

CX

MONTHLY TECH NEWS

CX118 SEPTEMBER 2016
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Inside + Meyer Sound

CX has a factory tour



Bee Gees Way

Installed memories in Brisbane



Art House Wyong

A venue is born!



Touring New Zealand

Same. But different

LIVE:

- The Cure
- Matt Corby
- 20 Questions: Alex Saad

GEARBOX:

- Mackie ProDX
- Phoenix Audio Condor
- PR Lighting XR330 BWS
- RTI XP6

NEWS:

- ATP to close
- CMI snags AKG
- Rio audio + screen
- Constellation for Monash
- Show Technology opens in NZ

REGULARS:

- Mission Critical Show Networks
- Dunc Fry on Normie Rowe
- A guide to Bankruptcy
- Andy Stewart
- And more!



STAGE



WIRELESS



STUDIO



HEADPHONES



INSTALL





AV Roadshow in October

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CX Network and Juliusmedia present ICTECH, where AV and IT professionals see new technology, network and experience unparalleled professional development. Entry to the trade displays and seminars is totally free of cost.

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October
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Centre



MELBOURNE
Wednesday 19
October
Park Function
Centre



BRISBANE
Monday 24
October
Royal International
Convention Centre -
RNA Showground



SYDNEY
Wednesday
26 October
Technology
Park

SEMINAR 1

SynAudCon training presented by Matt Vance of

Technician: Soft Codecs - A new platform for old audio problems (Or; achieving great results for conferencing audio) The rise of soft-codecs has made video-conference available from the boardroom all the way down to the desktop, but the importance of clear, intelligible audio and the techniques we employ to achieve it haven't changed.

SEMINAR 2

SynAudCon training presented by Matt Vance of

Technician: Introduction to electroacoustics This seminar will explain the principles behind the operation of all sound systems, including microphones, loudspeakers, room acoustics and the psychology of human hearing! A great primer for anyone who is new to sound systems, or would like to extend their understanding of the science behind this oft misunderstood field.

SEMINAR 3

avt present: SVSi Training - Introduction to Networked AV

SEMINAR 4

avt present: Industry Transition from Dedicated AV to Networked AV and Cloud Control

SEMINAR 5

Extron present: Life of PY - Powerful System Control Solutions for AV and IT Professionals Python is one of world's fastest growing programming languages, extensively used and relied upon by some of the world's best known corporations and internet brands. Python's friendly scripting syntax and extensive libraries

provide a feature rich platform for control. See and learn how Extron is increasing the productivity of AV programmers and delivering with ease more powerful features to control systems.

SEMINAR 6

Lightware present: Behind the scenes - DVI, HDMI, DisplayPort and Thunderbolt

Topics covered include the basics of video signals, EDID and EDID Management, HDMI, HDCP, cables and connectors, DisplayPort, Apple Thunderbolt, system level issues, problem finding and real-life system examples. (Bris, Syd, Melb only)

SEMINAR 7

Jands present: Ampetronic and A.F.I.L.S.

Have you ever wondered why hearing loops and their components seem to have so many different names? In this session we unravel the terminology and look at design considerations for A.F.I.L.S. (Audio Frequency Induction Loop System) and provide guidance to ensure compliance with Australian standards. We will also discuss the importance of accurate measurement and maintaining certification of your devices.

SEMINAR 8

Simple I.T. for AV techs - hands on! With Jason Allen How do I change an IP address? What is a subnet and why do I need to care? What is a VLAN and how do I set one up? Jason Allen gives you hands-on training in the basic IT skills all technicians need in today's networked world. (Participants must bring their own PC or Mac running Windows)

- MORE SEMINARS TO BE ANNOUNCED

FOUNDATION
EXHIBITORS:



avt

Extron

JANDS
audio • lighting • staging

AXIS
MULTIMEDIA

midwich

visual engineering
LIGHTWARE

Panasonic
BUSINESS



Juliusmedia

EXHIBITION SPACE AVAILABLE

To register to attend or for more information on exhibiting at ICTech Roadshow, please visit: <http://www.ictechroadshow.com.au>

*Parking details sent prior to show



XR 1000 SERIES

THE HIGH-PERFORMANCE MOVING HEADS

The compact XR 1000 Series from PR Lighting utilises Osram's Lok-it HTI 1000 W Metal Halide to deliver more light than most 1200w fixtures at a fraction of the cost of comparable luminaires. Available in standard Spot, Framing Spot and the new combination Beam, Wash, Spot (BWS) versions.

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XR 1000 BWS

XR 1000 FRAMING

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Service Charges

One of the 'in house' AV providers has started slugging AV hirers a seven percent 'service charge' on their invoices. When challenged they said it was for 'consumables', despite the hire being a single, installed video projector. Then they back tracked and announced it was also covering 'administration'.

