consisting of 2 x P15, 4 x P10, 12 x ID24, 6 x L18 subs, 2 x IDS210 subs, 2 x IDS108 subs and a mix of 4x1 and 4x2 NXAMPK2 amps. The compact ID24s have a small footprint which was perfect, and the P+ Series offers exceptional control. Quest's MX801s carry the background beats and fill all the gaps: they are functional, IP-rated and exceed the required output capability for the coverage areas they're placed in."



▶▶ NEUMANN.BERLIN

THE REFERENCE – SINCE 1928

# The end of compromises.



Finally, you can have Neumann quality throughout, from the sound source to your ears. Developed with our friends at *Merging Technologies*, the MT 48 is the new state of the art in audio interfaces, offering four times the resolution of competing devices. For all its sophistication, the MT 48 is a joy to use. Adjust levels, EQ, dynamics and reverb via an intuitive touchscreen interface – for monitor mixes that inspire your creativity.

- ◆ 4 analog inputs, 8 analog outputs, ADAT/SPDIF I/O, AES67
- ◆ Premium preamps with up to 78 dB gain
- ◆ Record with or without DSP FX – or both at the same time!
- ◆ Best in class headphone amps: powerful, ultra low impedance

<https://MT48.neumann.com>

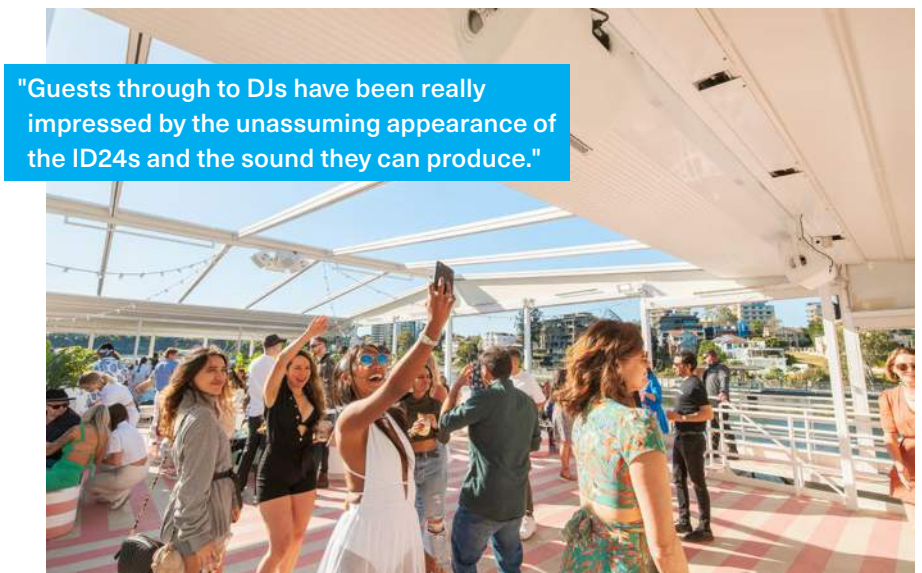
Impressed with the effectiveness of Showtime's finalised system, Michael explains how solutions from NEXO and Quest help anchor the Oasis experience:

"On paper, all the speaker specs looked good, and, of course, reputation helps here, but once we heard them in action – and those first guest experiences were extremely encouraging – we knew we'd achieved the perfect combination. When you're surrounded by 360-degree views in the comfort of your own private booth, the last thing you want is a giant stack of speakers getting in the way, so the look was important. The flexibility of the ID24 was fantastic: able to be mounted horizontally in the lower decks and then vertically for the VIP booth areas on the top decks allows them to almost disappear into the background."

"Guests through to DJs have been really impressed by the unassuming appearance of the ID24s and the sound they can produce. We are very happy with all the modules; they've exceeded our needs and expectations. They pack a punch and deliver every time."

A joy for patrons and ostensibly for the integration technicians in equal measure, Asher notes that working on Oasis was an exceedingly positive experience. Reflecting on the achievement, Asher summarises:

"Oasis has been an amazing result all round. We met all the challenging demands in terms of audio quality and output while complimenting the finish and colours of the vessel's bespoke interior. The physical design of the boxes and their accessories – rigging points, size, brackets, etc – made working in a tricky marine space easier for myself and the install team. Our clients absolutely loved it, and they now own the best sounding boat in Brisbane, by miles!"



"Guests through to DJs have been really impressed by the unassuming appearance of the ID24s and the sound they can produce."





# ARGO 6

feel the freedom

Bringing you a feeling of freedom is unquestionably one of AYRTON's most sincere commitments.

For the first time since the company began, AYRTON is launching a weather-sealed effects luminaire that offers you as much creative potential indoors... as outdoors.

Another totally incredible luminaire in the history of the brand... A robust yet lightweight luminaire entirely designed around a simple idea: add to freedom of expression and provide a high level of precision even under the most extreme conditions.

ARGO 6 offers a perfect balance between precision and versatility.

This luminaire is guaranteed to impress. You'll be able to compose stage graphics with a huge visual impact. The sublime Liquid Effect is simply hypnotic.

6 Series - Source  
**19 RGBW LED**

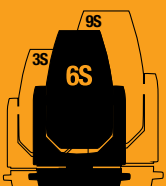
Lumens  
**13,000**

Zoom aperture  
**4° to 56°**

Frontal Lens  
**19 x 50 mm**

IP Rating  
**IP65**

Weight  
**23.2 kg**



SCAN  
FOR  
MORE



[www.ayrton.eu](http://www.ayrton.eu)



**AYRTON**



EXCLUSIVE DISTRIBUTOR FOR AUSTRALIA AND NEW ZEALAND

SHOW TECHNOLOGY - Phone: +61 2 97481122 - [sales@showtech.com.au](mailto:sales@showtech.com.au) - [www.showtech.com.au](http://www.showtech.com.au)



## The P.A. People Discuss Venue Engineering

### *Safety, Experience, Equipment & Capacity*

The P.A. People's venue engineering team has over 200 years of combined experience across engineered design, integration, installation and service. With standards-compliant tools and products, the company can provide solutions appropriate to venue type, a range of operational demands and end user groups.

Peter Grisard, Manager – Venue Engineering for The P.A. People says: "In this business, we must constantly remind ourselves that we lift, suspend and move significant gear over performers and audiences, making the issue of fit-for-purpose gear and people paramount."

At the 2023 Integrate Expo in Sydney, and the ENTECH Roadshow, which recently toured five capital cities, The P.A. People participated in an education program with discussions on 'Safe Workplaces – Your Duty of Care'. These were led by The P.A. People's Peter Grisard, Andrew Mathieson – Chief Engineer, and Tim Pike – Service Manager, QLD. Some of the issues discussed here included: duties of a PCBU under Safe Work Australia, machinery inspections and maintenance, the safety of 'unknown' machinery, and service provider/certifier types of testing.

Andrew Mathieson said: "We field innumerable questions from venue operators, where they'll typically say things like: 'We've always done it this way, nothing's changed. What's the problem?' or 'Just certify this; we want someone to come in and say it's okay'. Others will ask, 'There's a new safety standard, so does my machinery need to be retrospectively brought up to this new standard?' Overall, there's a great deal of knowledge and experience in the industry, but when it comes to compliance with codes and standards there's less clarity and understanding."

Peter Grisard continued: "Some situations include old machinery that might have been there 25 years that is clearly in a pretty poor state, has no service history or documentation, and where the client is searching the internet to find information on their gear. But generally, venues are becoming increasingly aware of their responsibilities from a WHS point of view, and we're being asked to service and maintain equipment and certify it. Respectfully, I find sometimes clients don't quite know what they're asking for, or their understanding is lacking, so you have to be prepared to say, 'Perhaps this is not such a good idea,' or 'Maybe you should consider doing it differently'. Part of my role is to sit with clients, gather up the information and bring it back for discussion with my colleagues about feasibility and risk – that's a real issue for us. The exercise is about listening – and I spend quite a deal of time listening to our engineers – about what's wise, what's not, what design choices we have etc. Before you do anything, it's vitally important to seek the advice of an appropriately qualified venue engineering professional."

Chris Dodds, Managing Director of The P.A. People commented on current opportunities and challenges: "Coming out of COVID, and having been fortunate to retain our key staff, we took the view that once venues re-opened, engineered solutions would again be in strong demand. Projects that may have been paused would come on-stream again as supply chains regained traction. So we took action on several fronts to ensure that we had capacity to respond. Our value-add and fit-for-purpose philosophy meant that we were careful in our choice of work and active in securing trusted product supply partners. This has led to several announcements in the past





Peter Grisard



Andrew Mathieson

two years, where we've invested substantially in a dedicated venue engineering team, product representation arrangements with world-leading venue equipment manufacturers, and of course, our acquisition of TheatreQuip, with its own 30-year history, local expertise, and growing product range. With arguably the most experienced team in the country – across design, integration, installation and service – we are equipped to comprehensively advise venue clients on solution options that are appropriate to their needs. By way of example, just recently a major task in the venue engineering space involved an orchestra lift, acoustic baffles and reflectors, and an 18-line grid system; a significant project and solution for that client, and two other projects requiring the retrofitting of new counter-weight flying systems.”

Chris continued, adding that, “Regardless of the context, it’s essentially always about live

performance. Whether it be a new installation, rental or service, our expertise is to understand what you need, and what’s required to deliver that result.”

Pointing to added capacity achieved in the last 18 months, Chris explains; “Expanding our local manufacturing capability allows us more flexibility, choice and range. Adding to our existing TheatreQuip products, we’ve now designed three drum hoists, a pile wind hoist and several new lighting bars; we’ve established a comprehensive sewing room which assembles theatre drapes, curtain legs and backdrops. Adding this to our leading-brand representation for chain motors and control from Movecat, rigid chain actuators from Serapid and motion control tools from Teqsas, we have a suite of components and options that we can employ. It’s about finding the right solution for the customer to deliver what they need.”

**NOVA STAR**

www.novastartech  
harry@novastartech

# TU20 Pro

TU Series integrates LED control, video processing, media player, Human-computer Interaction Application (Conference Application), which is a intelligent, flexible and convenient broadcast&control processor. Users can easily handle LED display and applications with only one device. The minimalist solution brought by an all-round product.



Practical Functions, applicable to a variety of scenarios



Through the mobile APP to complete the screen configuration within 5 seconds



Multiple broadcast & control modes



3.9 million Ultra-large loading capacity free scaling



The excellent picture quality brings the microscopic insight

# SPHERE ENTERTAINMENT PARTNERS WITH POWERSOFT FOR SPHERE IMMERSIVE SOUND AND HAPTIC SEATING

Exosphere. Photo Credit: Sphere Entertainment

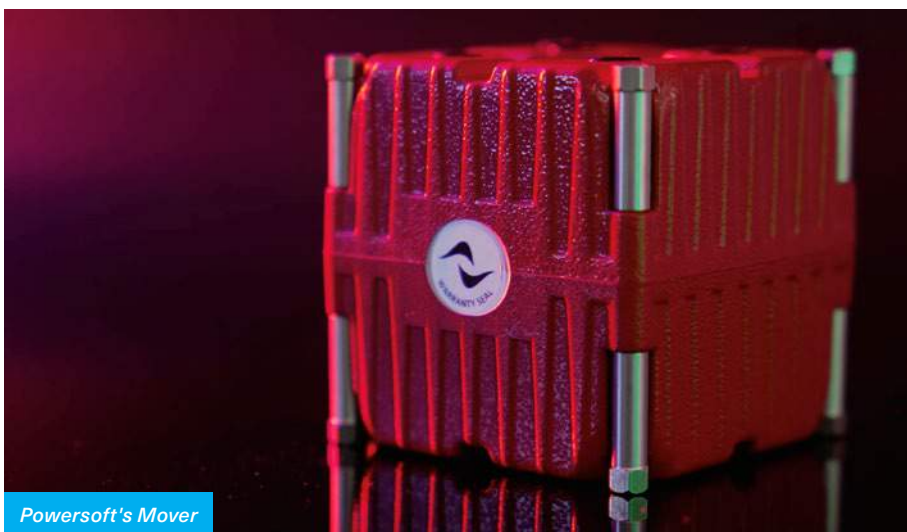


**Ultra-low-frequency Mover technology delivers infrasound haptics and audio to Sphere's 10,000 seats**

**Powersoft's cutting-edge amplifier technology is driving the world's most advanced audio system with maximum energy efficiency.**

Sphere, the next-generation entertainment medium in Las Vegas that's redefining the future of live entertainment in almost every way imaginable, recently incorporated Powersoft's immersive haptic technology and cutting-edge amplifier solutions into the venue's 10,000 haptic seats as part of Sphere Immersive Sound powered by HOLOPLOT, the world's most advanced concert-grade audio system.

"Sphere Immersive Sound has set a new standard in every aspect of live audio, and tens of thousands have already been immersed in its crystal-clear, individualised sound," said David Dibble, CEO, MSG Ventures, a division of Sphere Entertainment. "And this past weekend, with the premiere of The Sphere Experience featuring Darren Aronofsky's Postcard from Earth, guests, for the first time, experienced a truly multi-sensory haptic experience. Powersoft's cutting edge and energy efficient technology made it the perfect partner to help achieve our sustainability goals without compromising audio or haptic quality."



**Powersoft's Mover**

Developed specifically for Sphere's unique curved interior, Sphere Immersive Sound is powered by 167,000 channels of amplification provided by Powersoft's compact, ultra-high-efficiency 16-channel amplifier solutions that are integrated into the venue's HOLOPLOT X1 audio system. MSG Ventures, which develops groundbreaking technologies and content exclusively for Sphere, partnered with Powersoft to leverage their ultra-high-efficiency amplifier solutions that achieve approximately 40 percent energy savings compared to traditional amplifiers, minimising

environmental impact without compromising sound quality.

"Sphere is the largest-scale, most innovative application of Powersoft technology yet, and we're thrilled to partner with a company that holds the same values and vision for the future of live entertainment," said Carlo Lastrucci, President of Powersoft.

Sphere's HOLOPLOT X1 audio system leveraged Powersoft's energy-efficient innovations, including its Power Factor Correction (PFC) and Class-D PWM (Pulse

# FIFTY LINE



**2023 Fifty Line is not a simple revamping, but a line of premium portable speakers able to deliver the highest quality in a comprehensive system package that only takes minutes to setup.**

## **FIFTY TOP**

*Professional Active 2-Way Speaker*

4x 10" - 2" VC LF

2x 1.4" - 3" VC HF

RNet on board

## **FIFTY SUB**

*Professional Active Subwoofer*

1x 18" - 4" VC LF

RNet on board

- **Quick installation**
- **Easy transportation**
- **Great versatility**
- **Newly designed internal amplifier**
- **Suitable for high sound pressure requirements**

**dB**Technologies



VIC: (03) 8756 2600 | NSW: (02) 9898 0670 | [sales@nas.solutions](mailto:sales@nas.solutions) | [www.nas.solutions](http://www.nas.solutions)



Postcard from Earth. Photo Credit: Sphere Entertainment

Width Modulation), two technologies that have directly reduced the AV industry's environmental impact. The benefits produced by the adoption of PFC technology include energy savings and a lower carbon footprint (equivalent CO2 emissions) of approximately 40 percent compared to amplifiers without power factor correction for the same output. Simultaneously, Powersoft's PWM technology transforms energy drawn from the power mains at Sphere into usable power that recycles the reactive energy coming back from its loudspeakers.

In addition to the 16-channel amplifiers integrated into Sphere's HOLOPLOT X1 Matrix Array, Powersoft provided patented IPAL (Integrated Powered Adaptive Loudspeaker) technology used in the X1 system's subwoofers. An IPAL-equipped system offers unprecedented acoustic performance and complete control of sound system reproduction, regardless of acoustic load and conditions.

A key component of The Sphere Experience that makes audiences feel like they've been transported to another world, Sphere's 10,000 haptic seats are integrated with Powersoft's infrasound system. Powersoft Mover is the company's revolutionary compact transducer that uses haptic feedback to provide concert goers with a more convincing, realistic experience, engaging the senses beyond mere visual and audio stimulation. Powersoft's patented moving-magnet technology is more durable, accurate and efficient, relying on an audio signal with ultra-low-frequency reproduction to make the chairs vibrate and shake as desired for each performance. To accompany the infrasound haptic system, Powersoft also supplied 2,500 audio channels for the seats, provided by 718 Powersoft Quattrocanali amplifiers.

Sphere opened on September 29 with the first of 25 performances of U2:UV Achtung Baby Live At Sphere. The Sphere Experience, featuring Darren Aronofsky's Postcard from Earth, debuted at the venue on October 6, and was the first event to utilise the venue's revolutionary haptic seats.

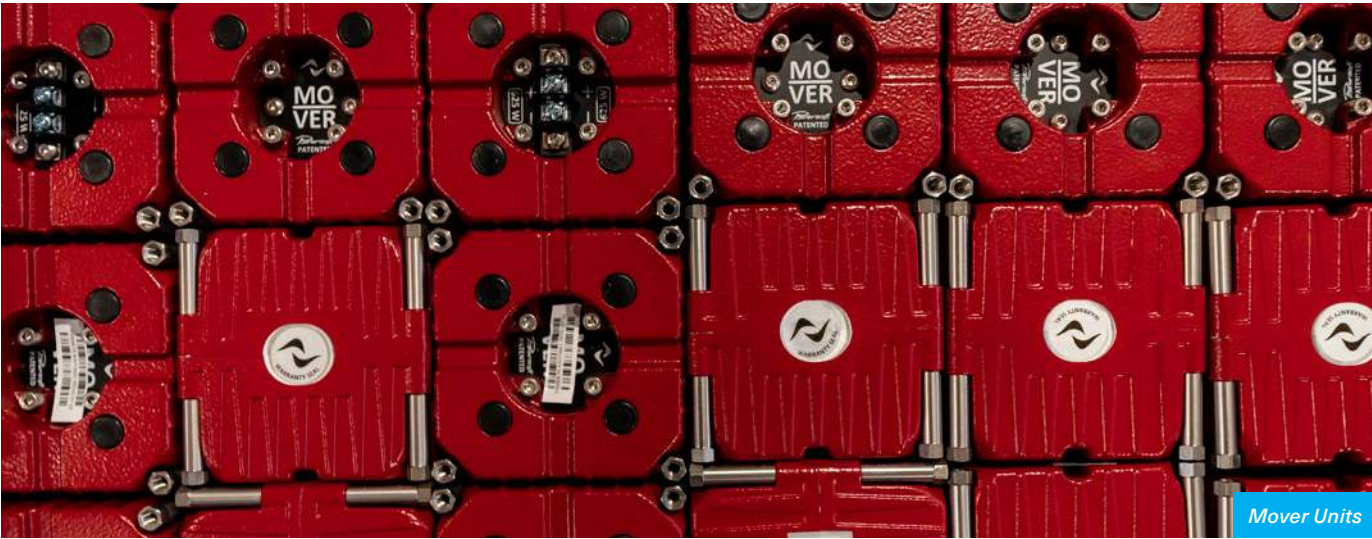


Powersoft's Quattrocanali

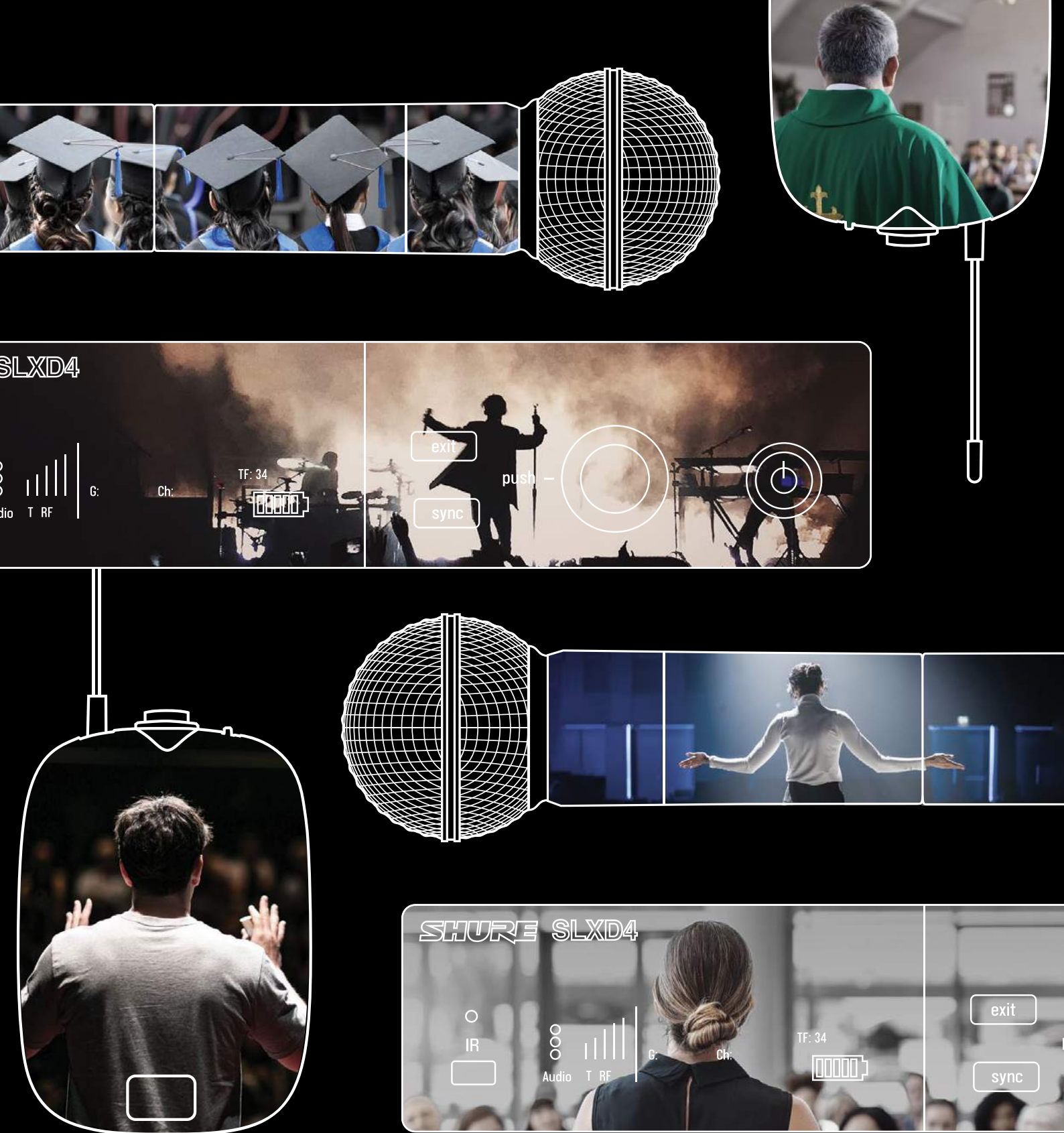
"Powersoft's patented moving-magnet technology is more durable, accurate and efficient, relying on an audio signal with ultra-low-frequency reproduction to make the chairs vibrate and shake as desired for each performance."