In house AV is convenient for venues as a revenue stream, and in recent years some five star venues have made considerably more than their in-house AV suppliers. But event organisers are getting wise to what things cost, and now take on-costs like house AV into account.

Wiser hoteliers know to look at the big picture instead of nickel and diming their hirers. CX has a leg in both camps, we hire venues and we represent the AV industry on the other side. But I think short sighted profiteering and accounting sleights of hand like the 'service charge' do our industry no favours.

Casual Conversion

Submissions to Fair Work Australia by the ACTU and employer groups have been finalized after the ACTU asked the body to formalize casual employment. The proposal is to allow anyone employed over six months as a casual to request their status change to

either permanent part time, or full time employment.

This could mean a follow spot operator on a musical swaps casual hourly pay for a lower permanent part time rate, and gain sick leave, holiday pay and retrenchment entitlements. Another possible outcome is a crewing agency worker demanding a change of status.

There is no scenario where anyone is better off as far as we see - the ACTU says no employer will be worse off, but they fail to recognize that retrenchment provisions are off the balance sheet. Basically this means any employer with any sense calculates what a reorganization may cost in redundancy payments. While hiring casuals, there is no liability. No work means no casuals.

Now for the AV Roadshow in October

Our fourth roadshow this year is the debut of ICTECH, so named because we say that AV is now part of IT, and that space is now known as Informational Communication Technology, or ICT.

Whatever, it just means that one big slice of our industry is now concerned with inter operability and the IoT - Internet of Things. Eventually conglomerates like Cisco are going to become much more visible as we navigate the firmament of technology.

ICTECH is slightly ahead of its time, but it's a place we need to be because it brings the knowledge and the experts to you. It is nowhere near as big as our ENTECH Roadshows, but it is deeper at the seminar level. Our model means it is completely and utterly free of cost to YOU, and that includes car parking if you pre register.

Hop online at www.itechroadshow.com.au and we look forward to seeing you in Perth, or Adelaide, or in the eastern capitals in October!

The Archive

Dan Cole is soldiering away in our vault, posting back issues from our 26 year publishing journey online for you to read free. Our www.cxnetwork.com.au magazine site now serves up CX for free after you register.

Amazingly we started BEFORE the internet, and I remember in 1991 hearing about this weird world wide web thing. Then in 1996 we had a live demo of Netscape screens at ENTECH. Never did we imagine where we would find ourselves in the future.

Here we are! Enjoy the archive.

Julius Grafton
CX Magazine

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**iPads & Smart Devices sold separately*



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- Clean and professional design looks great anywhere
- Ultra-compact for effortless transport and a perfect fit in tight spaces
- Integrated control bridge holds your phone for a quick view of your mix

PRO DX8

8-Channel Wireless Digital Mixer

- Control every level from the single knob front panel interface
- Clean and professional design looks great anywhere
- Ultra-compact for effortless transport and a perfect fit in tight spaces
- Integrated control bridge holds your phone or tablet for a quick view of your mix



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CMI GAINS AKG HILLS ALSO LOSE TOA

Just two years after Hills acquired Audio Products Group, their stable of audio brands has again shrunk with the defection of AKG to CMI Music and Audio. Led by Ted Pretty, Hills added over 20 brands to their audio division after paying a rumoured \$11 million to APG founder Ken Dwyer.

Two years on, a significant slew of pro audio brands have departed Hills, including flagship Biamp (to Midwich), APG foundation line TOA (gone to Australis), the headphone side of Beyer Dynamic (to a new Syntec) and now AKG to CMI. Hills would probably say this is all quite rational, as it is not logical to distribute competing brands. Others would say Ted Pretty had lost his mind, and indeed the board of Hills seemed to agree as they 'disappeared him' last year.



Looking at the best fit for the future distribution of AKG in Australia, Harman turned to CMI Music & Audio who have for over 30 years been distributing Digitech for Harman and also looks after

Harman's Axys by Duran Road Tunnel evacuation projects. CMI was the clear choice, says Rodney Houston, Regional Sales Director, Asia, Harman Professional Solutions, "because of the diversity of the company, with its three divisions Musical Instruments, Music Technology and Pro Audio covering the Retail, Recording, Broadcast, Installation and Consumer markets."

"We are honoured to be chosen to represent AKG Microphones and Headphones for the Australian market" said CMI boss Peter Trojkovic. "We have always admired AKG as one of the world's leading microphone and headphones brands and look forward to an exciting time in growing the brand in the Australian market."



Nick Reeves, Vince Haddad, Karla Kimi, Stephen Dallimore and

Show Technology Open in NZ New Showroom Dazzles

Show Technology have opened their NZ operation based in a renovated warehouse in Onehunga (Auckland). The building features a large showroom devoted to brands represented such as Clay Paky, Martin and MA.