Powersoft's Mover



Mover Units



# WIRELESS EXCELLENCE, WHEREVER REQUIRED.

Now your everyday setup has professional-class power to spare. SLX-D Digital Wireless provides flawless 24-bit audio and rock-solid RF, with a wide variety of system and rechargeability options that scale perfectly to your needs. On desktop or mobile, critical oversight and real-time control are always in reach with Wireless Workbench® or the ShurePlus™ Channels app.

Clarity. Versatility. Ease. The wireless system you've been waiting for. [Shure.com/SLX-D](https://www.shure.com/SLX-D)

**SHURE**

distributed by  
**JANDS**  
[jands.com.au](https://www.jands.com.au)

## Austrian Audio MiCreator Satellite

MiCreator Satellite is an ultra-compact, high quality condenser microphone, able to be paired with MiCreator Studio to expand recording options, or used on its own as a desktop mic.



## Austrian Audio MiCreator Y-Lav

The Y-Lav is a lavalier microphone with direct monitoring, designed around connection to MiCreator Studio's additional input for recording multiple speakers simultaneously. It can also be plugged directly into a camera or other mic input whilst simultaneously offering onboard direct monitoring output.



## Austrian Audio MiCreator Studio

Aimed at the online Content Creator market, MiCreator Studio is a condenser capsule microphone and streamlined USB-C audio interface, combined into a unit small enough to fit in a pocket. It features an additional input for easy multi-tracking or optional stereo recording. Comes with Cubase LE music production and WaveLab Cast podcast and production software. Also has exchangeable and customisable face plates.

**Austrian Audio products available at:**

**Australia:** Group Technologies [grouptechnologies.com.au](http://grouptechnologies.com.au) 03 9354 9133

**New Zealand:** Jansen Pro Audio [jansen.nz](http://jansen.nz) 09-377 3663

# NEW GEAR



## DPA 2017 Shotgun Microphone

DPA's 2017 Shotgun Microphone is compact at 184mm long. It's tested for use in settings with temperatures up to 40°C (104°F) with 90-percent relative humidity, and cold environments as low as -40°C (-40°F). It has a high degree of off-axis rejection, permitting the main source to stand out.



## DALI iO-12

The DALI iO-12 are headphones designed for the premium home market. They use DALI's patented SMC magnet technology and active noise cancellation. Up to 35 hours of wireless playback on battery or wired direct. Oversized leather ear pads designed for comfortable extended wear.

## DALI EPIKORE 11

DALI EPIKORE 11 is a 4½-way floor standing loudspeaker that bridges the gap between DALI's EPICON and DALI KORE series. It features a 35 mm soft-dome tweeter and a 55 x 10 mm high frequency (HF) ribbon element and uses in-house wood and paper cones. Finishes come in high gloss maroon, black or walnut, using a real wood veneer.



**DPA Microphones 2017 and DALI iO-12 / Epikore 11 available at:**

**Australia:** Amber Technology [ambertech.com.au](http://ambertech.com.au) 1800 251 367 / **New Zealand:** Amber Technology [amber.co.nz](http://amber.co.nz) 0800 42 62 37



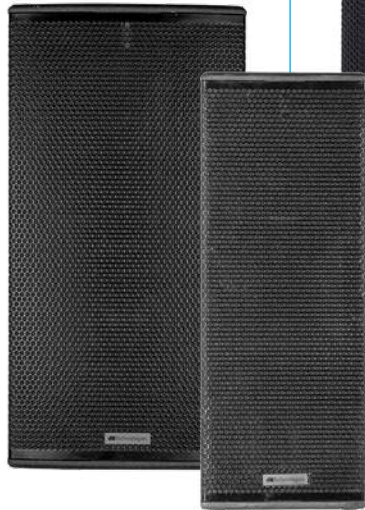
**dBTechnologies Fifty Line**

Ground stacked or flown, Fifty Tops can be configured in multiple ways – on their own, paired, or groups of pairs. Each Tops box uses 4 x 10" woofers and 2 x 1.4" compression drivers. Aurora Net control software allows EQ, delay and processing customisation and real time monitoring of the PA system in use. Powered by Class-D 1600W RMS power amplifier. Complemented by Fifty Sub, using the same DSP and amplifier.

**dBTechnologies VIO X310/VIO X315**

VIO X300 are tour-grade, three-way tri-amped point source speakers for public address in large venues. Both X310 and X315 models use a 4" voice coil plus 2.5" voice coil coaxial driver - the transducer reproducing from 500Hz up. Class-D amplifiers and DSP processing allow SPL up to 137 dB. VIO X310 uses 2x 10" neodymium woofers in dipole configuration and a coaxial mid-high frequency compression driver mounted behind a 90° by 40° rotatable horn. VIO X315 has a single 15" neodymium woofer and 90° by 50° horn.

*Australia: NAS Solutions  
nas.solutions 1800 441 440  
New Zealand: NAS Solutions  
nz.nas.solutions 09 414 4220*



**dBTechnologies Opera Reevo 210 and 212**

Designed for maximum intelligibility, Opera Reevo 210 and 212 employ a Class-D Digipro G2 amplifier, delivering 1050W RMS and 2100W Peak power. Each model has one 1.75" coaxial compression driver. The REEVO 210 has 2 x 10" Neodymium woofers and REEVO 215 uses 2 x 12" Neodymium woofers. Dispersion of REEVO 210 is 100°x90° and REEVO 212 is 100°x90°.



# 2017 Shotgun Mic





**Don't compromise**  
Extreme durability  
Unrivalled sound





CONTACT THE AMBER TECHNOLOGY TEAM TO FIND OUT MORE  
1800 251 367 | sales@ambertech.com.au

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



# NEW GEAR

## Allen & Heath Avantis Solo

Allen & Heath has announced the launch of Avantis Solo, the second member of the Avantis mixer family, condensing the full power of the award-winning mixer platform into a 12-fader, single-screen package.

"Since launching in 2019, Avantis has been scooping up accolades including the TEC Award for Small Console Technology and the MMR Dealers Choice Product of the Year," says Jack Kenyon, Product Specialist at Allen & Heath. "We've received overwhelmingly positive feedback from engineers, venues, houses of worship, and rental companies, with the consensus being that the only thing missing was a smaller model that sacrificed none of Avantis' audio capabilities. Enter Avantis Solo, taking everything that engineers love about Avantis while reducing the footprint by nearly fifty percent."

Based on XCVI, Allen & Heath's next generation 96kHz FPGA engine, Avantis Solo delivers the same 64-channel, 42 bus architecture as Avantis, running at an ultra-low 0.7ms latency, with full onboard processing and 12 RackExtra FX slots, all housed in Avantis' iconic lightweight alloy shell and tubular frame.

Control is handled via 12 faders with 6 layers providing a total of 72 fader strips, a Full HD 15.6" touchscreen with dedicated rotary

controls, plus 18 assignable SoftKeys, all tied together via the sleek Continuity UI to give engineers the same seamless connection between physical controls and the display as the dual-screen Avantis.

When it comes to onboard I/O, Avantis Solo is equipped with 6 XLR analogue inputs, 6 XLR analogue outputs, plus AES (Stereo In, Stereo Out). The integrated SLink port enables connection to Everything I/O, Allen & Heath's comprehensive ecosystem of remote expanders, plus the ME Personal Mixing System. Two I/O Ports allow the use of the full range of dLive/Avantis option cards, including Dante, Waves, gigaACE, MADI and more, expanding the scope for system integration, digital splits and multitrack recording. Avantis Solo is also compatible with the full range of IP Controllers.

Out of the box, Avantis Solo includes full-fat channel processing and FX, Automatic Mic Mixing (AMM), plus Allen & Heath's next-generation RTA engine and in-mixer Shure and Sennheiser RF integration, empowering engineers to do more in the mixer and less on multiple laptops at the mix position.

Upgrading to dPack brings acclaimed dLive processing to Avantis Solo, including the Dyn8 dynamics engine (up to 16 instances), Allen & Heath's renowned DEEP Compressors and Expanders, plus the Dual-Stage Valve preamp.

dPack purchasers automatically receive all future DEEP and FX updates at no cost, ensuring their investment is future-proof.

Outside of the mixer, the Avantis Director software enables online control and offline editing, while the MixPad app grants remote wireless mixing via iPad. Performers benefit from the OneMix iOS app and the upcoming, cross-platform, Avantis4You app, both of which offer personal monitor mixing from the stage.

"At half the size of the dual-screen Avantis, yet lacking none of the power, Avantis Solo will be welcomed by owner-operators, corporate AV, and rental houses thanks to its compatibility with their existing stock of Allen & Heath expanders and networking cards," adds Kenyon. "Additionally, smaller venues and houses of worship will embrace the top-end mixing experience in a form factor that can be easily dropped into mix positions where space is at a premium."

Distributor Australia: TAG  
[www.tag.com.au](http://www.tag.com.au) or (02) 9519 0900

Distributor New Zealand: Jansen  
[jansen.nz](http://jansen.nz) or (09) 377 3663

# HALF THE SIZE ALL THE POWER

avantis **SOLO**



IT'S TIME FOR YOUR **SOLO**



**ALLEN & HEATH**  
[www.allen-heath.com/avantis](http://www.allen-heath.com/avantis)

# NEW



## ETC Hyperstar

High End Systems Hyperstar from ETC is a compact moving light optimised for projection versatility.

With nine rotating patterns, 11 fixed patterns, an animation wheel, dual frosts, and dual prisms, Hyperstar luminaires provide a wide range of choices with breakups, aerials, radial patterns, and gobos specializing in morphing and texture. The framing modules have been removed to provide even more versatility when using patterns and aerials.

**Australia:** Jands  
[jands.com.au](http://jands.com.au) 02 9582 0909  
**New Zealand:** Jands  
[jands.co.nz](http://jands.co.nz) 09 941 9780



## Kiloview CUBE R1

The Kiloview CUBE R1 Recorder System is a compact device designed to simplify the recording and streaming process for NDI video sources. Up to 9CH NDI sources recording, any resolution, any format. Features self-defined NTP Server to ensure all NDI sources are recording in synchronised status. 1/4/9 multiview layouts.

**Australia and New Zealand:** D2N Technology Solutions [d2n.com.au](http://d2n.com.au) +61 2 9837 6748



## AIDA PTZ-NDI3-X20B

The PTZ-NDI3-X20B camera can display Full-HD video at 120 frames per second, for slow-motion shots. It supports PoE+ for easy integration and includes a physical remote, web UI control, Sony VISCA, VISCA OVER IP and NDI control. It offers a 30x optical zoom, and the ability to simultaneously stream NDI HX3, SDI, IP, and HDMI. Includes 18x power optical zoom capability and 3.5mm line-in for no audio/video delay over IP/NDI protocols.

**Australia and New Zealand:** D2N Technology Solutions [d2n.com.au](http://d2n.com.au) +61 2 9837 6748

## AIDA UHD-NDI3-300

Aida's POE POV camera can generate NDI HX3 1080 at 60fps using a 4K Sony CMOS sensor. Also capable of 4K 60fps NDI HX delivery. Features top and bottom tripod mounts and has PoE+ capability.

**Australia and New Zealand:** D2N Technology Solutions [d2n.com.au](http://d2n.com.au) +61 2 9837 6748



## Ayrton WildSun K9 Wash

WildSun K9 Wash is a highly evolved variant of Ayrton's WildSun K25 TC, specially geared to shooting TV video and broadcasting in high-definition. Fitted with 217 next-generation high-output LEDs, the luminaire delivers more than 60,000 lumens of overall output. Ayrton has developed special silicone-based high-output optics for this unit, ensuring stability over time. Its optical zoom has a 6:1 ratio with a zoom range of 10° to 60°. Uses tri-phase stepper motors for fast, accurate, and silent positioning.

**Australia:** Show Technology  
[showtech.com.au](http://showtech.com.au) 02 97481122  
**New Zealand:** Show Technology  
[showtech.com.au/homenz](http://showtech.com.au/homenz) 09 869 3293



Atmosphere™ by AtlasIED

# *Experience freedom from Complexity*

At the heart of the audio control system are 4 and 8 zone audio processors that offer powerful DSP, combined with innovative algorithms. Features such as a built-in message player, auto-gain, GPIO, Third Party Control, and learning ambient noise sensing, make these models processing powerhouses. Programming is simple through a modern, onboard web interface. Built around Progressive Web App technology, the control interface is device agnostic, responsive, and meticulously designed for east user experience without sacrificing design freedom.



## **You're in control**

Intuitive software with “self heal” function and multiple platform options, along with a wide range of installation accessories, makes Atlas IED Atmosphere the ideal self contained programable platform for retail, function venues, restaurants, clubs and public venues up to 8 zones of in/output functionality.



### **Contact Us**

Australia | [sales@pavt.com.au](mailto:sales@pavt.com.au) | +61 3 9264 8000  
New Zealand | [sales@pavt.co.nz](mailto:sales@pavt.co.nz) | +64 21 410 050



# AFL GRAND FINAL 2023



Photo by Mitch Lowe

## KISS and Mushroom Events Deliver Epic Pre-Show

With all due respect to other sporting codes, the AFL Grand Final is the biggest event in Australian sport. And the biggest ever pre-show entertainment went off in grandiose and imitable style on the last Saturday in September, 2023, with legendary glam rockers KISS, completely produced, designed and delivered by Mushroom Events.

"Outside of the Olympic and Commonwealth games, this is the biggest production in Australian sporting history," stated Travis Hogan, Producer and Production Designer on the AFL Grand Final for Mushroom Events, and we do not disagree.

The show was the kind of pure rock'n'roll spectacle that only a band as outrageously theatrical as KISS could pull off. A KISS choir sang them in from the roof of the scoreboard. The band appeared through a haze of smoke and played three of their most iconic songs; 'I Was Made For Lovin' You', 'Shout It Out Loud', and 'Rock and Roll All Nite'. The pyro started at the top and just kept going – 3,500 shots in all,

from 52 positions, including the top of the MCG itself down to 47 flames on the ground.

500 young dancers came out dressed as the band and formed a giant KISS logo as they played air guitar. Four kids who looked about six years old, dressed as each member of the band, broke the cuteness meter when they got on stage and rocked out with their counterparts. Paul Stanley even smashed his guitar in the finale. It was beyond huge, it did not take itself too seriously, and it was utterly, utterly joyous. I cannot remember a better piece of entertainment delivered at a sporting event in this country.

Remarkably, Mushroom Events put this show together in five weeks, after the previously booked artist unfortunately had to pull out of the performance. KISS were not due in Australia until the week after to play Sydney, but schedules were massaged, and the act was secured.

"We started work on the show on 14 August and loaded in on 18 September," states Simon Johnson, Production Manager and Lighting Designer on the Grand Final for Mushroom Events. "We had Pro-Stage Victoria make four of the stage elements from scratch. They built them and figured out how to fit them with CO2 canisters and lighting fixtures. There were a lot of welders welding aluminium late at night."



Photo by Tim Lambert



Photo by Mitch Lowe

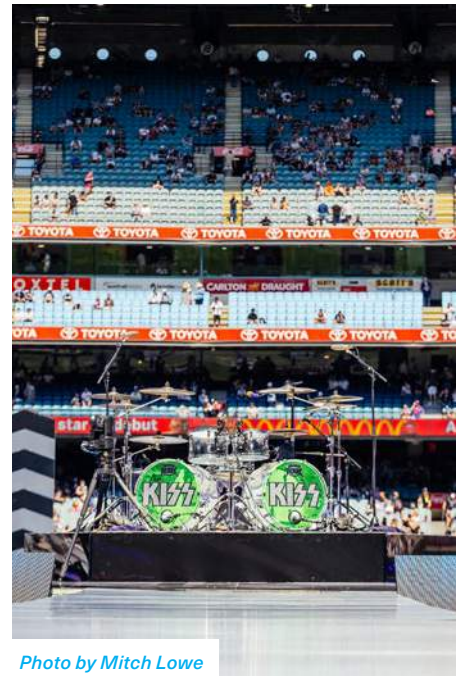


Photo by Mitch Lowe



Photo by Mitch Lowe

"As producers, Mushroom Events produced and designed the show, engaged the band, built it, and made it happen," continues Travis Hogan. "It was fully in-house delivery, and we're proud of that. PRG supplied the main stage structure, which was built in America a bit over a decade ago. There are eight pieces of 16x8 foot stage on aircraft tyres. They are insanely effective, and we will most likely build more. Everything else on the ground was built by Pro-Stage Victoria."



# TAKE CENTRE STAGE

WITH WORLD CLASS TECHNOLOGY





**NEW!**

PlutoFresnel



PixelBrick




NYX Bulb



AX9 PowerPar



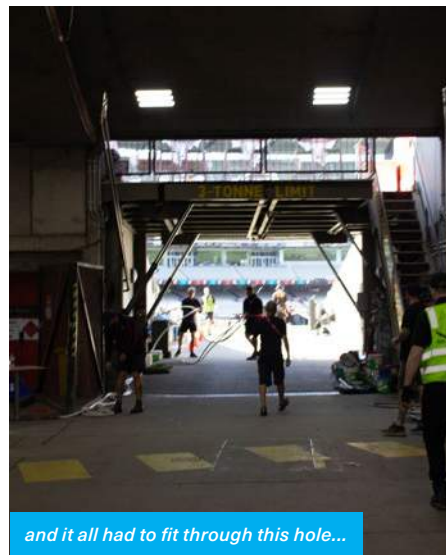
AX2 PixelBars



CONTACT US FOR A DEMO | AUS 1300 852 476 | NZ 09 218 6532 | [info@ulagroup.com](mailto:info@ulagroup.com) | [ulagroup.com](http://ulagroup.com)



Photo by Tim Lambert



and it all had to fit through this hole...

The entire pre-game production had to break down into small pieces and come on and off through a small, low access point. All in all, there were more than 700 wheels, and 300 plus crew, with 40 minutes to get it on and plugged in, and just 10 minutes to get it off. "We got it off in nine-and-half minutes," grins Simon. "We needed absolute military precision to get it on and off in that timescale. We only got to rehearse the movement three times. In comparison, The Superbowl half time show in the US gets to rehearse for a month solid. Some of the international crew were surprised by how little time we get on the field. While we did the load in the Monday night the week before, we were only allowed three days on the ground to preserve the turf."

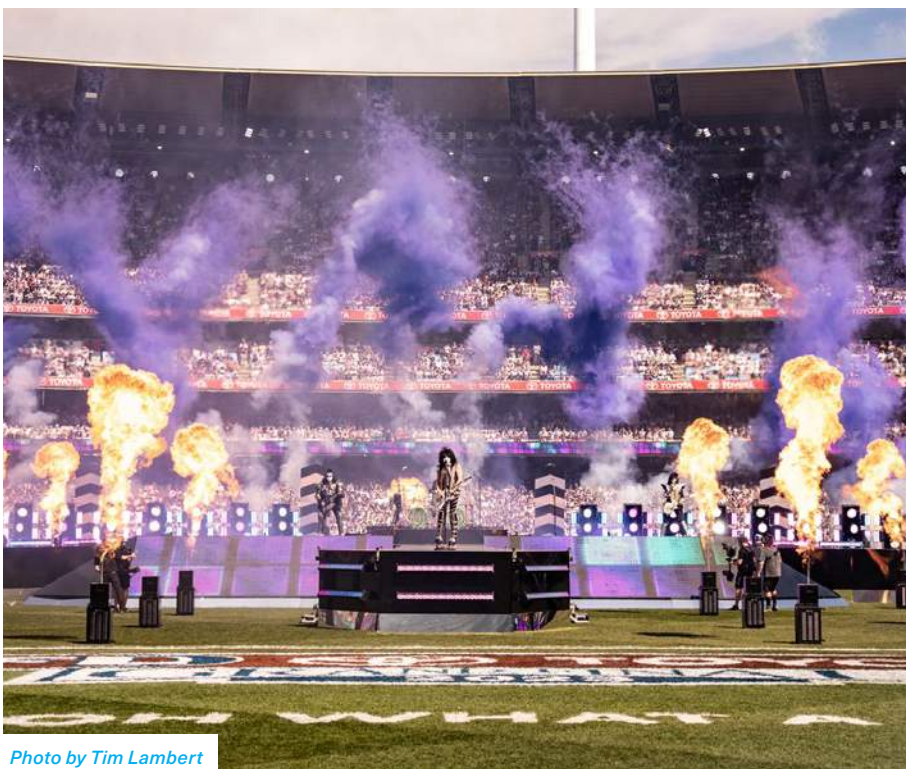


Photo by Tim Lambert



Photo by Tim Lambert



Photo by Tim Lambert



Photo by Tim Lambert





# CONTROL DOWN TO THE PIXEL.

## THE NEW MAC AURA PXL BEYOND BRILLIANT

Your new superstar workhorse is here—the stunning MAC Aura PXL. It doesn't replace the MAC Aura; it takes you beyond. Bigger and brighter than the MAC Aura, the PXL features significantly higher intensity and a tighter beam. It's also the first light with both a fully pixel-controlled Aura backlight effect and a pixelated beam. That translates to more control options and creative opportunities than ever. It's the perfect complement to the MAC Aura family. If you can dream it, the PXL can do it. Explore the brilliance at [Martin.com/MAC-Aura-PXL](http://Martin.com/MAC-Aura-PXL)

**Martin**  
by HARMAN

MAC Aura PXL

For all enquiries and sales, contact your nearest Show Technology below or email [sales@showtech.com.au](mailto:sales@showtech.com.au)

Australia | Sydney 02 9748 1122 | Melbourne 03 9681 7511 | Perth 08 9248 8119 | Brisbane 07 3267 3177

New Zealand | Auckland +64 9-8693293

**SHOW**  
TECHNOLOGY



Photo by Mitch Lowe

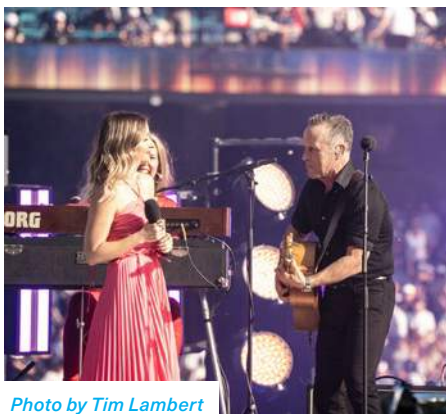


Photo by Tim Lambert



Photo by Tim Lambert

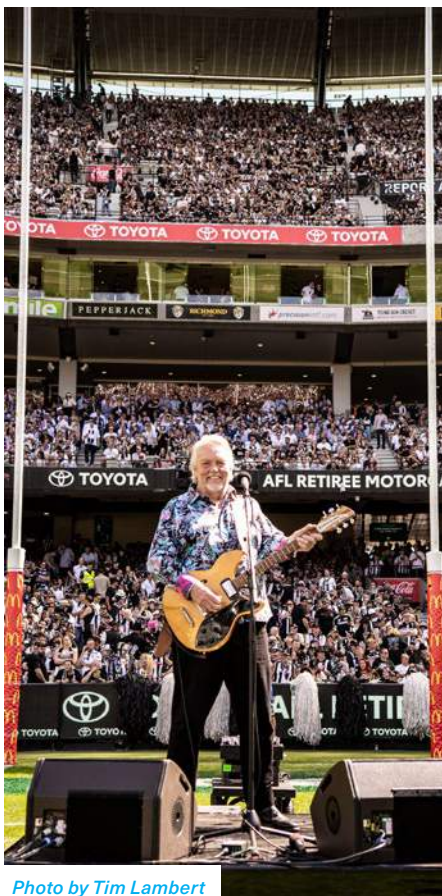


Photo by Tim Lambert



Photo by Tim Lambert

The military precision was also in evidence for the half time entertainment, with Mark Seymour and Kate Miller-Heidke. "The half time was the stage for the band, eight video dollies as individual elements, and 10 of the lighting trusses" continues Simon. "There were also eight pyro positions to set and arm. Again, we only had three rehearsals. We had an ad break to get it on, and an ad break to get it off, travelling almost 400 metres. In this scenario, each crew member only has time to do one role."

Topping it all off, the crew also assist in rolling out and setting up for the post-game presentations. "The presentations were done in conjunction with Peter Jones Special Events," relates Simon. "We assist in getting the stage on and production manage extra things like the confetti cannons."

## Lighting

"Simon went heavy on lighting this year, and it suits the band," says Travis Hogan. "If you're going to do lighting in the middle of the day, you have to do a lot of it. It has to be big and bold."

- 50 x Martin Quantum Wash
- 24 x Martin Aura XB
- 68 x Chauvet Strike M
- 33 x ColorBlaze 72
- 20 x Color Force 48
- 16 x Color Force 72
- 18 x Solaris Flare
- 8 x MDG Hazer ATM
- 8 x FQ-100
- 2 x grandMA2 fullsize
- plus all rigging and cabling

## Pyrotechnics

Pyro was provided by ShowFX Australia

A total of 3500 pyrotechnic shots were used, fired from 52 positions

3200 flame cues from 53 flames including 6 x 5 Finger Sunshines and 47 Galaxis units

All flames were wireless and run to timecode from a grandMA2 console

All pyro were wireless and run off 98 modules

There were 46 CO2 jets run off around 60 CO2 bottles built into stage pods

28 crew on show day to make it happen and nine people for two weeks to put all systems in place

## Video

Provided by Creative Technology

120sqm of ROE CB5 run from Brompton processors

3 x disguise D3 servers

2km of single mode fibre

# Great Products, Expert Advice.





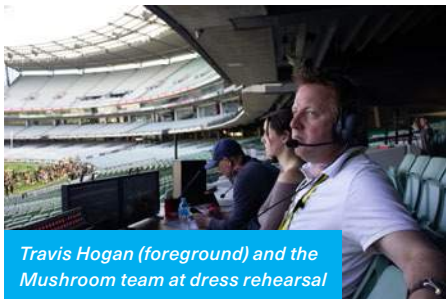
Lighting and hazers

With glowing coverage and an absolutely stunning result in the broadcast, Mushroom Events pulled off the most colossal sporting production in the land. "We were very happy with the result," says Simon modestly.

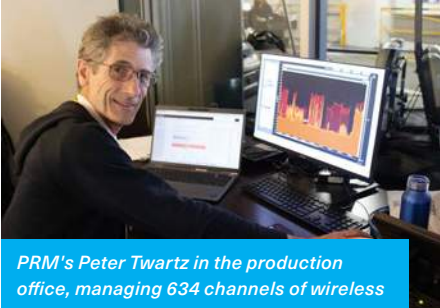
**"When you get to the end of an event like this, it's a bit of a relief that it's over, but you don't yet appreciate what you've pulled off as a collective. A few days later, you watch it back and finally realise the scale of what we all have done!"**



Photo by Tim Lambert



Travis Hogan (foreground) and the Mushroom team at dress rehearsal



PRM's Peter Twartz in the production office, managing 634 channels of wireless



Photo by Tim Lambert

Photo by Tim Lambert



### Companies Involved

- Creative Technology: Video Panels and Venue LED integration
- Pro-Stage Victoria: Staging and Risers
- PRG: Staging and Lighting
- ShowFX Australia: Pyro and Fireworks
- Deluxe Backline: Backline
- JPI Audio: Broadcast and On-Field Audio
- Hase Productions: Video Content
- Articulate: Communications
- Labour: Gigpower and the Australian Defence Force

### Personnel Credits

- Travis Hogan – Producer & Production Designer
- Tom Macdonald – Creative Producer
- Anna Toman – Talent Producer
- Simon Johnson – Production Manager & Lighting Designer
- Choreographer – Yvette Lee
- Hayden Vassallo – Assistant Production Manager
- James 'Oysters' Kilpatrick – Audio Director
- Chad Spencer – Lighting Director
- Stephen 'Stig' Moor – Production Crew Manager
- Ann Gibson – Production Coordinator
- Allan Spiegel – Pyro Designer
- Chris Newman – Rolling Stage Manager
- Jeremy Nolan – Stage Manager



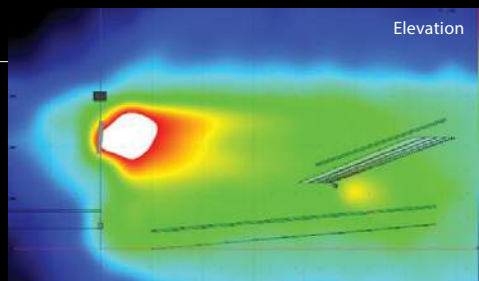
## **EAW** AC6 Adaptive Array

# Coverage where you need it

EAW Adaptive technology is not conventional beam steer - It's a new and more accurate approach. Thirty six Individually processed transducers per module coupled to EAW Technology CSA wave-guide, delivers coherent, full frequency area coverage with a max output of a staggering 143 dB - outstanding for a column system.

### See the future

Predictive and installer programmable computer control software, or easy mobile factory preset. Shape dispersion as you need it.



### Get more from a Column System

- Wide response 65Hz -20Khz for natural sounding voice and music
- Highest output in its class - Max SPL 143 dB
- Functional and easy installation with multiple installation options
- Accessories for permanent or mobile installation
- Custom software controllable or preset functions
- Low profile form factor suit architectural sensitivities
- Weather Resistance rated at IP54, when used with input and output covers.



#### Contact Us

Australia | [sales@pavt.com.au](mailto:sales@pavt.com.au) | +61 3 9264 8000  
New Zealand | [sales@pavt.co.nz](mailto:sales@pavt.co.nz) | +64 21 410 050



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



2023

# NEW ZEALAND FASHION WEEK

*Not your traditional catwalk*

2023 New Zealand Fashion Week saw your conventional catwalk consigned to history. Every designer put on a performance, supported by an array of artists and mediums, set pieces, distinctive lighting, captivating visuals, and an expression of New Zealand fashion's deep ties to Māori culture.

## Moving Parts

In Production Manager Stacey Henderson's words, "There's a lot of moving parts in a fashion show." 2023 New Zealand Fashion Week (NZFW) comprised 36 shows, with the graduate show and new talent runway involving three design institutions and six designers respectively. That totalled 70 designers, most of whom had a clear vision and strong feelings about the concept they wanted to achieve on the runway. Add to that the incredibly tight programme, with a couple of hours tops between shows, and no time at all between the designer showcases in the graduate and 'New Gen' sets. Then factor in the hundreds of people all in very close proximity as 300 volunteers and 100 backstage staff in charge of hair, makeup, and

photography rally around the 200 models, all only separated by drapes. And the final moving part, the recently reopened iconic waterfront Viaduct Events Centre, having been requisitioned for five years as home base for the America's Cup Emirates Team New Zealand, now back under the auspices of Auckland Conventions, Venues and Events.

## Speed Dating Designers

Global Productions Partner's Managing Director Jason Steel and Stacey held 20 minute speed dates with each designer over three days, "Jason was very in the moment focusing on building the framework, whilst I had a huge spreadsheet where I jotted down notes about lighting, choreography, set pieces that would need rigging, and so on. We were very busy,

but it also worked really well. We didn't miss anything."

Jason and Stacey, joined by Creative Director Andrew Naysmith, spent the next two weeks putting together the concepts for each show. Stacey recalls, "At the second production meeting we showed each of the designers the 3D render, any video content that we had created, and talked through the timings, discussing what would be happening at each point. Most of the concepts were signed off, with a few that required big set pieces taking a bit more time. For example, Campbell Luke's show which had a live waiata, culturally significant woollen blankets designed Noa by hanging from the ceiling, and supporting visuals, required that bit of extra production management."

entech

*i whakaitihia,*  
*i whakahonoretia*  
**RETURNING 2024!**

Join us on the road as we visit Auckland,  
Wellington and Christchurch next August

Entech-roadshow.com  
Exhibit@entech-roadshow.com



For more information, please call +61 408 498180 or email [exhibit@entech-roadshow.com](mailto:exhibit@entech-roadshow.com)



Jason describes the key as being flexibility, "Our design was very versatile. With a three-year hiatus due to COVID, it was the first time we had been in a position to go the 'Full Monty' with a completely reconfigurable LED backdrop, so we went big with 60 metres squared. We really wanted to push the boundaries. I included a fully automated lighting rig giving designers a lot of choice and catering for both the six to seven hundred seat theatre and immersive set ups. We used 48 Robe BFMLs and 40 GLP X4Ls. The Robe delivered lovely colours and a real punchy look."

Diversity was also reflected with a focus on accessibility, empowering people who may not usually attend NZFW to get involved. Selected runway shows were live streamed on the NZFW website, allowing fashion enthusiasts worldwide to join in, "We took this into consideration in our design and Showvision managed the livestream. We used Blackmagic cameras to capture the shows across both spaces and provide content for streaming and IMAG."

Other suppliers included NW Group who delivered wrap around audio, lighting, LED, rigging and the 200 metres of drape, and Stage NZ provided the risers. Empire provided the electrical and Theatrical Solutions automation for a stunning installation of pattern pieces hanging in front of graphics on the LED.

### Acknowledging Tikanga Māori

With NZFW partnering with Ngāti Whātua Ōrākei for the 2023 show there was a clear shift from previous years, with ten Māori and Pasifika designers holding standalone shows and Māori designer Kiri Nathan launching the event in a NZFW first. Jason and Stacey were keen to acknowledge this milestone in their production design, "This was a huge emphasis for 2023 NZFW and we took a nod from the Māori designers on how best to portray this. The LEDs could be divided to form columns representing 'pou' that are traditionally used to mark places of significance, and we used the AV and low smoke to add gravitas to the kapa haka and call and response moments. Our audio FOH tech George Breaker worked really hard to find ways of amplifying and uplifting key moments without putting corporate looking lapel mics on the beautiful clothes."

### Credit to the Designers

Stacey was really pleased with how smoothly the complex event went, "The NZFW leadership team were fantastic to work with and we had really strong relationships with all the suppliers. We had a 15 minute meeting every morning where we could give everyone a heads up about any tight changeovers or if we were bringing in large set pieces and needed guests out the way to redo the rigging. The FoH Manager was really on to it and made our job very easy and we worked together with the activations in the foyer to ensure we had no sound bleed."







"There were many very passionate stakeholders, and it was wonderful to see these beautiful and powerful shows come together for them. Absolute credit to the designers for their aptitude for working with different performers and mediums. I guess if I had to choose one show it would be Kiri Nathan's opening. She had a lot of elements and there was a healthy amount of nerves. The show's successful reception will be a very poignant memory for me."

Held over five days at the end of August the show attracted an estimated 17,500 visitors and 14,864 live stream viewers, the majority from NZ, Australia, UK, USA and Singapore. With dates about to be confirmed for next year, Stacey and the team are looking forward to collaborating with New Zealand designers to challenge the definition of a catwalk again.

# Australia's Leading Portable Stages Supplier

*Trusted by more than 1000 customers all over Australia*


**transtage.com.au**

**Contact Us Today**

- ☎ 1300 712 066
- ✉ info@transtage.com.au



*Safe and Robust  
Quick Assembly  
Highest Quality*





# Multitrack-Tasking for Producers

## PART 2

In this second instalment of our exploration of what it takes to be a music producer, we delve into the psychology of how a producer thinks, what roles they might play in the studio, and how they read the room (and make coffee).

In the last issue of CX I penned some thoughts on roles a music producer typically plays in a studio environment; what he or she might do, how they might behave and the tasks they're often expected to perform throughout a production process.

What was hopefully laid bare in the last article is that the role of a music producer is often an ambiguous, sometimes ill-defined one, mainly because no two albums are ever alike, which means the producer's role is always different, in subtle, and sometimes substantial, ways.

Fundamentally, this means that above all else, a producer must be flexible and nimble, often acting like the missing pieces of a jigsaw puzzle, each time providing different shapes to complete the picture. He or she must intuit the role to suit the specific circumstances of every unique artistic endeavour, adding in a healthy dose of sensitivity, imagination and wit along the way. A producer is never a tyrant or an autocrat.

In Part 1 of this conversation, we discussed how to judge whether to get involved in a project in the first place, by building up a list of 'known quantities' to help you make

the decision based on facts rather than guesswork. We touched on costs, and related to that, the scale of the project. We also considered how you might develop a 'vision' for the project, particularly when that notion feels like an impossible task, by starting off with a list of things the album definitely WON'T be.

### Getting Down To It

But now it's time to discuss producing the album itself, not merely laying down the groundwork.

This is a huge topic of course, so forgive me if I gloss over the areas where you'd have preferred more detail – for that I'd need a book. (And if you really want more info on a specific aspect of production, please email me, and perhaps I will respond with another article.)

As a producer myself, my lasting impression of the work I've done over the year is that albums are invariably the sonic accumulation of the personalities involved. By that I mean, the sounds of the records have always, to a large extent, been the result of the musicians I've chosen for a project (as well as the ones that were already bound to it), rather than what mics I've chosen, or which studio I worked in. People, in the end, impart the biggest sonic imprint.

With that in mind, two of the most significant tasks a producer generally performs is determining who will play on an album and what instruments will comprise its sonic palette, depending of course on how much of this is predetermined by the nature of the project: a solo artist with no musical friends or collaborators might bookend one side of the spectrum, a well-established band, the other.

Either way, the choices you make at this juncture have a huge bearing on the outcome: on the vibe of the production, the nature of the performances, the recording methods and techniques, the location, and the overall experience.

And it's this last idea – the experience of making the album – that everyone invariably takes home with them. A good producer knows this all too well, of course, striving always to forge lasting memories for those involved: of unexpected musical epiphanies, unforgettable collaborations, happy accidents, and lifelong friendships. If you're a producer, for your sake as well as others, you must make the production process an enjoyable one, and the reason for this is simple. It's not the final product that artists, producers and engineers are rewarded with at the end of a project, but rather the memories of being there when the album was made. And strangely enough, when things go really well, sometimes the finished album can feel oddly nostalgic and emotional, reminding you of the time when you all hung out in the studio together; a time that rarely, if ever, repeats. Sadly, sometimes this makes the finished album difficult to listen to, which is an odd, but not uncommon, outcome. In that situation, the album is clearly for the listener, not the musicians who made it.

Every album is different in this regard too. Some albums are done in isolation, with no other human participation, while others might involve a producer, a single artist, and a bunch of instruments, software, loops, samples, and hardware. This is a common approach nowadays. Other albums might require two or three other musicians, sometimes more,



perhaps up to 10 or even 20. Others still might involve a tight-knit band and its entourage, all of whom need to be catered for in different emotional and physical ways. Other albums are done on location in a place unfamiliar to everyone, even the producer, while others still are done in the producer's own space, which is how I mostly roll these days.

There are countless other variations on this theme too: albums that are made over a 30-year timespan, songs pulled together from scraps of previous recordings and then augmented and rearranged to get them over the line, and even live-to-two-track recordings where a musician records in a room with no bells or whistles, printing straight to a dodgy tape machine that may or may not be dropping out mid-performance! Everyone has their own way of doing things, and their own interpretation on what's cool or constructive. But regardless of which way an album is recorded, the producer needs to be knowledgeable of, and confident in, the hardware and software being used to construct it. Failing that, they need to work with an audio engineer who is.

## Getting Results

Although every project is different, there's at least one thing that's common to almost every musical endeavour where a producer is involved: at the end of the process a finished product is released to the public.

As the producer of any record, it's your job to get the album over the line in its best possible form, steering the project through the inevitable rough patches, acting as a guide if people become lost in the process, inspiring and motivating others if the music stagnates, all while leaving space in your head to imagine the next few steps along the path to the finish line.

Sometimes this involves late-night emails to someone you'd like to have play on a song the next day or stepping up to the mic when everyone's gone home to sing a backing vocal. On other occasions it might involve getting the grand piano tuned, or introducing a new instrument out of left field that might inspire new thinking in others, or a new vibe. You might be the one calling it quits at 7pm, insisting that everyone goes out for a nice sushi dinner, or you might just make coffee for everyone mid-session, kick back in the control room and talk about something else other than the task at hand. A producer needs to be sensitive to the energy levels of others and have the empathy and wit to recognise when

it's time to push someone to capture that great take or stop for a break.

The other thing a producer should be mindful of, especially over the course of a career, is remaining inspired by, and motivated by, music. You have to keep filling yourself up with inspiration in this game: with ideas, new discoveries, and the desire to make music. If you don't, eventually the cracks will show. The best producers are always the ones who seek nourishment from the music itself.

This doesn't mean one must keep up with everything that's happening worldwide in the music 'scene' or develop an encyclopaedic knowledge of every musical release over the past eight decades – that's impossible. But neither does it mean shutting off from the world of new releases (or even old ones) and sticking with old music that you've listened to over and over for decades. There's so much amazing music in the world; there are always hundreds of albums out there that can nourish your musical mind, if only you can clear some headspace for them.

So don't stop listening to music. If you do, you'll eventually become a musical cliché, and from there a caricature of your own self.

## Strengths & Weaknesses

A great producer is also someone who knows his or her own strengths and weaknesses – technical, musical, or social – a person who never lets their ego get in the way of the best musical solution for the project.