Branch Manager Karla Kimi came from Panasonic working in various roles mainly as Product Manager for AV. Nick Reeves, Technical Sales worked twelve years as a Senior Technician at the Royal Festival Hall UK then became a Senior Technician for Oceania Productions.

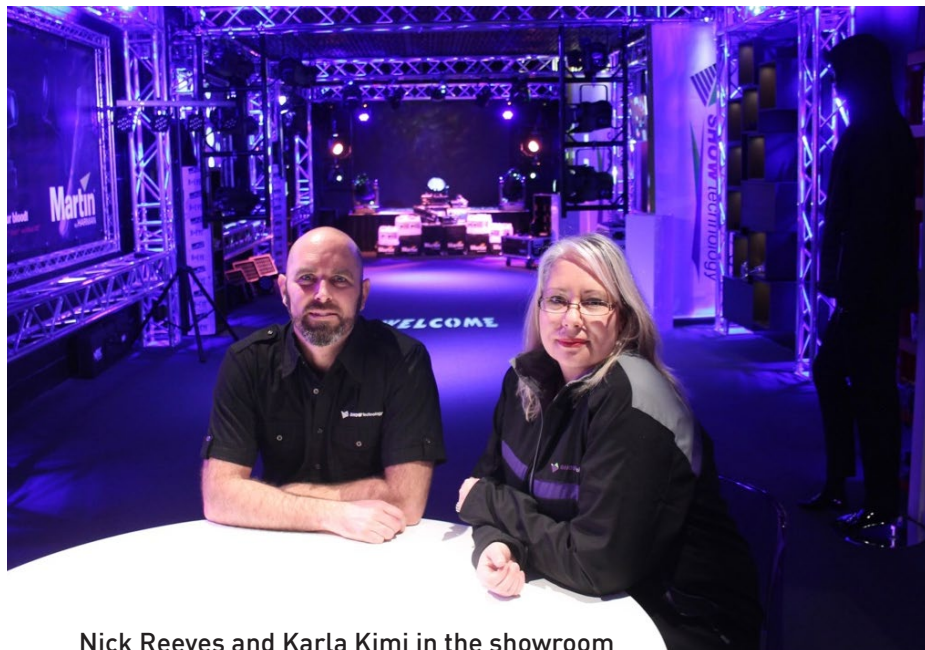
They will soon be joined by a service technician and a warehouse worker. The operation draws stock direct from manufacturers, avoiding exorbitant shipping costs from Australia.

Show Technology Chief Financial Officer Harold Hassapis told CX the operation carried over NZ\$1 million in opening stock, and the purchase and renovation of the building represented a significant investment for CEO Emmanuel Ziino.

Sydney based Business Development Manager Stephen Dallimore said the firm gained confidence in the NZ market after selling around 150 Martin Vipers over six months, as former technical sales expert Simon Barrett travelled and visited new clients.



Harold Hassapis in the warehouse



Nick Reeves and Karla Kimi in the showroom

Events Venue to Close

Sydney loses Australian Technology Park

The Sydney events industry has been served a blow after the NSW Government sold off Australian Technology Park in Eveleigh. The ATP Conference Centre, which has been running since 1998, is due to close on 30 June 2017.

The closure of the Conference Centre follows the sale of ATP to a Mirvac-led consortium earlier this year. "The sale was part of a strategic move by the NSW Government that will help catalyse innovation in the inner city, with proceeds helping to finance the upgrade of Redfern Station and the development of the new Sydney Metro Station at Waterloo, subject to government approval", ATP announced.

Early 2017 the new International Convention Centre (ICC) opens at Darling Harbour, so the NSW Government will say they have expanded and improved Sydney's event capacity. But only incrementally, and with ATP closing, Sydney actually loses an important venue.

So what is the issue? ATP is one of a dwindling number of 'big box' venues that can accommodate a trade show or a large function. If you take the previous, demolished Darling Harbour facility, along with ATP and then swap them for ICC you

get about the same floor space. So Sydney has actually lost an alternative site, and event organisers have just one place to go instead of two. Furthermore, there are few venues that do not have 'in-house production partners', which means bringing outside production in is almost impossible. ATP was open for all.

Visitors to ENTECH next year can say goodbye to a fabulous venue, and Mirvac shareholders can look forward to another profit season when the historical railway sheds are repurposed with something 'modern'.





NW Group CEO Matt Jones, Marcio Pilot (Loudness) FOH operator Ian Shapcott, Project Manager Andrew Marsh, and Marcos Pilot (Loudness)

Norwest Complete Rio Latest Olympics Gig

From humble beginnings with an Etone PA in 1990, A1 Audio struggled to the point founder Chris Kennedy sold his car and bought a clunker. Things looked up when they won the contract for audio at the Sydney Olympics as underdogs, much to the chagrin of many larger contenders. These days Norwest are part of NW Group, an Australian owned collective of production suppliers.