Humility is the key here. If you're awesome at song writing, arranging music, and performing a bunch of instruments yourself, that's awesome – you're no doubt a great asset in the studio. But if this skillset is inseparable from your burgeoning case of undiagnosed narcissism, which always sees you offering yourself up for recording duties while more capable musicians around you sit quietly in the corner, then you're failing in your job. Don't be that person if you can avoid it. The personalities around you in the room make the album – so let them!

As the producer, you're supposed to be the one with the wider view of the project, remember; the one with an acute sensitivity to the vibe in the room and the mood of those around you. Sometimes recording an overdub yourself is the most effective way to get an idea down quickly. I get that. You'll probably save yourself time if you do, or at least the need for a long-winded explanation. Just be aware,

however, that over time, there's a danger that this approach becomes habit forming, wasteful of the musicians around you, and occasionally downright insensitive. Trust the musicians in your midst. They have insights too.

## A Mixer's Bootlace, Perhaps?

And are you the best person to mix the project? Maybe you're a great producer, but that doesn't necessarily mean you're a mix engineer's bootlace. If you're a great producer, but an average mix engineer, maybe you should consider getting someone you know who's fantastic in that specific role, to mix the album for you? If you don't, won't the album you've just put all that hard work into lack that final polish it so richly deserves? Surely, as the producer, you can see that. And if you choose to do it yourself, despite your own technical limitations, who benefits from that decision?

No-one.

The last thing to be mindful of as the producer of any record is simply this: whose name will be on the front cover when the album comes out? If it's not yours, then whose? For that person specifically, you need to be striving towards making a great record throughout the project – your name will be on the back, and almost no-one reads the credits! The artist needs you to produce an album for them that they can be proud of, take ownership of, and feel excited about when they head out the door to promote it.



Andy Stewart

Andy Stewart owns and operates The Mill in the hills of South Gippsland. He's happy to respond to any pleas for production, recording, mixing or mastering help... contact him at: [andy@themill.net.au](mailto:andy@themill.net.au)



# MANIFESTO

Stephanie Lake Company's 'Manifesto' features nine virtuosic contemporary dancers set to a dynamic, pulsing, percussive score, performed live by nine drummers. The show has toured Australia's major arts festivals since 2022 and following a sold-out season at the Ruhr Festival, Germany, it returned to Arts Centre Melbourne in late October 2023.

Having heard about the development of Manifesto in April 2021, I approached composer Robin Fox about working on the show. Robin and I have a long work history together in various music ensembles and making records together. I have also previously worked with choreographer Stephanie Lake, back when she was dancing with Chunky Move.

Robin's score doesn't include what you'd associate as traditional harmonic or melodic instruments. The live percussive soundtrack performed by nine drummers (all playing identical drum kits) manages to seamlessly weave its way through a multitude of sonic textures, mirroring the transformation and evolution of the choreography. It's a captivating 60 minutes.

Robin explains: "Given that percussion is so broad that it can literally encompass any sound, I decided to limit the resources to identical standard drum kits. The one exception is the cymbals. I wanted to create harmonically complex textural washes so each drummer brings their signature in that regard. The real challenge then, was making an hour-long score with these sonic limitations in place. To me composition is about the concertina of energy over time, and I feel like I approached some sections quite electronically, focussing

on the drone-like potential to counterbalance the more obvious rhythmic impulsion."

The nine silver Premier drum kits are positioned on individual tiered staging that curves around behind the dancers. Set Designer Charles Davis has created a lavish pink playground that wraps around the stage, it is both impressive without being overwhelming. The set's mass of pink colour contrasts the dancer's unique white costumes by designer Paula Levis. Drummers, seated behind, wear characteristic black.

Lighting design is by Bosco Shaw from Additive Lighting, who worked with lighting operator Rachel Lee developing the show. The lighting design comprises 118 fixtures including ETC Source4, Selecon Pacific Zoom Spots and Martin MAC Viper Performance moving lights. Bosco took an open approach as the set's massive pink drapery "came with some real challenges when trying to balance the light between the dancers and the drummers. Our solution uses some custom LED strip drum footlights, MH6s from above and some tightly focussed front light, which we had to add during tech week. The movers in the rig allow us to really focus in on some key choreographic moments, then open out to the entire stage for the bigger moments". There are also sections of the

show with sound activated lighting cues; these cues respond to the music's dynamics by employing VDMX software to convert analogue audio signals to DMX.

Rachel Lee operates the lighting cues using QLab software. QLab controls the ETC Eos Gio lighting console via OSC (Open Sound Control). QLab also sends cues to the audio console, triggering a total of 14 snapshots via MIDI. These snapshots are used to transition the DiGiCo SD12 audio console from one musical section to the next. QLab also plays back the click track and spoken cues to keep the drummers playing in time. 10 individual output sends are sent to the In Ear Monitor (IEMs) console over Dante or UB Madi - depending on what is available. A venue technician will operate the monitor console. Monitor consoles are venue dependant, usually a DiGiCo or Yamaha console, with their own digital stage boxes and analogue splitter if needed. I mix the show positioned in the venue with the audience and prefer the SD12 for operation as it has two screens and a dedicated master fader.

The mix is in stereo and any additional centre or stage speaker fills are added, subject to the venue's needs. Subwoofers are often supplemented to an existing system to add low frequency impact. We try to specify a larger



Photo Credit: Roy VanDerVegt

quick turnarounds for this show, a good system technician is invaluable to sort any PA issues you might be hearing.

The imposing staging used in Australia is purpose built for the show, and embraced by a custom curved curtain rack from which hangs the opulent pink curtains. When touring internationally, standard staging and curtain rails are used to reduce freight costs and install times. The lowest stepped stages are 1200mm, up to a height of 2400mm, which makes for very high drum risers indeed. Upon the staging

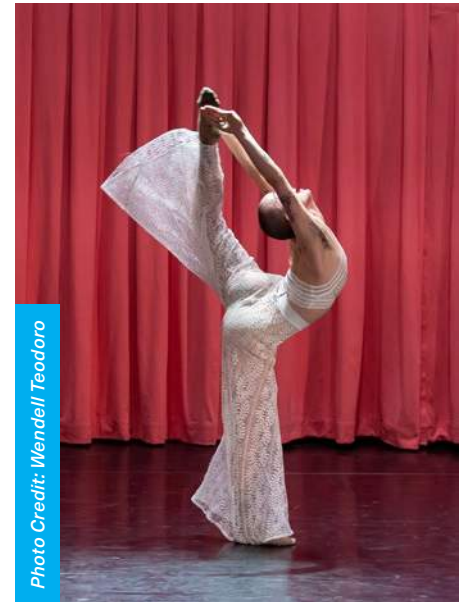


Photo Credit: Mendell Teodoro

sound system, but budget doesn't always allow it. We have used different point source and line array sound systems including JBL Vertec, L-Acoustics KARA and Meyer Sound Panther. Fundamentally we want to have control of the show's dynamics and ensure

clarity and uniformity across the venue. I would rate the sound system rig choice, positioning and timing as the most important component, above mics and console choice. I spend more time adjusting venue PAs in operation than I do worrying about mics and reverbs. With

# ACME<sup>®</sup>

## PERFORM IN THE BEST LIGHT

WITH WORLD CLASS TECHNOLOGY



AECO Series



PULSAR S2



AURORA



COOLIE Series



FLANDINA 18



CONTACT US FOR A DEMO | AUS 1300 852 476 | NZ 09 218 6532 | [info@ulagroup.com](mailto:info@ulagroup.com) | [ulagroup.com](http://ulagroup.com)

are nine identical silver Premier drum kits, all tuned to similar pitch. Drummers provide their own cymbals and sticks and remain seated throughout the performance.

If you choose any nine drummers they will likely all tune their drums differently. Kits will also go out of tune in different ways for a multitude of reasons, therefore we use a professional drum tuner at the start of every season. I also check before every show all the drum kit tunings and will talk to drummers about their kit sound if we need to make adjustments. We have come to use a lot of dampening on the skins as any drum resonances are noticeable when close miked, and this effect is worsened when multiplied across the nine kits. Moon gels, rings, tape and other improvised approaches (have you tried cotton wool balls in your floor tom?) are used to try and tame any lingering harmonics which has led to very dead sounding drum kits, which is not something I would have expected, but in this music context the slow decay of drum resonances has proven to be unwanted.

The music score is varied. It moves from loud drum solos to soft harmonic overtones agitated by sticks rubbing on the floor toms. A drummer might be playing the kit loudly with drumsticks and then move to softly rubbing their hands on the skins. These dynamic changes make the show hard to mix. Typically,

an amplified drum kit has between two and 10 microphones dedicated to it, but for this show it wasn't clear initially what microphones might be useful or appropriate. We settled on four or five microphones for each drum kit, with the main sound source being a mix of the overhead and kick. Nevertheless, there are 40 drum microphone inputs in total.

Because we require large multiples of each microphone, I have chosen popular models to avoid venues being unable to supply them. We use Shure SM81s for overheads and hi hats. Sennheiser e604 (or e904) for the snare and floor tom. Shure Beta52As for the kick drums. The sound of nine drum kits playing loudly sounds big, period, but having the close miked drums helps to reinforce the compositional elements in quieter sections.

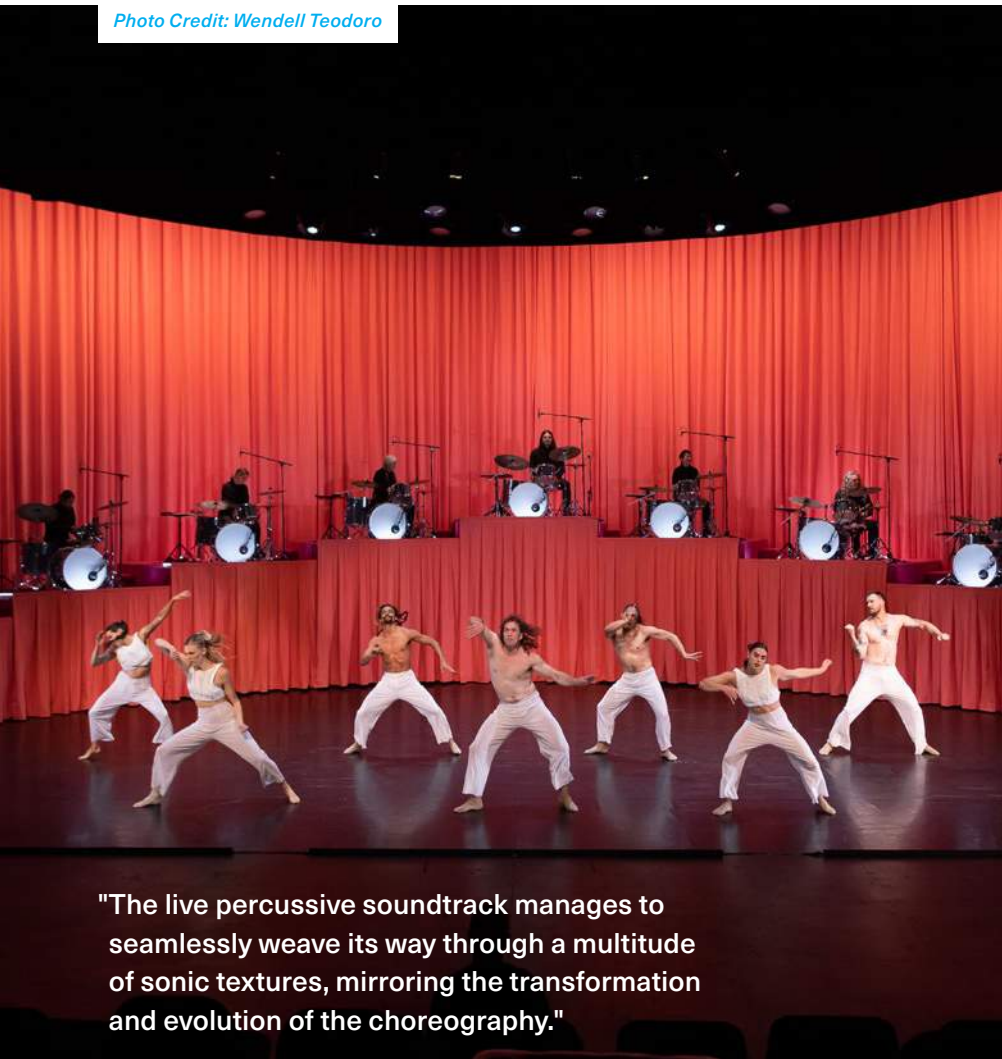
SPL (Sound Pressure Level) gets special mention here as it seems like the default worry for every venue and patron. Mention nine drum kits playing simultaneously and there is an expectation that everything is ear bleedingly loud all the time, but with drummers perched upon carpeted staging surrounded by heavy pink drapes in a large venue, and a dynamic music score, means the acoustic show isn't continuously loud, and this grants greater control over how loud the show is mixed through the sound system. It also ensures the audience's sound exposure levels are safe,

with the amplified show usually metering at a continuous sound level (LAeq) of 82dB(A).

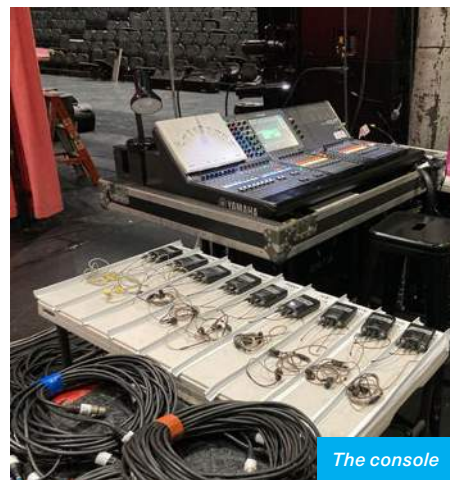
The show audio is mixed using Control Groups (CG) as this allows, for example, all the snares to be varied as a group. This is the same approach you might take to mix music theatre. It also allows the drum input channels to be spilled out together, such as all the kick drums, for EQ or compression duties. All drums pass through two parallel group channels (one uncompressed, the other heavily compressed) before exiting via the master buss. A master multiband compressor is set usually to the sound systems crossover frequencies, for tonal and dynamic control, before passing through a low ratio compressor with a long release time. I use the standard DiGiCo dynamics, EQs and effects. I would also say that the music mix works best with less compression applied. Drum parts are always exposed (unlike a regular band which has other instruments accompanying) so it's easy to hear dynamics working and they can be mostly unnecessary if you have the balance set and a drummer's performance is consistent.

Robin was clear he didn't want to apply a lot of time-based effects (reverb, delay) in the show. The effects we do use are standard music mix choices, one plate, one hall reverb, and a ping-pong delay. The use of effects is subtle, and the percentage applied depends on the venue.

Photo Credit: Wendell Teodoro



"The live percussive soundtrack manages to seamlessly weave its way through a multitude of sonic textures, mirroring the transformation and evolution of the choreography."



The console



The kits

SOME JOBS REQUIRE A **BIG** LINE ARRAY.  
FOR EVERYTHING ELSE, **THERE IS**  
**MAILA<sup>®</sup>**



**MAILA<sup>®</sup>**

**MODULAR ALL-ROUND INTELLIGENT LINE ARRAY**

EXCLUSIVELY  
DISTRIBUTED BY



SCAN HERE  
TO FIND OUT MORE





Photo Credit: Sam Roberts

Most Australian playhouse theatres have questionable acoustics; you'll find a cavernous concrete space above the stage and audience, and a loud slap back from stage sound hitting the rear wall. Manifesto's pink drapes help improve these lack lustre acoustics by limiting the amount of sound reflecting around the venue.

I mix off the main stereo buss and then matrix to the venue's different speaker zones. Usually I am an advocate of live mixing music in mono as a way to try and ensure the mix is heard evenly across the venue. For Manifesto each of the nine drum kits are panned left to right as you see them on stage to help locate the sound source to their physical position. Phase, comb filtering, smearing, call it what you will, they are all an issue with so many sound sources and microphones on stage. I delay channels to compensate for phase issues, due to the varied drum positions across the stage and their interaction with the front of house sound system, using Smaart or Open Sound Meter. It's usually much easier to do this with only one drum kit!

With any sound mixing, you have to make sense of the music to achieve a musical balance of sonic elements, and in this show, with an ensemble of nine drum kits it's arguably of more importance than usual. At times, Manifesto's dance and music are a familiar pulsing, repetitive, union of precision, and at other times there is fractured chaos. To mix this show you need to make sense of these extremes and interpret them to bring balance and continuity to the performance. Above all the technical considerations, the skill of listening and acting upon your sense of what makes the music cohesive is probably the most important skill you can apply.



Photo Credit: Wendell Teodoro



Photo Credit: Wendell Teodoro

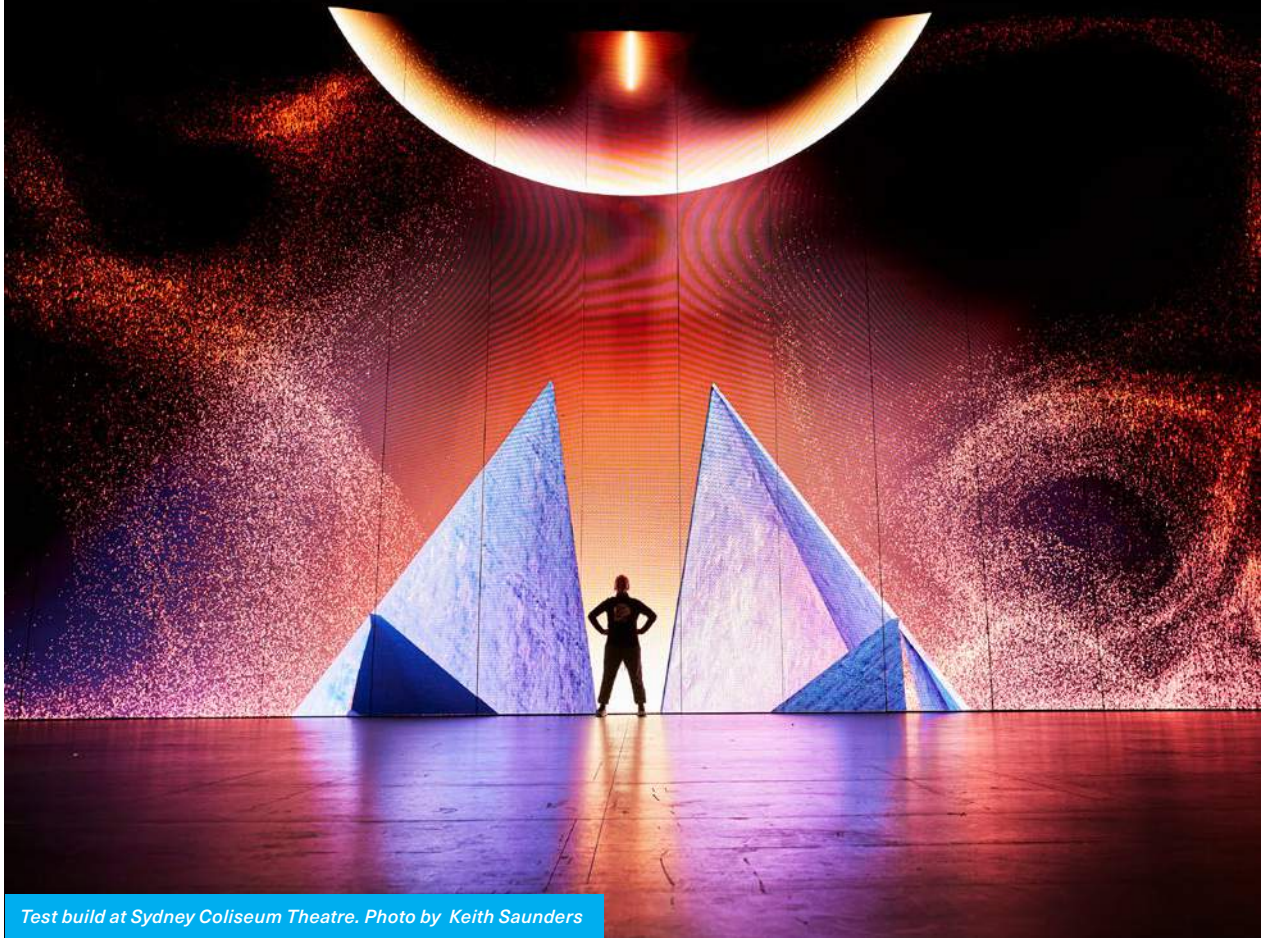


Photo Credit: Mark Gambino



# WAGNER'S

# RING CYCLE



Test build at Sydney Coliseum Theatre. Photo by Keith Saunders

## Opera Australia's Blockbuster Digital Production

**"One supreme fact which I have discovered is that it is not willpower, but fantasy and imagination that creates. Imagination is the creative force. Imagination creates reality." – Richard Wagner**

Opera Australia's the Ring Cycle (Der Ring des Nibelungen), is set to hit the stage of Brisbane's QPAC Theatre in December of this year. Richard Wagner's 1874 mammoth opera creation - an epic 15-hour musical journey told across four operas - will be experienced with the incorporation of cutting-edge custom-designed digital images delivered to over 300 square metres of LED screen.

The Ring Cycle's compelling historical themes and characters move together with futuristic, abstract elements through entire worlds

created using digital content. The physical prop pieces even leap to life through digital interaction. The crossover and interaction between physical and virtual reality gives a level of depth to the performance never before experienced by the Ring Cycle audiences.

"Creative possibilities opened up for me," Director and Production Designer, Chen Shi-Zheng explains. "With the use of new forms of tracking and interactive LED elements, telling a story with moving images makes it come to life. It's not just a still picture, it makes it look more like a live film, which changes everything."

Chen brings an impressive portfolio to OA. He has used video elements in productions for over 20 years and can appreciate it as a tool for creating emotive content. He is also no stranger to grand scale works - most notably, directing Tang Xianzu's The Peony Pavilion for the Lincoln Centre Festival in 1999. The Peony Pavilion boasts 20 hours of music through 55 scenes with 200 characters (including

animals). Certainly not a project for the faint-hearted. Making Chen an ideal candidate to direct the Ring Cycle - the stamina, creative vision and in-depth understanding of how historical significance and themes can be enhanced by technology to "...create emotional content, which helps the music tremendously."

Perhaps one of the most notable and symbolic creative influences Chen brings to this stage is the incorporation of a 7m tall replica of a 2000-year-old Chinese Bonsai tree. Its blossoms are produced with projected images as well as actual petals, which marry the two techniques beautifully with the essence of magic and movement. Chen's Bonsai tree not only brings an Eastern influence to an European opera, but it also holds symbolic meaning. "Wotan's story starts with a tree...it is life, continuing, resurrection, reincarnation, it becomes powerful... it's a strange creature, people always put a Bonsai in the window and appreciate its beauty. It's other-worldly".

## What would Wagner think?

“Wagner would appreciate us pushing the boundaries...he would’ve been the first one jumping out there to write the new software needed to make this creative vision happen.”

Leigh Sachwitz, flora&faunavisions – Digital Content Designer, couldn’t be more on the money. Leigh has been working on this epic production with her team from flora&faunavisions, based in Berlin. They are considered to be one of the leading studios in the world for such work.

The German composer was well-versed in making innovative ideas happen. As if a 15-hour musical drama marathon wasn’t already pushing the envelope, Wagner commissioned the production of new musical instruments for this work to achieve the tone qualities he couldn’t quite produce with conventional orchestral instruments. The creation of the

purpose-built Wagner tuba, bass trumpet and contrabass trombone was, essentially, Wagner writing the “software” needed at the time to make the “show happen”.

Designing the original digital content for a combined 24 LED screens (14 tonnes of 834 individual LED panels) moving, tracking, twisting and flying across the stage is as gargantuan a task as the opera itself. There’s also the lighting, the automations and interactions. “It’s a lot of content, a lot of cues and a lot of integration to get through,” Technical Director, Chris Yates remarks at the OA test build.

CX caught up with some of the creative minds at the Sydney Coliseum Theatre - West HQ, site of the Ring Cycle’s test build. This particular venue was chosen for the test build as it’s one of few venues in the country with a footprint and facilities similar to that of Brisbane’s QPAC theatre.

## So, where do you start?

“It really depends on your DNA and your ethos as a designer. It’s like a painter with a blank canvas – you start with one stroke, then another and another...the most difficult part as an artist is knowing when to stop. To know when you’re finished is the hardest part.” Where there’s an opportunity to create something with no rules, no basis for comparison, no limitations (except for maybe budget, Sachwitz half-jokingly points out), an artist is truly in their element.

Knowing what moments to bring out and when is as crucial as understanding the negative space when it comes to vast visual display. “It’s not about what you see, it’s about what you don’t see. That’s very, very important”, advises Sachwitz, “When considering black space, you have to know how to cut the image, where it’s coming from, how big it is, whether it’s going out to full frame and all those things.”

Head of Lighting, Jason Morphett shares his approach: “It’s more manageable to treat this as four shows, but you have to be aware of the overarching principles that cover all four shows of the production. Then you can dial down to the specific needs and systems for each of the four shows, keeping in mind what is ‘global’ and what is ‘specific’. The global forms, the outlines, and the specifics form the details.”

## Tools of the trade

Keeping across the right tools and the best piece of software for every application and how it will interact with the equipment is about as big a challenge as the content design and creation itself. The technology available in 2020, when the project first grew legs, is not immune to the ever-evolving tech landscape,



Photo by Keith Saunders



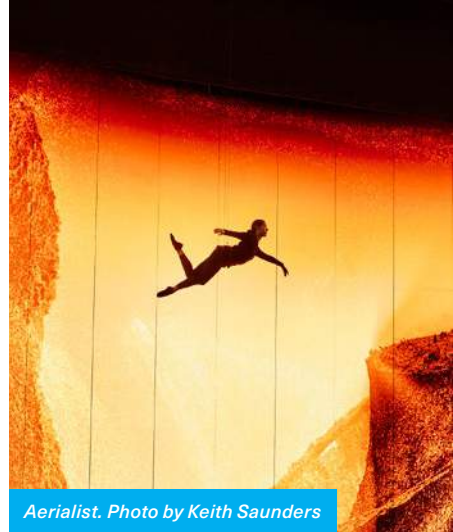
Photo by Keith Saunders



Jason Morphet



Leigh Sachwitz



Aerialist. Photo by Keith Saunders



Aerialists and Notch processing. Photo by Keith Saunders

which continued to open up more options. Negotiating two cancellations across three years due to the COVID pandemic was not only posing a threat to the viability of the project, but the production was continuing to evolve along the way.

When staging in 2023 finally became a reality for the Ring Cycle, real-time 3D creation tools originally implemented in gaming were now available for other digital design applications, versions of critical design programs received

significant upgrades. For example, text-to-image diffusion models, Midjourney and Stable Diffusion, are employed by the digital design team – and it wasn't until June 2023 that Midjourney gained the ability to zoom out images. Subtle, yet useful changes which can now be utilised.

The images will be cast across an impressive 152sqm of Uniview Tekken 3 LED screen (3.9mm pixel pitch). Media server system disguise gx 2c runs the onstage automation

screens and takes the heavy Notch load on the outputs. Notch is a real-time graphics tool for 3D and VFX used in this context for digital interaction of aerialist performers to connect the physical movement of the actors to the visual effects on the screen. In essence, the interaction accentuates and exaggerates the movement of the artists by affecting the visuals on the LED screen. It's a complex process, requiring three pre-programmed tracks to get all the sequences correct with the performer flying elements. The tracking is done using PSN (PosiStageNet positioning and lighting system) information "...which effectively gives coordinate information for where the pick ups on the aerialists are. Wherever those hooks are, that's the info being spat out of the Raynok Imperium Automation Console back to the D3 processor, using that to have the D3 manipulate a trail image on the screens in real time with the dancers," explains Morphet.

The "fire dancers", also digitally interactive, are tracked using a Blacktrax vision based tracking system. Eight dancers utilise tracking "beacons" during the Fire Dance to trail fire and smoke along the screens in real-time with the dancers. This information also conveniently translates to the follow spot.

# When you are looking for Venue Engineering, you have a choice . . .



Sales Hire Service | Venue Engineering | Installed Systems | Event Communications

venueengineering@papeople.com.au / papeople.com.au

The tracking system, in total, employs a full size Blacktrax server, 25 beacons, 16 IR cameras, three Luminex nodes and one Luminex merge node to track the Uniview Tekken screens and the interactive performers.

Blacktrax is supplemented by Canadian company, CAST Software.

In addition to the above 152 square metres of screen, there's the additional 162sqm US cyclorama comprised of ROE CB5 T4 frames (5.77mm pixel pitch) built in columns of 10.8sqm individual screens to allow for the guillotine mechanism, all run on a Kinesys motion control system for the vertical flying (up and down) and the Raynok for tracking and rotating. A disguise DX4 media server system outputs to the Cyc.

All LED utilises Brompton processing: four Tessera SX40s and ten XD data distribution units, running 10-bit+ extended bit depth and Dark Magic.

The additional single Tekken panel - 1.0m x 0.5m, for the onstage Ice Palace - has its own battery-powered (DC inverter) Tessera S4 processor and H.264 wireless signal via a Unifi AirFibre system.

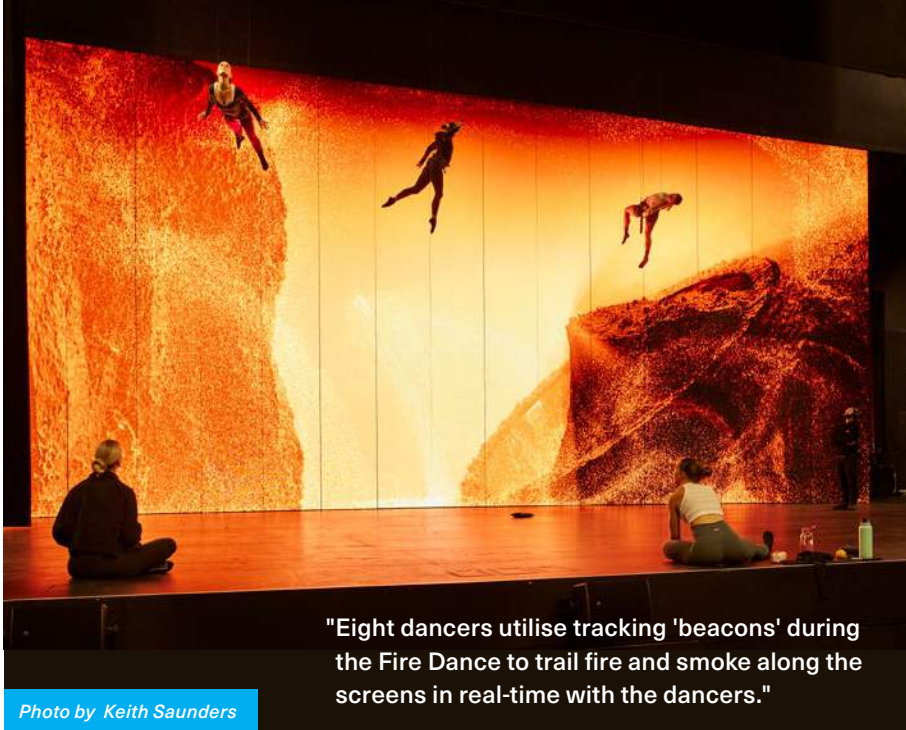
Incoming data is tracked by the disguise media server system and an additional disguise VX4 and disguise gx 2c serve as backup.

The AV system is supplied by Big Picture (an NEP Live Events Company). The Notch programming is programmed and designed by flora&faunavisions.

Alongside the visual indulgence of endless LED screen and 'animated' real-life actors, are the carefully selected and designed prop pieces, such as that of the aforementioned Bonsai tree, which digitally integrate into their respective scenes, pronouncing their symbolism within the storyline. The tree, a rock of significance, fire dragon, to mention a few, all spring to life with the use of projection mapping. Main and backup Barco UDX 4k32 cinematic projectors mount on the dress circle to cover the proscenium and these onstage purpose-built set pieces. The disguise VX4 also operates as server system for the projection elements.

If digging deep into this production prior to its debut hasn't already been a spoiler, consider this your alert. The second opera in the Ring Cycle, Die Walküre, is perhaps the most recognisable. Know it or not, you would have heard its triumphant Ride of the Valkyries theme somewhere before – be it on an ad, in a movie, or just playing through your head as you enter a room poised as superhero or super villain. It only seems fitting that the scene incorporates the eight Valkyrie Warriors actually flying in on a huge, metallic Phoenix.

Eight people flying on a prop piece. This certainly expands the workplace health and safety criteria. Which is why OA has outsourced the job to industry professionals in the automation, robotics and lighting



"Eight dancers utilise tracking 'beacons' during the Fire Dance to trail fire and smoke along the screens in real-time with the dancers."

Photo by Keith Saunders



Costume designer Anita Yavich, Leigh Sachwitz, and Chen Shi-Zheng. Photo by Rhiannon Hopley



Ride of the Valkyries on the Phoenix at the test build. Photo by Keith Saunders

application industry, Simple Motion. "The Phoenix is run by Simple Motion with a bespoke controller system. Due to eight people flying on it, it had to be a bespoke company that understands this side of the game. They came with their own winches and motors due to the rules and regulations of flying eight people," comments Morphett on the custom solution required for this piece.

Morphett's rational approach towards tackling the lighting for this size and length of production forms the basis of the plan: "All four shows are individual stacks within the same show file. We can use presets from one show in all the shows (global presets) alongside the show-specific presets." Logical, yet still an enormous logistics exercise for the lighting team.

A traditional lighting rig (around 150 LED movers, according to Morphett), not surprisingly won't cut it for this production. With so many screen elements constantly changing position, the Ring Cycle's Lighting Designer, Matt Marshall must exercise enormous flexibility in the design and management of the rig. The challenge posed by the shifting landscape is met with the addition of side lighting and floor lighting, bringing this rig up to nearly 170.

This includes 80 MAC Encore Performance CLDs (the workhorse of the productions), 10 MAC Encore Performance WRMs, 40 MAC Encore Wash CLDs, 10 Aryton Diablo S Profile and 24 Robert Juliat Dalis 860 Cyclights. Nearly two thirds of the lighting is OA inhouse, with the additional provided by Chameleon Touring Systems.

Controlling all this is an ETC Gio lighting console, triggering the D3 processor and all the AV cues. The D3 is then processing and sending out the information. The console is also triggering and operating the Blacktrax tracking system (Blacktrax Information is taken from the Raynok controller and the Kinesys motor system and passed into either the lighting desk or the D3 to be used as positional information for the video).

Also in use is an ETC 5, multiple RC4 wireless dimmers and transmitters and WDMX wireless dimmers and transmitters. MDG Atmos hazer, ZR44 smoke machine, two Glaciator low-smoke generators and two mini fogger small-battery smoke guns are implemented for atmosphere.

The lighting rig is substantial, much like everything else about production, but its purpose serves not as a light show spectacle, but to carefully add enhancement to what's already displaying. It's infilling, adding texture and working in conjunction with the other visual elements of the production – essentially following the same "less-is-more" philosophy guiding Sachwitz and her design team to achieve a powerful yet smoothly integrated visual display.

### The final act

"You have to look at the stage as an audience member. The biggest success is if everything looks and flows like one vision. If you can achieve the digital imagery, costume, lighting, music, singing, action and interaction all as one experience, it's a success on both a technical and visual level," concludes Sachwitz.

Wagner wouldn't only be appreciative; he would be thrilled. "Gesamtkunstwerk", which literally translates to "Total Artwork", is essentially all the elements of a performance integrating and being experienced together as one. Wagner propagated this ideal, and intentional or not, it seems as though he is being channelled by the OA creative team.

It's safe to say OA will be serving audiences of 2023 the same level of "wow" factor Wagner did way back in 1874. Only, instead of by side-stepping conventional European opera format and introducing new instrumentation, it will be through larger-than-life props, dancing through dazzling graphics in a mixed-reality universe. As Director and Production Designer, Chen Shi-Zheng sums it up, it's "tribal culture marrying the sci-fi world to create a new vehicle for the Ring."

## WE HAVE YOUR EVENT BACKDROP SOLUTIONS



OUR BRANDS:



## Broadway's First L-ISA Immersive Design

# HERE LIES LOVE



Arielle Jacobs (Imelda Marcos) and Jose Llana (Ferdinand Marcos)

Ten years after its debut at The Public Theater's LuEsther Hall off-Broadway in New York City, *Here Lies Love* has returned to the Big Apple with numerous 'firsts'.

Following subsequent runs in London and Seattle, the hit musical created by Talking Heads founder David Byrne with music from Byrne and Norman Cook, aka Fatboy Slim, is now enjoying its Broadway debut at Manhattan's historic Broadway Theatre. It's also distinguished as the first Broadway production to feature an all-Filipino cast who dramatise Imelda Marcos' rise to prominence and downfall in the Philippines. But the latest iteration of *Here Lies Love* is also breaking new ground technology-wise in that it's the first Broadway event to feature L-ISA immersive technology, which is used to deliver highly engaging spatialised sound to audiences in multiple areas via more than 220 L-Acoustics

loudspeakers, supplied by L-Acoustics Certified Partner PRG.

For the production, Scenic Designer David Korins gave the Broadway Theatre's classic layout a major transformation, converting the venue's traditional proscenium floor space into a dance club environment by first removing all of the orchestra seats. There, standing audience members can enjoy moving with the performers, acting as an integral part of the story. For those preferring to sit, there are multiple options: two 90-foot-long rows of elevated gallery seats flanking and overlooking the left and right sides of the dance floor; a large mezzanine; and an exclusive Club Lounge section located just under the front

mezzanine. Suffice to say, such a unique theatrical space and wide variety of audience geometries required a complex sound design.

"*Here Lies Love* is a unique show in which the audience blends with the performers; it can be experienced from the dance floor, from seats around the dance floor, or seated in a traditional setting," says Sound Designer Cody Spencer, who co-designed the show with M.L. Dogg.

"We chose L-ISA immersive sound so we could provide the same enveloping immersive experience no matter where the audience is. We actually have six different zones that we are controlling with two L-ISA Processors, which

# Communicate.

- + GOVERNMENT
- + RENTAL AND EVENTS
- + COURTROOMS

# Manage.

- + CITY COUNCILS
- + PARLIAMENTS
- + EDUCATION

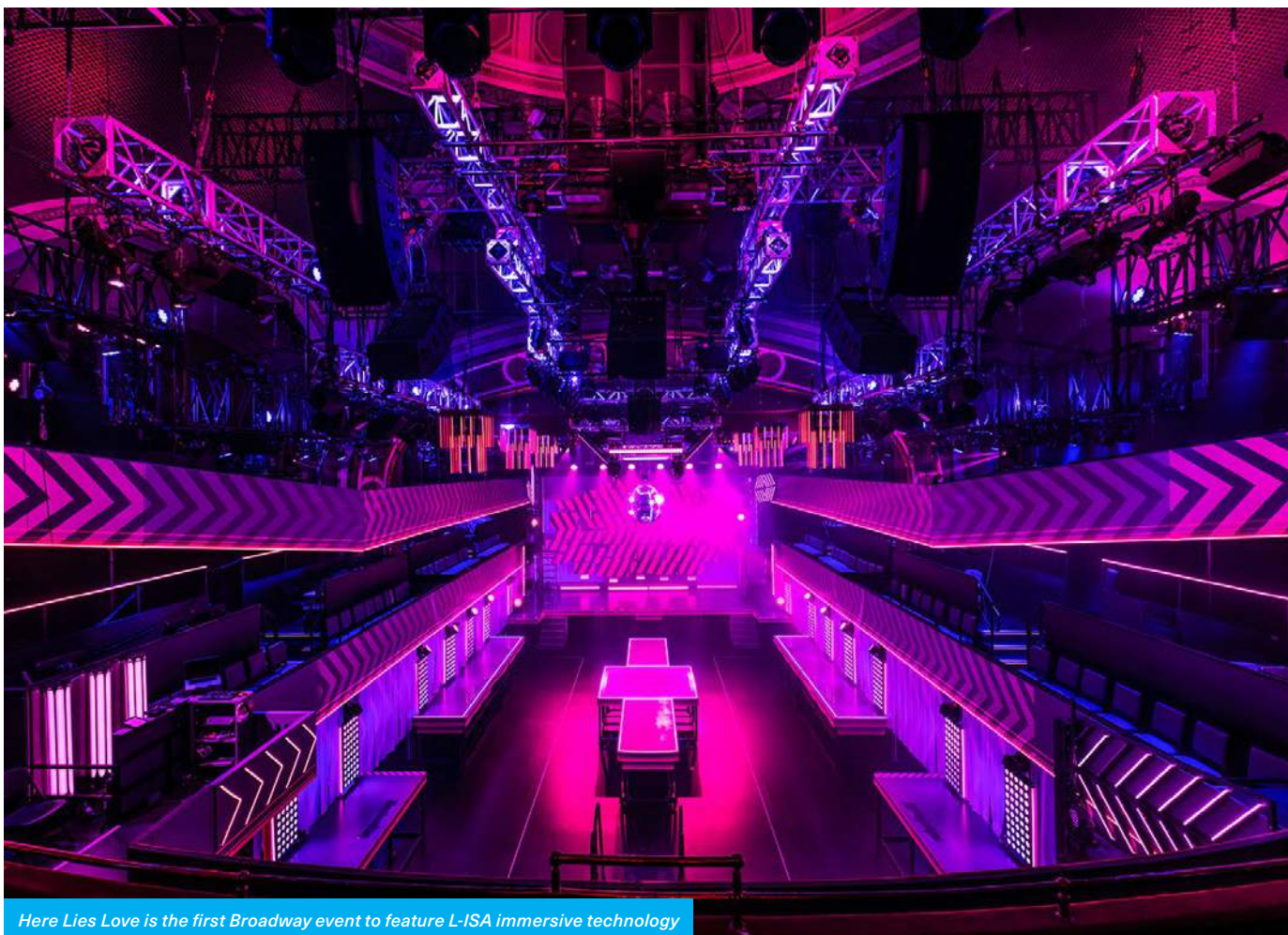
# Engage.

- + INTERNATIONAL INSTITUTIONS
- + CORPORATE
- + GUIDED TOURS



### Contact Us

Australia | [sales@pavt.com.au](mailto:sales@pavt.com.au) | +61 3 9264 8000  
New Zealand | [sales@pavt.co.nz](mailto:sales@pavt.co.nz) | +64 21 410 050



Here Lies Love is the first Broadway event to feature L-ISA immersive technology

we're running in tandem. We have an L-ISA Processor doing the dance floor's 360-degree sound, and then we have another one for the frontal system, which is the voices in the front with surrounds and stuff all around. Where L-ISA came in really handy here is to give people up in the mezzanines the experience of sound going around them and not just in front of them, because with most theatrical experiences, the sound is only in front of you."

The Broadway Theatre's current L-ISA installation boasts over 220 speakers in a full surround configuration to bring all of the drama and excitement of the poignant story to each audience member. The fully immersive dance floor area is covered by 14 L-Acoustics A Series arrays: three hangs of one A15 Focus over two A15 Wide are flown above the two short ends of the rectangular floor space, while four hangs of two A10 Wide line each of the long sides of the floor. Runway fill is supplied by two centrally flown arrays of A10 Wide, with a pair of X8 providing additional fill when the axis of the runway is rotated 90 degrees. A ring of 16 compact 5XT dot the perimeter of the actor walkways surrounding the dancefloor to provide additional localised fill.

In the traditional theatre audience seating area upstairs, three more A Series arrays, each comprised of four A15 or A1, hang over the first mezzanine in an LCR arrangement while three arrays of seven Kara II cover the larger rear mezzanine. A variety of X12, X8, and



Conrad Ricamora (left), Arielle Jacobs (right), and the cast



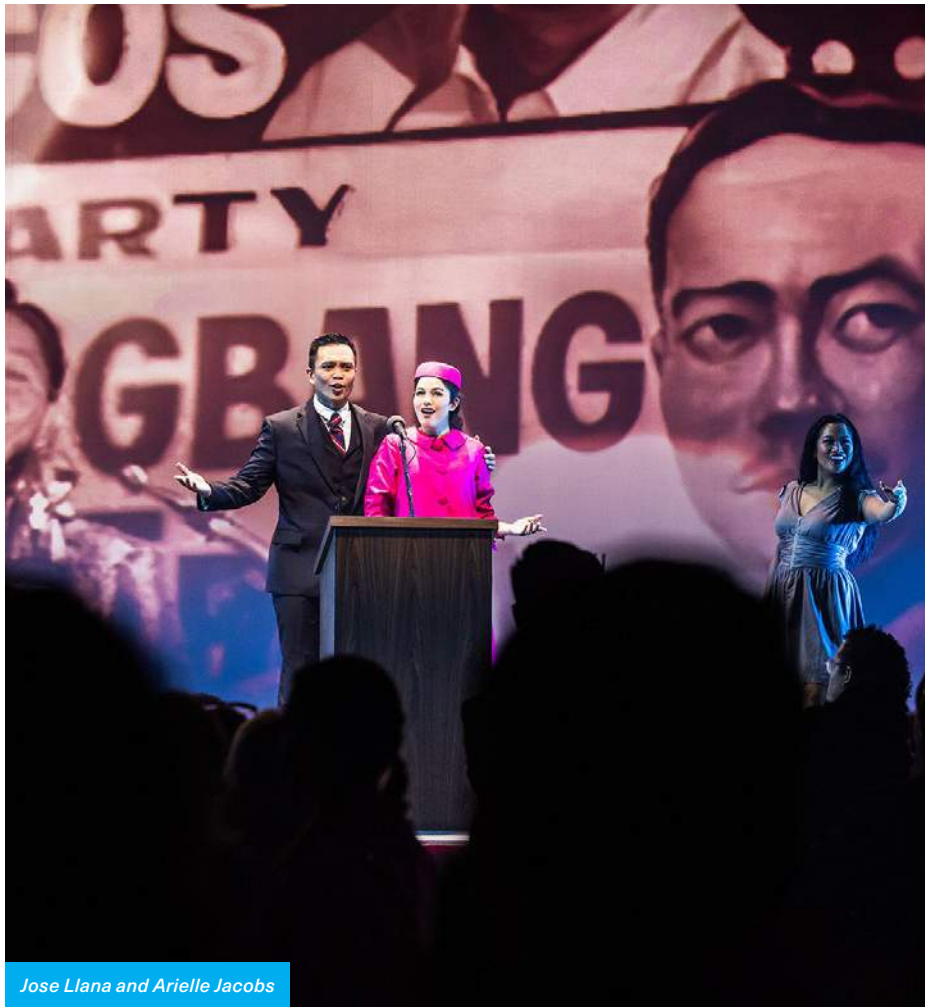
The Broadway Theatre features more than 220 L-Acoustics loudspeakers supplied by PRG



X4i enclosures provide fill for other locations, including the gallery seating areas, while two dozen KS21 subs distributed around the room solidly anchor the system's club-like low end. A total of 50 LA4X amplified controllers, all fed via Milan AVB, drive the system. The AVB feed comes from a MAD1 output converted from the show's DiGiCo Quantum7T mixing console found in the house mix bunker located just under the DJ station.

**“L-ISA spatial audio gives us the tools we need to quickly and efficiently program a 360-degree experience that conveys the excitement and nuance of each musical moment in the show,”**  
**Spencer adds.**

“On Here Lies Love, whether you’re standing on the floor or you’re sitting up in the mezzanine, you’re really feeling like you’re encompassed and you’re part of the show as opposed to ‘there’s a proscenium here, and I’m watching the show that’s down there.’ I am so excited for people to experience the sound of this show; I am confident this is just the beginning of L-ISA on Broadway.”



Jose Llana and Arielle Jacobs



**Taurus UCX HC40 Now Shipping**

**TAURUS UCX HC40**



**AV INTEGRATION WITH 4K AND USB-C**

- UCX HC40 Models Available from 2X1 up to 4X3
- Upgraded USB Hub with even faster connections & enhanced compatibility
- Full Featured USB-C connectivity with device charging up to 100W
- Updated USB-Ethernet gateway for MacBook M1/M2 compatibility
- New Bi Directional Dante/AES67 UCX-4X3-HC40BD shipping early 2024



**LIGHTWARE.COM**

# Back to my Roots



The auditorium. Ain't she pretty

## The Northern Festival Centre

**Everyone in this industry can exactly pinpoint the time and place their passion for all things performance and production started. Mine was in 1983 in my hometown of Port Pirie, South Australia, at the then one year old Northern Festival Centre. When I first stepped on to its stage to perform in my primary school's production of *The Wizard of Oz*, I was eight. When the lights went up, I was hooked.**

From then on, I put my hand up for every production my primary school, then high school, and local youth theatre group put on. I also managed to wangle my way into productions the local adult amateur theatre companies were putting on. I saw my first professional shows there, when touring concerts and theatre came through. I practically lived in there until I left to study in Adelaide in 1993.

At the time, I was mainly interested in being on the stage, but when I wrote and recorded the incidental music for my year 12 production and got into the bio box to set levels, I touched my first real mixing desk. Between that and my high school's Tascam four track and Yamaha SPX effects unit, I got into audio in a big way, and never came back.

On a recent trip back home to celebrate my parent's 50th wedding anniversary, nostalgia

got the better of me and I decided to see if I could get in to chat with the techs and tour backstage. Being a small town of 13,500, it wasn't hard to track down Technical Manager Paul Schrader, who generously came and opened up the Keith Michell Theatre for me on a weekend, and even brought along his young protégé, Max Hunt.

Named for local boy made good Keith Michell, an actor who moved to the UK and had a long film and TV career, the theatre seats 495 and has a 21.5m x 12.5m stage. It's remarkably similar to The Playhouse in Arts Centre Melbourne, where I spent quite a lot of my work hours in the late 90s and early 2000s. On the day, I came in through the loading dock, walked backstage, and was astonished to find that the place was almost exactly the same as the last time I was there in 1992. Except for the painting on the wall in the back corridor that Rolf Harris did when he was in town; that's understandably gone.

It's like the arid air of mid-north SA has preserved the venue, much in the same way the desert of Egypt preserves their archaeological heritage. The dressing rooms are still the original 80s beige with salmon highlights. The auditorium has had its seats replaced once but still is, in both mine and Paul's words, "very pretty." Paul and the team keep the venue immaculate, and wandering around the back corridors, lighting bridges, storage, and bio box, I don't think I've ever been in a cleaner venue, which is amazing as the place is now 41 years old.

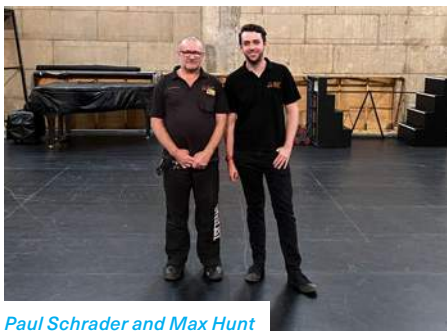
Technical updates have kept the place ticking along, and the theatre's main audio console is a Roland M-400 digital with stage box racked

up side stage. Main lighting control is an ETC Ion with Fader Wing, specified to handle the regular SA State Theatre Company shows that come through. Lighting fixtures include 12 Martin Mac Auras, 24 Source 4 Lustr2s, 12 ETC Colorsources, 8 Martin Mac Quantums, two Robert Juliat OZ followspots, and a solid stock of old CCT conventionals.

The venue is run by Country Arts SA, a state government created entity that also runs Noarlunga's Hopgood Theatre, Renmark's Chaffey Theatre, Berri's River Lands Gallery, and Whyalla's Middleback Arts Centre, which Paul is also currently managing technically. And Country Arts SA, if you're reading this, it's time to give this theatre new FoH loudspeaker and foldback systems. In fact, it was time to give them new ones in 1993, 2003, and 2013, too.

Yes amazingly, the FoH PA is the original pair-per-side Bose 802s with two Bose 302 subs that went in when the joint opened back in 1982. They are still powered by Yamaha P-2200 power amps, which first entered the market in 1976, and were discontinued sometime in the late 80s. No wonder most acts bring their own PA. Country Arts SA, this is not OK. The foldback too is two Bose 802s (how are they still working?!?), four Bose 620M, three Ramsas, and four 'Etones', which after doing some digging, appear to have been handmade in Sydney. All of this is powered by two Yamaha P2200s and two Yamaha P-2201s, which while testimony to the quality and reliability of the gear to keep running for 41 years, is still not acceptable.

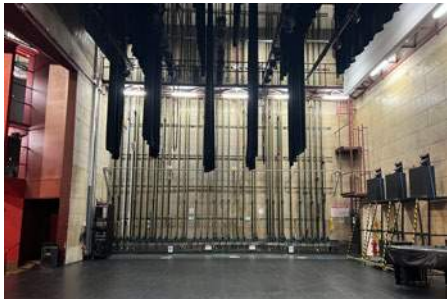
While walking the corridors and storage spaces in the typically labyrinthine back of



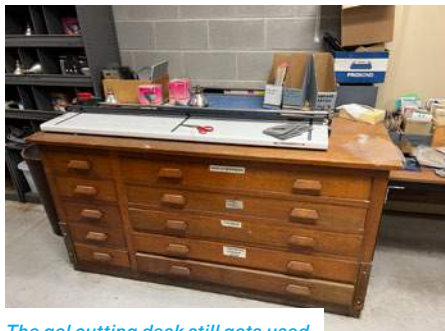
Paul Schrader and Max Hunt



ETC Ion in the bio box



The cinema sound system resting on the back wall



The gel cutting desk still gets used



A Jands Stagemaster 12, which has been referred for inclusion in the Jands Museum



Original Rank Strand AMC lighting desk



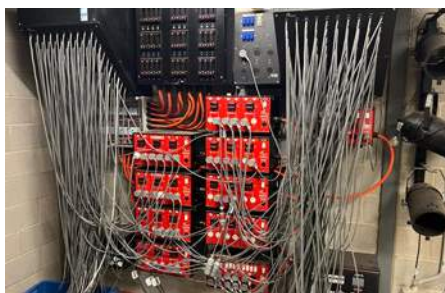
My first desk, propped up under a staircase



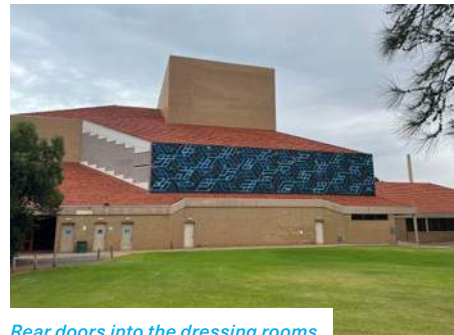
An antique film projector



The front of the Northern Festival Centre



Strand dimmers still get a regular workout



Rear doors into the dressing rooms

house, I was shown lots of antique gear that is thankfully no longer in service, including the original Yamaha mixing desk on which I pushed up my first fader. There's a lot of tech history stored at the NFC, including the original Rank Strand AMC lighting desk, and a Jands Stagemaster 12, which I emailed David Mullholland at Jands about for inclusion in the Jands Museum at their Mascot HQ. I suspect every other government run country performing arts centre in Australia is sitting on a similar treasure trove, as its apparently bureaucratically difficult to sell or recycle old government-owned gear.

"This is a wonderful place to work, and we love what we do," says Paul, who got the theatre bug when he helped out on a bump-in back in the 90s. "I then did volunteer work and started as a casual in 1996. I studied IT in 1997 and got my diploma in 2001. I gradually worked through the theatre technical ranks and became the main lighting op in 2000. By 2005 I was full time and started operating Whyalla's Middleback Theatre too. I became Technical Manager of the Northern Festival Centre in 2007."

Max's story is almost identical to mine, but he chose lighting; "I've been involved with Port Pirie Youth Theatre since I was 11," says Max. "I started doing follow spot, then I did work experience here in year 10 with Paul. I started doing work with local theatre companies as assistant tech director, then Paul asked me to come in here and do lights and threw me in the deep end! From there, I've done tech direction, and I've also directed a production of Wicked."

Regional and suburban performing arts centres like the Northern Festival Centre are major training grounds for the next generation of performers, creatives, and technicians. I know of three other technicians who cut

their teeth at the NFC that have gone on to have nationally and internationally significant careers. They're a vital cultural and economic asset to their nation that should be supported, celebrated, and maintained. So, Country Arts SA, it's time to pony up for a new PA.

Photo by Markus Jordik



# Digital Projection's Satellite MLS puts in star performance at Gärtnerplatztheater

Digital Projection's innovative, modular Satellite Modular Laser System (MLS) has found a new home in Munich's historic Gärtnerplatztheater, one of the busiest opera houses in Germany.

Specified by the Gärtnerplatztheater's head of video, WE ARE VIDEO's Raphael Kurig, and provided by Digital Projection's German partner ETHA, the new projector system is supplied in TITAN Satellite MLS form, with three light-source modules per projector providing 30,000 ISO lumens' illumination at WUXGA resolution.

With two TITAN Satellite MLS projectors installed front and back in the theatre, the result is, Kurig says, "super bright" – but at the

Gärtnerplatztheater, an even more important factor is Satellite MLS's unique, 'building-block' design, which makes it the only solution that ticks all the boxes in the challenging 19th-century space.

First opened in 1865 and remodelled extensively in 1945–1948 and 2012–2017, the Gärtnerplatztheater (in full the Staatstheater am Gärtnerplatz, or State Theatre on the Gärtnerplatz) is considered a masterpiece of neoclassical architecture. Today, it is one of

the most active theatres in Germany, with a programme that includes operettas, ballet, children's theatre and more, and some 550 full-time staff.

The Gärtnerplatztheater was formerly equipped with a previous-generation (non-Satellite MLS) quad-lamp TITAN projector, which needed to be replaced after the venue's lighting department opted to switch to LED lighting. "For video, we now needed at least 30,000 lumens," explains Kurig, "and while we

# Make sound more profound.

Feel music — mind, body and soul.  
Introducing the **2100-LFC**.  
30–125 Hz response. 8000 watts.  
20% lighter. A single 21-inch driver.  
Self-powered. Setting a new  
high standard for the best lows in  
the business.



Meyer  
Sound®

Learn more at  
[meyersound.com/2100-lfc](http://meyersound.com/2100-lfc)



Photo by Markus Tordik



Photo by Markus Tordik



Photo by Markus Tordik



Photo by Markus Tordik

did try out projectors by other brands, they were consistently too big, bulky and noisy for the dimensions of the theatre.”

Epitomising Digital Projection’s “smaller is better” design philosophy, Satellite MLS combines a compact, lightweight, quiet projector ‘head’ with a separate, remotely installed light source – making it possible to meet the growing demand for brighter, yet smaller and quieter, projectors. Satellite MLS is perfectly suited to environments with space constraints, allowing for ultra-bright RGB laser projection in historic buildings such as the Gärtnerplatztheater, where it would have been impossible to hang bigger, heavier projectors.

At the Gärtnerplatztheater, where the emphasis is on saving space, the light source is also located in the audience area, just 5m from the projector head (with a VICOM Silent case helping to keep noise down), though in environments where silence is a must (for example, museum exhibitions) the projector components may be separated by up to 100m using a satellite link cable.

“Theatres are some of the most demanding applications for projection, where near-silent operation, and a requirement for ultra-bright projectors that take up the smallest amount of space, are prerequisites,” comments Josef Saller, Digital Projection’s regional sales



Photo by Raphael Kurig

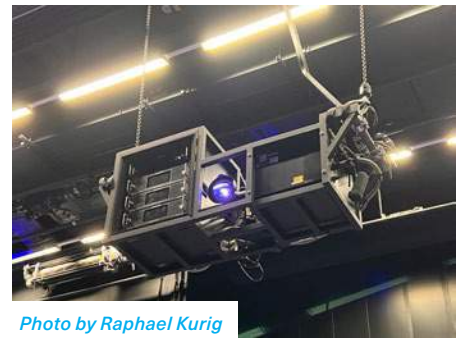


Photo by Raphael Kurig

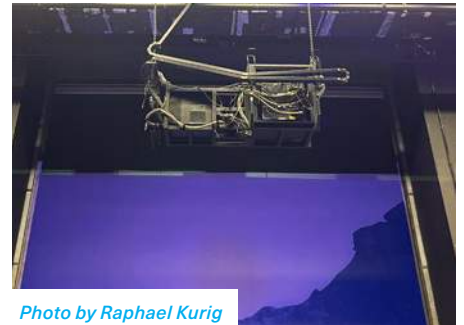


Photo by Raphael Kurig



Photo by Markus Tordik

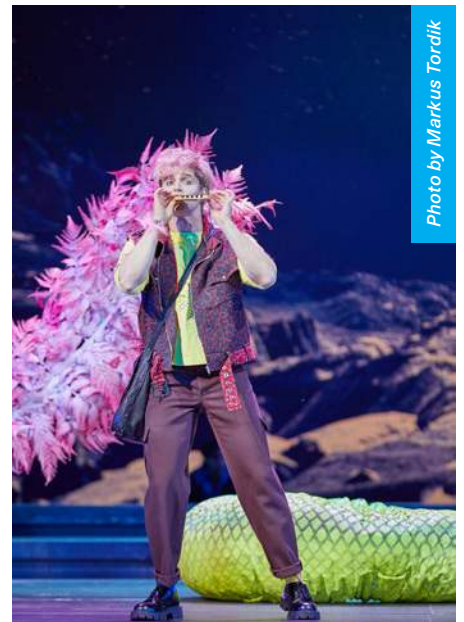


Photo by Markus Tordik

manager for the DACH region. "The Satellite ticks all these boxes and more, bringing beautifully saturated images from the RGB laser light source and the pinnacle of projection that only DLP technology can achieve."

After some early software problems (solved with the assistance of the local ETHA and Digital Projection teams), the TITAN Satellite MLS made its grand debut last month with a new, video-heavy production of Mozart's The Magic Flute (Die Zauberflöte), which premiered at the Gärtnerplatztheater on 22 October.

"Working in a heritage building like the Gärtnerplatztheater, space is always at a premium," concludes Kurig, "but the demand for higher brightness often leads to bigger, heavier projectors unsuitable for venues such as ours. It was clear that when it came time for a projection upgrade, Satellite MLS, with its unique modular design, was the only solution on the market that fit our needs."

"We can't wait to see what our audience thinks as we put the new system through its paces."

# 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**



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

Supporting the mental health of Australian entertainment industry workers

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



# MAGIC AND MISCHIEF

**IN THE PARK FOR GRANDMA3**

**Singapore-based lighting designer Gabriel Chan ran lighting on a full grandMA3 system for an innovative production of *A Midsummer Night's Dream* by The Singapore Repertory Theatre at the 2023 season of *Shakespeare in The Park*.**

AMSND is one of Shakespeare's most brilliant, popular, and complex comedies. This production was staged at Fort Canning Green within Fort Canning Park, ran for four weeks, and was directed by Guy Unsworth, featuring a stunning industrial inspired 'Athens' set design by Richard Kent.

Gabriel's starting point for lighting the show was the impressive cityscape set, which comprised 17 scenic chimneys and resembled a giant industrial complex with flourishes of futurism and some nods to classicist architecture, and, naturally, the special outdoor location.

With approximately 226 lighting fixtures on the rig, 6,321 parameters of control plus five smoke and haze generators, Gabriel chose a grandMA3 light console complete with a grandMA3 processing unit M to run everything.

"I chose grandMA3 for the streamlined design workflow it offered in conjunction with Vectorworks, and with the use of MVR and GDTF," stated Gabriel.

A grandMA3 onPC was connected in a multi-user session so console operator Derrick

Wong could run lighting cues while Gabriel was still building the show during technical rehearsals. The onPC also served as backup when the show was handed over to SRT for daily running.

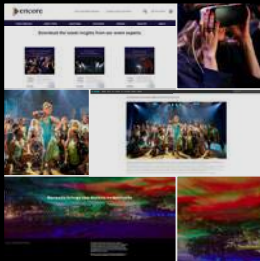
A QLab controller was interfaced to the MA console via OSC for sound related lighting triggers, and for receiving linear timecode running complex music and lighting sequences.

Both Gabriel and set designer Richard worked on Vectorworks, and the entire set, including his lighting rig, was designed in 3D.

This 3D plan was then exported to MVR and directly imported into grandMA3, so when the 3D information was fully ported over, he could visualise precisely how the light would fall on the set in grandMA3 3D Stage View.



# Creative Services for the AV and Entertainment Technology Industries.



**Specialist  
Content  
Creation**



**Integrated  
Print & Digital  
Media**



**Marketing  
& Business  
Development**



**Professional  
Event  
Services**

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

[vcscreative.com](http://vcscreative.com)



The grandMA3 specific feature that he found the most powerful in building lighting for this show was Camera View to Selection Grid.

70 x Astera NYX Bulbs were rigged on the chimneys in arrays across multiple rows and columns, so the Camera View aspect of Selection Grid allowed Gabriel to apply colour or dimmer effects along whichever XYZ axis he preferred.

This saved some serious time. If he had still been working in grandMA2, he would have had to create multiple Groups with Selection Order information.

For AMSND character Nick Bottom – a weaver who provides comic relief throughout the play, and is famously known for getting his head transformed into that of a donkey by chief mischief maker Puck – Gabriel wanted a rainbow colour palette across the entire lighting rig, regardless of fixture type, in a seven-step colour wave moving from audience left to right.

With the Camera View to Selection Grid, it was just a simple selection followed by tapping of the colour presets for each Phaser step, so the entire process to create and finesse the effect took about a minute!

“My time coding workflow was also streamlined with the use of the MAtimeshow.com interface between Reaper and grandMA3,” he explained.

Gabriel notes that grandMA3’s modular approach of handling information, i.e., Recipes in combination with Selection Grid, is a “very potent tool for adapting one show to the next, especially useful if the production is touring”.

He also looks forward to expanding his knowledge of Recipes and their huge potential the more he uses the grandMA3 system.

He worked closely on lighting AMSND with associate lighting designer Genevieve Peck, assisted by technical manager/Chief LX Peter Chi and console operator Derrick Wong, plus a team of 6 follow-spotters.

Creatively, the physical scale of AMSND was one of its major challenges for the lighting department, in particular ensuring that audiences could clearly see who was speaking, and to whom, whilst maintaining all the narrative atmospherics.

“If people can’t follow the dialogue, they lose attention, a situation compounded by Shakespearean English, which is not always easiest to process in the first place!”

From a technical perspective, being staged outdoors, the biggest challenge was to design and specify a lighting rig that would withstand Singapore’s famous humidity and dampness throughout the month of set up and the 4 weeks of performances.

All of this was achieved with spectacular results, reigniting the SITP concept last seen in 2018, with a resounding bang of success and much critical acclaim for the artists, production, and creative teams.

Gabriel has been using grandMA3 since version 1.4 and previously grandMA2 for around 10 years.

He believes that the MA Lighting brand has built its reputation as a solid, reliable lighting control system through “listening to and canvassing its community for user feedback,” adding that he’s been fortunate to receive direct support from the local distributor, Total Solution Marketing.

“grandMA3 is a complex lighting control software that can achieve very complex lighting effects with relatively simple user input, and I am sure it will achieve the same level of success as MA2 if the team continues to listen to the experiences and needs of its user base,” he concluded.



Full Cast. Photo by Crispian Chan

# Sometimes it all gets too much...



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

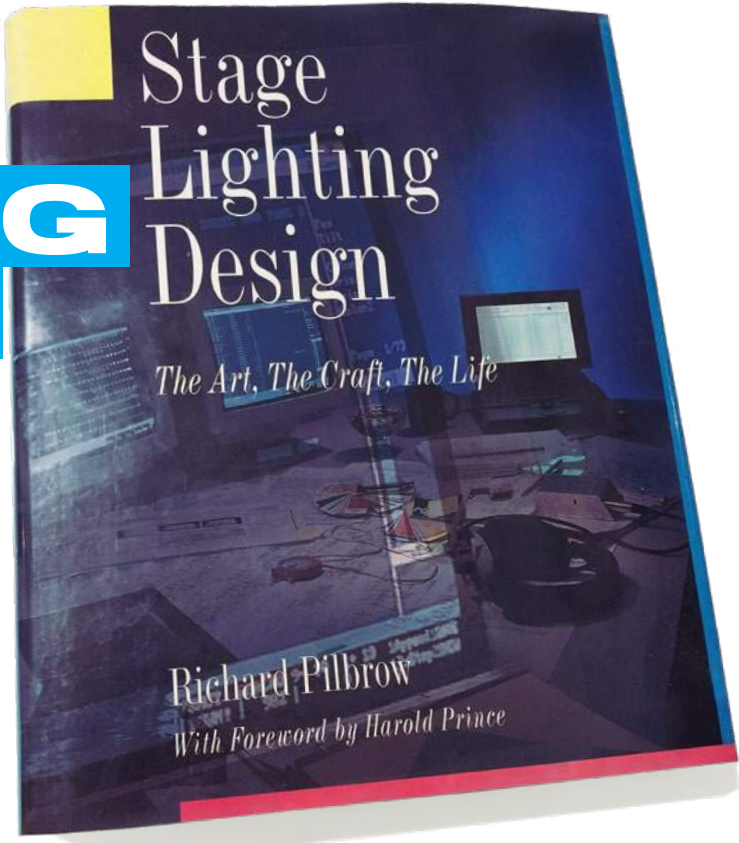


THE SUPPORT ACT WELLBEING HELPLINE IS MADE POSSIBLE WITH THE SUPPORT OF:



# STAGE LIGHTING DESIGN

*The Art, The Craft, The Life.*  
by Richard Pilbrow



## About the Book

“Good planning will ensure that the designer is able to spend the maximum time on the creative part of the job.”

Stage Lighting Design – The Art, the Craft, the Life, has become a standard work used for teaching stage lighting worldwide. It could be said to be the quintessential book on stage lighting design. It was a unique book when it first came out in its original form back in 1970 and even today there isn't another book quite like it. It was originally released as a book named Stage Lighting which has since grown and evolved into what it is today. This edition was published in 1997.

At 481 pages, it is a long book and it reads well, but you would have to be into stage lighting design to read it otherwise you wouldn't be interested enough to finish it. It is an unapologetically niche book, written with a relatively small but growing target market in mind.

## The book is formally divided into four parts:

### Design

The first section of the book delves into lighting design for the theatre stage. I think it is the best section of the book. It offers an approach and a few loose rules to keep in mind when lighting a performance space. “To light the actor's face more naturally, the spotlight should be placed roughly 45 degrees above and 45 degrees to the side.” Many of the concepts and ideas offered in this text were groundbreaking at the time and came as a result of trial and error.

Much of what we read here has become almost standard industry practice the world over.

### History

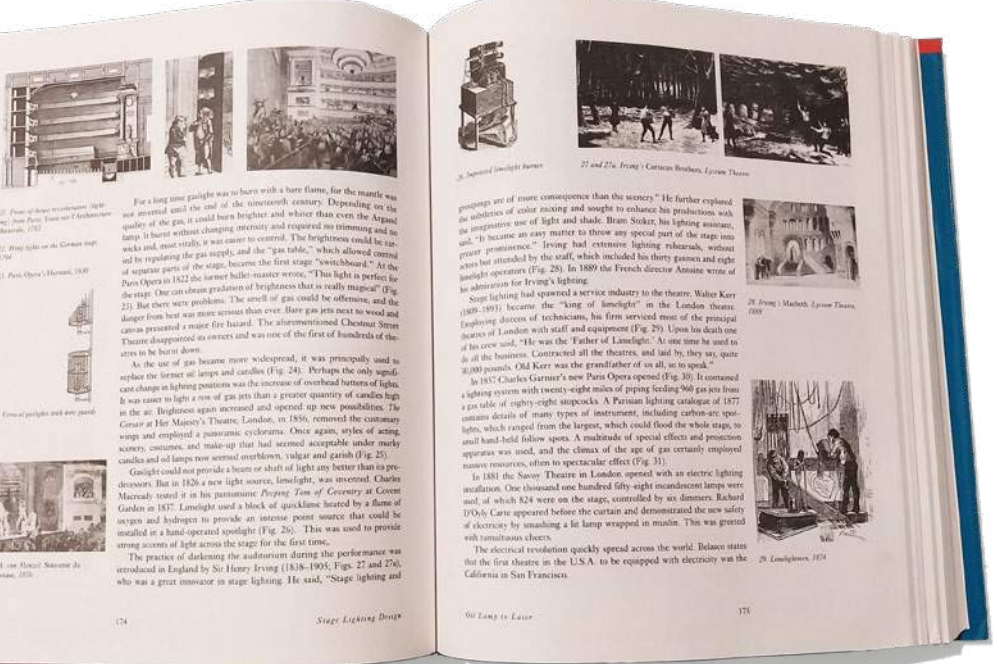
As one would expect, the history section covers a look back at the history of theatrical stages and set ups as they relate to lighting. It also gives a history on lighting fixtures, lighting accessories and lighting control systems. It also talks about the influences lighting has had on theatre design and performance over the years.

### The Life

This section is filled with anecdotes from the author himself as well as interviews with other well-known lighting designers. Very interesting and very insightful, even if a lot of the stories are from 40, 50 or even 60 years ago. It gives a good insight as to the thought processes and approaches these lighting designers took to their work and their challenges at work.

### Mechanics

This final section of the book goes through a range of lights and control systems. Today, this section is very outdated. Most of the lights and consoles you wouldn't use anymore. Interesting if you are into old lights and consoles, and curious as to their specs and limitations. This section would have been a gold mine of reference material back in its day and would have saved hours trying to obtain the information found here. Although no longer relevant to modern stage lighting, one has to respect the amount of work and dedication that has gone into compiling this last section of the book.





# ADVERTISE WITH US



#### CX Magazine

2,400 printed copies reach **6,000+ readers** every month.



#### CX News

Emailed to our database of **18,000+ recipients** every Wednesday.



#### CXnetwork.com.au

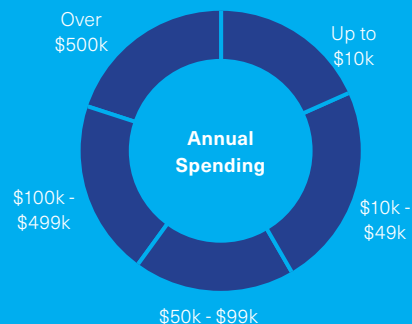
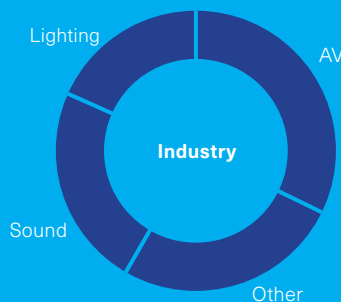
The website makes over **40,000 impressions** per month.



#### Social Media

Our social media generates **50,000+ impressions** monthly.

Your advertisement will have the best chance at succeeding with CX readers. Our audience are evenly spread across all areas of the industry and have varied annual spending habits.



**Our audience are YOUR potential customers.**

Talk to us today about a custom package to promote your business.  
Any budget, any platform - print, web, email and social.

Email [jason@vcscreative.com](mailto:jason@vcscreative.com) or call 0407 735 920 for more information.

## Who is the book for?

The book is for any active or aspiring lighting designer, especially a theatre lighting designer, wishing to gain a more practical understanding on lighting design as an art form and a career.

## Who might also benefit from reading this book?

Anybody considering a career in lighting design, lighting as a technician or operator. Anybody working backstage in theatre may also be interested.

## Who is this book not for?

Anybody chasing a quick overview of stage lighting, a 'lighting 101', if you will. There are plenty of other excellent books out there that give an overview of stage lighting and how the pieces fit together, this one has a more unique angle in that it is about an approach to lighting design.

## What I liked about the book

Although used as a learning text, I like that it was not written as a textbook. This made it a lot easier to read at nearly 500 pages. With the exception of the third section, it was a very engaging book. It's a book that is not for everyone, and I like that the author kept to his audience and didn't try and expand out into different parts of lighting, theatre or live entertainment.

## How it could have been better

The third section went a little too long. Had I not been reading the book to review it I likely would have skipped over a good part of this section.

## Verdict

It is not a book you just read out of curiosity, but one you read if you are serious about lighting design. The target market for this book is quite small, but it is a legendary book within its field. A must-read for any current or aspiring lighting designer, especially one looking to establish themselves in the theatre space.

## Ratings

### Readability/structure 9/10

The design section reads very easily as it covers the concepts of stage lighting design. The history section was interesting and well worth reading. The life section was anecdotes and interviews, well written, started out interesting, but got a little long in the tooth. The mechanics section is well and truly outdated but was a gold mine of info on the lights and control systems of yesteryear. Overall the book is easy to read and well laid out.

### Supporting materials 9/10

It is not really written as a 'how to book' as such, so supporting materials are not as vital in this book as they might be in others of a more instructional nature. With that being said, there were a few diagrams and drawings used to supplement the written text. Included were a number of lighting plots, shop orders, plans, sketches, and channel hook ups from real shows the author was a lighting designer for. These did show a few of the more subtle nuances of the job that may not necessarily be able to be communicated via text on its own.

### Relevance 6/10

The book does go into the realities of working as a lighting designer, not just the theoretical applications. "The problem is that he will have to finalise his equipment requirements long before the actors have finalised their performances. He will thus have to make sufficient allowance for any reasonable changes that may occur." The book becomes less relevant the longer you read on. This is the nature of the book, and also has a lot to do with time. When the book was written, the last section of the book would have been extremely relevant as a resource, which on its own would have justified paying full price. Nowadays it reads as a lot of outdated spec sheets. The first section of the book is still relevant and is almost timeless. The book arguably would have scored higher and been more relevant if it had just included the first two parts of the book.

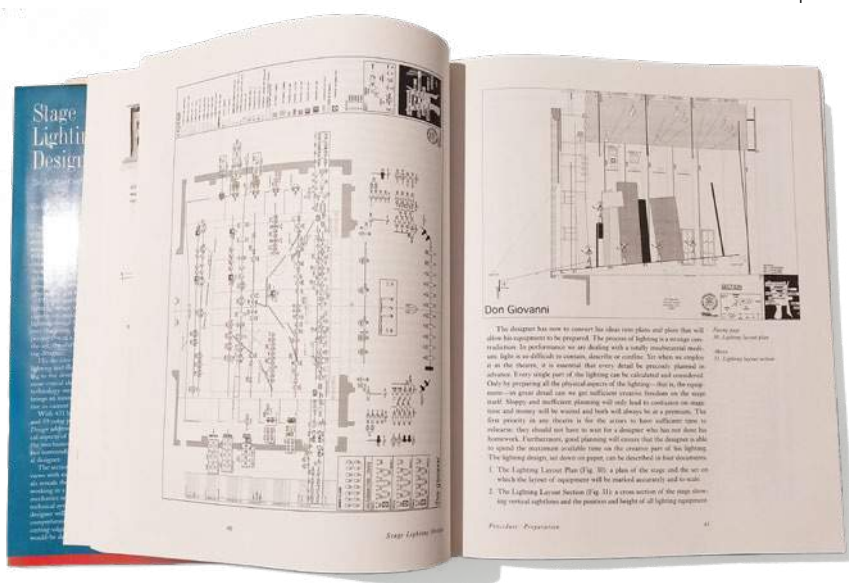
### Usefulness 8/10

For an aspiring or current lighting designer, this book is very useful and is a must read. It's a book worth owning too as you would likely refer back to it over time.

### Value for money 8/10

Costing \$126 it figures to be good value for an almost 500 page book. Packed with a lot of relevant information and a unique approach to stage lighting. A must-have in any lighting designer's library.

### Overall 40/50 = 4 Stars



### About Richard Pilbrow

Richard Pilbrow is a pioneer of modern stage lighting in Britain. He is an award winning lighting designer, theatre consultant, and author. He began work in theatre in London as a stage manager and in 1957 founded Theatre Projects Consultants. He has also been a successful theatrical, film and television producer. Richard turned 90 in 2023.

## LINEA RESEARCH

## 44M06



At Illawarra Production Services we like to stock the best gear possible, and we are always keeping an eye and ear out for quality equipment. When my old friend Scott Angove suggested we have a listen to Linea Research amps, I was interested. A bit of research showed that the designers of these amps were the crew behind BSS Soundweb - I was now very interested. A demo confirmed the immediate need for purchase.

When our four units arrived, we racked them up and put them through their paces straight away. My first thought was WOW. My second thought was how much depth and detail comes from these amplifiers. The way they convey a sense of performance is remarkable. They sound marvellously open and clean. No matter how hard we drive these things we cannot get them to go into power compression. So, when they say they are rated at so many Watts per channel, they really mean it, driven across all channels. We've been running them with some big 15" subs, just to soak, and they haven't come within cooee of limiting.

Having recently invested in Adamson speakers, it was important that the two paired well. I've found the 44M06 a perfect match for the M12A monitors. The sound is very open and there's no need for any drastic EQ on any stage because it is just so clean.

#### About Tim van den Berg

Tim van den Berg has always had a passion for electronics and audio and began working in the field in 1977. In 1986 he started Mrs Burns Sound which was the beginning of what is now Illawarra Production Services. IPS now have staff from live music, theatre and corporate AV backgrounds, bringing a wealth of experience to your event or production.

These amps do have DSP inside them but I'm bypassing that at the moment and using the Adamson FIR files. Wouldn't it be great if manufacturers could use the FIRs of other brands?

Build quality wise, they are very nicely constructed. They come with a 32A powerCON connector that you have to terminate yourself. We put tails on them, hooked into our power distro and away we went. They are not very deep so fit comfortably in a 500mm rack. I'm using spacers between amps to manage the thermal load but so far, they haven't got too warm. The best bit is they do a self-interrogation on startup, and check loads, fans, everything. Which means the power up sequence takes about 25 seconds. But you know they are very ready to go when it's done.

The GUI is very simple. Getting access to any particular channel parameters is very easy but we'll probably hook up a laptop for monitoring. One fantastic thing - if you are in a certain state on a particular channel, and you want to move to the next channel, it will stay in that state. The front panel filter also looks easy to clean, which is big for us with our gear going into some dusty environments.

We are currently quoting on a racecourse installation and are specifying the Linea Research 88C amplifiers. Because the speaker runs are so long with such a site, we run a high risk of VHF interference. Which is one reason why we are choosing Linea Research - their VHF and general RF protection regime is second to none. Short circuit protection adds icing to the cake for reliability and safety.

Scott has been working at Audio Brands

Australia for some time and gives me top support. I always get prompt responses and he and Don are great guys to deal with. We all go back a very long time and the relationship is excellent. I'm happy for them to have such an excellent product. They also provide good lollies.

I can see these amplifiers appearing on riders and there are very good technical reasons why. I can thoroughly recommend them.

#### Distribution:

##### Audio Brands Australia

[audiobrand.com.au](http://audiobrand.com.au) 02 9659 7711

##### Illawarra Production Services

[www.ipsonline.com.au](http://www.ipsonline.com.au) 02 4226 5595

## The Specs

Four channels of sonically pure Class D amplification

Unique, precise, 96kHz digital signal processing

Over-designed switch mode power supply

85V to 240V Auto-sensing PSU

6,000 watts RMS total output (1,500 per channel)

Full front panel user interface

Ethernet network for system operation and monitoring

Analogue, AES3 and optional Dante/AES67 digital network audio

Audio inputs: 4x Analogue, 2x AES3 and 4x Dante/AES67 (factory fitted option)

Volt-free relay and contact closure port

Power-save modes: Standby after user defined time, instant wake up on audio/Deep ECO sleep after user defined time, wake up on command



# MARTIN MAC

## AURA PXL

The MAC Aura PXL, made by Martin is marketed as a multi-source wash light. It is a small to medium size RGBW moving head wash light with pixel mapping capabilities and control.

Martin Lighting have a well-established worldwide reputation for making a range of some of the better high end intelligent lighting products we see on the market today. Starting off with the MAC 500 and MAC 600 back in 1997, they have continued to invest heavily in the research and development of high end intelligent lighting fixtures. These days, they are best known for fixtures such as the Viper range, the Quantum range, the Encore range, the Era range, the MAC 101 and the MAC Aura range, just to name a few.

Although a new fixture, the Aura PXL is already best known for its tight beam field, large wash area, bright output and pixel mapping capabilities. It is well on its way towards being the industry standard small/medium size wash

light for many high-end applications. This light is all about the optics and the output. It will also be known as the light that takes up a whole Universe (512 channels)! It's called "ludicrous mode", and for good reason.

With a power draw of 560W, it is relatively thirsty for a compact size LED wash light. You can fit four on a standard 10A circuit. For reference the original MAC Aura consumed 260W, less than half of the PXL.

### Construction

Like all Martin fixtures, it has been well designed, well put together and built to last. The PXL is a solid light now, and if it is reasonably well maintained it will likely be a solid light in 10 years time. Some of the earlier Martin wash fixtures had a bit of light bleed in between the cover panels, but that does not seem to be the case with the Aura PXL.

It weighs a bit over 15kg, a bit bigger than a standard Aura but not quite the size of a Quantum Wash. It would still be classed as a small/medium/compact fixture, just like the regular Aura. Again for reference, the original Aura weighed 5.6kg.

As it is well built, you can tour with these fixtures and reliably count on them if you were a production company looking to cross hire or hire them out.

### Optics, Colour, Brightness

The Aura PXL is a very bright light, much brighter than your standard MAC Aura. Don't be fooled by the spec sheet that claims a 10,500 lumen output. It is a relative term anyway, as there are three very different ways to measure lumen output, giving vastly different results.

The beam portion of the light is driven by 19x 40W RGBW LEDs. The Aura is powered by 141 x 0.3W RGB LEDs. It has a flat beam/wash field, meaning there is no hotspot in the middle.

Also helping make it a high-end wash light is calibrated colour temperature control, ranging from 2,000K - 10,000K, as well as a tungsten emulation option. The optics are good and suit film and television applications. It works well as a wash light lighting up a stage or set piece, it also works well as an 'eye candy' type fixture projecting out into an audience or in the background of a camera shot.



## Features, Application

The Aura PXL features a 6-59° zoom range, giving an impressive 8:1 zoom ratio. Pan range is 540°, tilt range is 268°. Infinite pan and tilt would have been advantageous but not essential. The focus for this light is the optics more than the features.

Each of the 19 beam pixels are individually controllable. The 141 LEDs that make up the Aura section are pixel mappable. It's enough to run video through it and can be used in conjunction with a LED wall.

Pan and tilt, colour mixing and dimming are all 16 bit functions. It moves fast. It changes colour fast. It zooms and focusses fast. For all lights in general, it would be handy to have some data in the specifications sheet that tell us how fast a fixture can pan and tilt, and how fast it can change colour and zoom. The PXL does all very quickly, making it an excellent candidate for a night club or somewhere where playback speed is paramount.

## Control and Programming

It has the same Martin on-board menu that all users of Martin brand gear are familiar with. It is well laid out and those familiar will know where everything is. There are four DMX modes available; 17 channel, or compact mode, 32 channel, or basic mode, 89 channel, or extended mode, and 512 channel, or ludicrous mode. If you get these in, make sure you have the parameters to support them if you want to use one of the more advanced modes. You can use it as a basic wash light or as a light to pixel map and run content through. There is a mode for every application and operator.

## Verdict

The light is significantly better than the specs would suggest. A punchy light for its size with very good optics. A pixel mappable wash light, although a relatively new and novel concept, could become much more prevalent in the future, especially amongst high end fixtures. Being able to effectively run content via a media server through your wash lights further blurs the line between vision and lighting. Definitely an upgrade to a standard Aura, and just about any LED wash light in this size. Although it's called an Aura, it's really not a fair comparison. An IP rated version would be next on the list, but you have to compromise somewhere, especially for a compact size light. It would be interesting to see a large face moving wash with the same pixel mapping capabilities as the PXL, but like making an IP rated version, this may add substantially to the cost, potentially making it an unviable investment. We may come to expect pixel mapping capabilities from our top of the line wash lights much the same as we are expecting high quality LEDs today. As one of the first to market, the PXL is paving the way for the next generation of wash lights with pixel mapping capabilities.



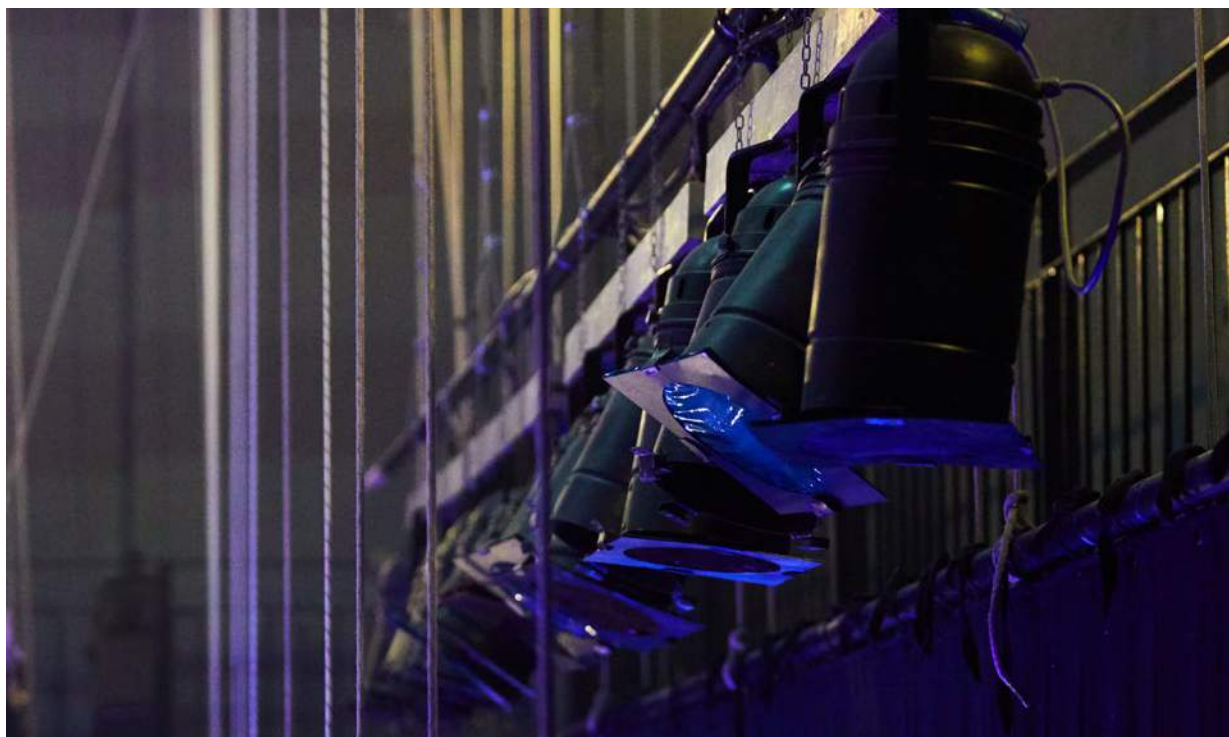
## The Specs

- 10,500 lumens RGBW light output
- High narrow intensity: 940,000 cd
- Pixelated Beam: 19 x 40W RGBW LEDs
- Pixelated Aura: 141 x 0.3W RGB LEDs
- 6-59° zoom
- RGBW colour mixing
- Calibrated CTC control: 2,000 - 10,000K
- Tungsten Emulation Option
- Virtual Colour Wheel
- P3 video mapping of fixture Beam pixels and/or Aura pixels
- P3 Mix allowing crossfade between video looks and DMX looks
- Weight: 15.60kg

Product Info:  
[martin.com/en/products/mac-aura-pxl](http://martin.com/en/products/mac-aura-pxl)

Distributor Australia:  
[showtech.com.au](http://showtech.com.au)

Distributor New Zealand:  
[showtech.com.au/homenz](http://showtech.com.au/homenz)



# From treading the boards to R&R and back

Some crusty old bard once opined that "all the world's a stage". Critics say that it represented the seven ages of man, but I reckon it refers to the stage we choose to work on, whether that stage is physical, metaphorical or both.

As a naive teen, I'd been caked in pancake makeup, pushing sets around live for the avant-garde experimentation of a university theatrical review. I worked out then that I was not meant to be centre stage. After a few life detours, I succumbed to the R&R beast and ended up being front of house instead. Long hours, hard work and good times were had.

When the relentless toil of touring rock and roll finally got too much for my mind and body, it was time for some stark professional truths and a good look at the next stage of life. 30-something, a dodgy back, no qualifications to speak of and all my fun vouchers blown on living the good life. Retrain for a new industry or use the hard-won tech and staging skills in another context? The thought of being an impoverished student again didn't appeal, so I moved into theatre lighting as a primary profession.

Initially, I found the change of pace a little difficult but soon recognised a different groove to slot

into. Instead of 3-4 hours to rig (smash together?) a light show, I could now take a week and get all OCD about cable runs and perfect focus. Setup is a whole lot longer and rehearsals are more in depth than a quick pub soundcheck. But, show nerves still tingle and the interaction between performer, production and audience is still there. Hearing audience gasps on a dramatic scenery or lighting reveal can be as rewarding as the cheers from a raucous pub crowd. And all with no beer, mud (or worse) stained multicores to pack away every night. How good is that?

## Community Theatre

My first effort at slowing down came about through a local group staging a production of Moliere's L'Avare (a French play being performed in Italian). Speaking only English, I don't know how I got the gig but felt right at home with the cast, crew and director and found it easy enough to follow the script and hit my cues. I designed a rig that had everyone in awe and rehearsals went well.



Vintage Poster of a French performance of Moliere's L'Avare. Circa 1900

"I love the musty dry smell of old theatres, with their dust and creaky antiquity, their ghosts and quirks."



Forum Melbourne - Now and Then (1975). Photos from [forummelbourne.com.au/about](http://forummelbourne.com.au/about)



Opening night to a packed house and the curtains parted to hushed appreciation. Lights faded in, the first characters entered from stage left and started flawlessly, until I saw a wisp of smoke rising from the footlights. Not good. I got on the comms to the stage manager, they looked out in horror and we had to stop the show, not even 5 minutes in! Extinguishers came out, fire was quelled and everyone looked embarrassed.

Apparently, one of the old dears had decided that the on-stage PA speakers were ugly and hung plastic lace over them without telling anyone. These dislodged onto the uplights when the stage curtains brushed past and promptly met with 500W of hot luminaire. It took my best diplomacy to point out that, "No, lighting gel does not spontaneously combust and perhaps it was the unauthorised doily flapping about."

There were a few steely glares pointed in my direction that night but they must have forgiven any issues, as the company invited me back for their next production.

## Regular Commercial Theatre

A few gigs later I got on a crew renovating the Forum Theatre in Melbourne. This magnificent venue had spent years rotting away into disrepair. We spent several months wandering through the rabbit warrens backstage, fixing or replacing lighting and rigging throughout the building while the builders worked their magic. I love the musty dry smell of old theatres, with their dust and creaky antiquity, their ghosts and quirks. Walking along the ancient timber 'safety' ramps groaning in the ceiling was ok but the thought of a 40 foot drop through the lathed plaster dome downstage of the proscenium was ever present. With plenty of harnesses and ropes, we managed to replace all of the famed twinkling starlights in this impressive span but still held our breath a lot. The whole building has recently undergone a much more comprehensive renovation and is looking spectacular.

This grand old dame also had the coolest feature - a circular water hydraulic activated

lift that originally had a large organ on it. The organist would magically appear in a sculptured cutout offstage right as the power of the Yarra pushed on the riser. Long decommissioned, it was still a fun place to have lunch. I stayed on with the Forum for its first show run after the remodel and grand opening. It was slick and professional musical theatre but not really my cuppa (I was getting tortured by show earworms), so I handed my dome operator role to a mate and headed elsewhere.

I ended up doing both short and long runs in some other hallowed spaces too. A season of Circus Oz as lighting rigger/dome operator/general hand was a hoot in the Melbourne Town Hall. The whole circus ethic of multi-skilling was heaps of fun and the venue has the gravitas of much history. Apart from my core show duties, I'd often find myself seating the elderly, running the popcorn machine or spruiking for punters in the street. No scripts, just sheer bravado & chutzpah and getting paid to act the fool. A bit like the nearby council chambers during the day...

The Athenaeum, The Universal and The Botanical Gardens also became familiar workplaces for me. Comedy festivals, ensemble productions, comedic satire and even the venerable Shakespeare provided the dramatic content. Countless fresnels, profiles, washes and sometimes dinky domestic lamps provided the illumination.

## Same-Same, but Different

I found a lot of parallels between the different genres of theatrical performance, particularly in regard to tech. Some approaches may be slightly different but it still comes down to getting the show on, on time and every time. The black boxes don't care which type of performance they are being used for either, they still work the same and still fail at the most inconvenient moments. Concerts are paciest but quite ephemeral; theatre has a more drawn out schedule but is no less intense come show time and without an understudy, you really must be there for the show to go on; and even



Circus Oz Poster artwork by Reg Mombassa

corporate events or product launches can be very theatrical. They generally have better budgets for more funky toys too.

The intense clarity of the show buzz never changes, but it does relax a bit, although maybe that's just the wisdom of experience. Theatre gets the win for matinees at a civilised hour, especially when the cast's nonnas are providing lashings of fine traditional Mediterranean foods for the break before the evening show. (Thanks Wogboys.)

I eventually tired of the demands of theatrical life too. I was well into a 6 month run of a 6 days and 8 shows a week, every week, the show MUST go on-production. My back had crapped out (again!) and I was writhing in pain on the floor of the bio booth while reaching up to the board for the next cue, wondering where to next in life. 'Next' was still black boxes but in a corporate context. Retrenched a year later during a buyout reshuffle, I found myself sitting in a Thai forest again contemplating going back to school to get a piece of paper. Which I eventually did, doing my homework at the FOH consoles waiting for the nightly show to start. Then I moved sideways once more to another stage of life.

# HERE'S YOUR PROBLEM

by Brian Coleman

Still from Graham Linehan's *The IT Crowd*

## Snippets from the archives of a bygone era

Graham Linehan's brilliant television series, *The IT Crowd*, coined the comedic catchphrase, "Have you tried turning it off and on again?" This quick fix to resolve technical issues wasn't that far removed from a number of problem-solving remedies I utilised during my stint in audiovisual management. Often, presentations would come to a halt, and the presenters would blame what they primitively referred to as "the technicals". These glitches were commonplace and were mostly due to human error. So, after being summoned to a room or an auditorium and only having to press one button on a laptop to resurrect a failed presentation, it was not unusual to hear bouts of laughter coming from attendees.

I've tried to stay out of the spotlight in management positions, compensating for this unobtrusive behaviour with a passion for problem-solving, which is a kind of Johnny-on-the-spot OCD. I've never been elevated to any great level of notoriety, and I'm at ease with the anonymity, which is a strange apprehension, especially for those of us who started out as musicians and were touted to strive for fame and fortune. However, being in the public eye doesn't come without its problems.

In November 1995, while checking in at the Sydney Qantas terminal, I noticed the check-in officer tipping off a woman in front of me about a celebrity at the adjacent counter. I strained to recognise the somewhat bedraggled passenger as the woman petitioned him with pen and paper for an autograph. Then, a charge of adrenaline assailed my stomach as I realised it was George Harrison, who hurriedly scribbled something and then scurried off. The woman then showed me the autograph,

announcing disappointedly, "It's not him!" Because of the similarity to Harrison's name, I suspected an alias. I can't remember the actual name that he signed, but I do remember it being something like 'Geoff Henderson'. "That was George Harrison," I insisted, and the check-in officer who had seen Harrison's passport confirmed his identity. I was later to learn that Harrison, a motor racing enthusiast, had been in Adelaide to attend the Formula 1 Grand Prix.



George Harrison at Adelaide Grand Prix with Flavio Briatore and Niki Lauda

“That was George Harrison,” I insisted, and the check-in officer who had seen Harrison’s passport confirmed his identity.

an independent installer with audio equipment supplied by my employer, Audio Telex. Upon arrival, I remember wading through a sea of disgruntled, suited executives. I guessed that our equipment had been unfairly blamed for the failure.

It has always amused me that people who seek help in the face of some oversight often want to advise you as to how to rectify the problem. And so, as the installer was directing me to where he thought the problem was, I asked him where his amplifier stacks were. Pointing to a large cover panel, he said, “Don’t worry about that. I’ll show you where the problem is.” But despite his resistance, I eventually persuaded him to unscrew the panel covering the banks of amplifiers. Here was a 100-volt line distributed speaker system wrongly wired to the low impedance output of every amplifier.

“Just move all the speaker wires over to the 100V line terminals, and you’ll be ok.” The system was firing in a matter of minutes, and the disgruntled executives were now smiling.

“Would you like a drink?”

“You bet!”

In the 90s, I was called to a shopping plaza in Castlecrag, Sydney, where a very competent installer couldn’t understand why he had differing audio levels contradictory to the levels he had set in the various zones of the complex. He was using Symetrix 571 ambient noise sensing automatic level controllers, which

The airport experience drove home the vexations experienced by someone constantly in the limelight, and I take solace in being a nonentity who can occasionally tweak a knob or press a button for my 15 minutes of fame. Of course, my obsession is not restricted to any single industry. In fact, I carry full recovery gear in my 4WD, which has never been used for my own rescue but instead has been used to drag countless vehicles out of bogged sand or to jump-start vehicles with flat batteries during my beach fishing expeditions.

In 1985, bitter rivalry broke out between a nightclub where I was employed and my previous nightclub, and I had even been summoned to a municipal trial court in the Philippines by my former employer, who was contesting one of my band contracts. In the midst of this turmoil, I received a message from the American manager asking for help because he was experiencing uncontrollable feedback from the sound system, and it was only minutes from opening time.

I will never forget the sight of the entire staff standing statue-like with frozen faces as I

entered the nightclub. The atmosphere was so icy that stalactites could have formed on the ceiling at any time. Jim, the manager, first assured me that my former alcoholic employer, whom I had reluctantly exchanged blows with to defend myself only months before, was not expected on the premises that evening. Jim then demonstrated what he interpreted as feedback; however, it was the 1kHz test tone button that had been inadvertently depressed. Many people questioned why I would bother to resolve a rival nightclub’s problems, not realising that problem-solving was an obsession.

While the one-button press or the ‘turn off and on’ procedure doesn’t always resolve the problem, there are other quick fixes that seldom require much technical expertise. In particular, tracing the signal can often be a simple remedy for fault-finding in an audio system. This was the scenario when I was called out to the temporary premises of Sydney’s Star Casino, which opened at Pyrmont in 1995, to troubleshoot a major audio problem. The installation was done by

**(( bsound ))**

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

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

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

[www.bsound.com.au](http://www.bsound.com.au)  
[mark@bsound.com.au](mailto:mark@bsound.com.au)

**RentalPoint**  
SOFTWARE

Powerful web based software

**CX**

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

Register now at [cxnetwork.com.au](http://cxnetwork.com.au)



Sydney Star Casino



Pesky possum

The Symetrix units seemed to be doing their job, and a walk around the plaza brought to light the fact that the audio was diminishing at a linear level in the respective zones. Given that each zone was powered by a different amplifier, here was a good place to start the investigation. In fact, the installer had paralleled the preamplifier output to all the amps. This is not necessarily an error in some configurations, but I suspected that this may have caused an impedance mismatch. A telephone call to our designer confirmed this, and I recall that some 600-ohm transformers rectified the problem, which was identified by simply tracing the signal.

When my kids were in primary school, I was a volunteer, mostly producing their concerts and doing some troubleshooting. I was called out to investigate why some of the speakers on the 100V Line system weren't working. I traced the fault to where a horn speaker was mounted high on the school's outdoor metal sunshade canopy. I climbed an extension ladder to find that the figure 8 speaker wire had been chewed through, and also staring menacingly at me was the possum that had chewed through it. "Yep, here's your problem!"

A member of the school's office staff was also a member of the Wildlife Rescue Organisation, but she didn't like heights. The repair of the speaker lead was simple, but I was a little anxious when I was issued a pair of gloves and given the task of capturing the nasty, growling little offender, who really didn't appreciate the attention. Unexplainably, this prodigious repair and rescue mission, which was added to my résumé, never seemed to impress potential employers.



Symetrix SPL 571

were also referred to as SPL computers. I loved these little one-rack units and had enjoyed testing audio levels at other plazas with a decibel meter and then setting the Symetrix SPL computers to adjust the levels for the ambient noise level changes. For instance, when the food court filled at lunchtime, the sensing microphone would adjust the speakers to a level above the ambient noise.

The installer opened up the equipment room, and it was like entering the set of a Doctor Who television series. Along with banks of Symetrix SPL computers, there were also PCs, monitors, and other paraphernalia with blinking lights and audio beeps. A fellow employee that accompanied me on the call-out instantly froze, and he uttered the immortal phrase, "Let's get out of here!"



Test tone

# aceta

## Organisation Statement

---

"To provide a collective voice for our members, to lobby government, attain strength by association and provide a reference point for the dissemination of information."



**JOIN US TODAY & HAVE YOUR SAY!**

For further information, or to become a member,  
please visit [aceta.org.au](https://aceta.org.au) or email [julie@aceta.org.au](mailto:julie@aceta.org.au)

**aceta**   
Australian Commercial & Entertainment  
Technologies Association

# ELATION®

## Empowering Extraordinary Entertainment

WITH WORLD CLASS TECHNOLOGY



FUZE Wash 500



FUZE Max Profile



PROTEUS Excalibur



KL Profile FC



KL PAR FC

ULA  
GROUP

CONTACT US FOR A DEMO | AUS 1300 852 476 | NZ 09 218 6532 | [info@ulagroup.com](mailto:info@ulagroup.com) | [ulagroup.com](http://ulagroup.com)

# CHAINMASTER

THE WORLD OF MOTORS

## ELECTRIC CHAIN HOISTS & CONTROL SOLUTIONS

### D8PLUS ELECTRIC CHAIN HOIST



2 DC  
BRAKES

LIGHT &  
COMPACT

PRECISE  
CHAIN GUIDE

IP66  
OPTIONS

MADE IN  
GERMANY

ULA  
GROUP

CONTACT US FOR A DEMO | AUS 1300 852 476 | NZ 09 218 6532 | [info@ulagroup.com](mailto:info@ulagroup.com) | [ulagroup.com](http://ulagroup.com)