They just nailed audio for the opening and closing of the Rio Olympics, in partnership with local firm Loudness.

RIO Screen debut for Vuepix Channel 7 set features curved screen

Channel Seven based their coverage of the Rio Olympics from what they called the Rio Central Studio, operated by NEP. They approached the ULA Group to provide the HD Screen for their Rio Central Studio set. "We needed to come up with a fully customized curved screen solution", says Nathan Wright, VuePix Product Manager at ULA Group.

The VuePix S series features Black LEDs, which provide a superior HD image with high contrast, deep blacks and vibrant colors. The slim line design with advanced ventilation doesn't require any fans for cooling, making the screen perfect for delicate installations like TV studios, where noise levels are crucial.

"The biggest challenge for the Rio screen was to get the curve to perfectly match the TV set", explains Nathan. "We produced a customised curved hanging system, similar to those that we use for our VuePix E and C series, to work with our S1mm technology screen for this set."

The screen consists of 80 panels in 16 x 5 configuration, making it almost 7.5m long and 2.3m high. With the native resolution of over 4,000 pixels horizontally and 1,280 pixels vertically, it features 5.2 million pixels.



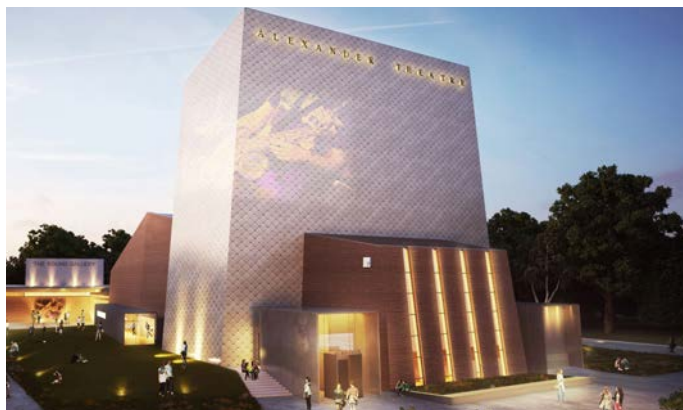
Constellation for Monash Ian Potter Theatre rebuilds

The \$45 million redevelopment of Monash University's Alexander Theatre will see it renamed The Ian Potter Centre for Performing Arts and gain a Meyer Sound Constellation system.

The revamped complex will create an entertainment precinct in Melbourne's south-east, with seating increased to 586 seats. Two new performance venues will be added: a 200-seat Jazz club and a 130-seat Sound Gallery.

Meyer Sound's Constellation System allows a venue's acoustic to be digitally adjusted. This is the first Constellation installation in a traditional proscenium arch theatre in Australia.

Constellation allows the space to adapt instantly



to the different acoustics needed for a variety of music, across jazz, classical, chamber, contemporary, theatre and cinema.

Composer and jazz luminary Paul Grabowsky told *Limelight Magazine*: "It's fantastic to see our iconic performing arts venue progress to the next stage and further widen its offering across a diverse spectrum of artistic genres".

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ADDER TECHNOLOGY DDX10

The AdderView DDX10 is a new breed of high performance KVM Matrix that provides powerful functionality inside a small, compact form factor. Featuring Adder's lossless KVM extension technology with flexi-port switching capability, the DDX enables multiple users to access multiple computers located safely and securely inside your server room. The DDX10 provides 10 configurable user/computer ports, multi-view thumbnail on-screen display, lossless HD video in real-time and an extension distance of up to 50m from switch to user console.



01

Australian Distributor: KVM Australia
www.kvm.com.au or 1800 222 898

AYRTON DREAMSPOT-18K

Ayrton's Dreamspot 18K is the first laser-source multifunctional, multiple-use automated luminaire, and is fitted with an OSRAM Laser PHASER P6000 phosphor conversion module. The monochrome laser emitter module calibrated at 5,600K enables the luminaire to achieve 18,000 lumen of power. Its 13-element optical zoom system can obtain a highly uniform fat beam with no hot spots, providing a zoom range of 2° to 34° in Beam mode and 6° to 54° in Spot mode.

Australian Distributor:
Show Technology
www.showtech.com.au
or (02) 9748 1122



02

CADAC CDC FOUR:M

Based on a proprietary DSP mix platform, the Cadac CDC four:m is a fully featured versatile digital console with the look, feel and simplicity of using an analogue console. The CDC four:m builds upon the CDC four feature set

by providing the user with GEQs on all aux busses in addition to the master L and R, plus the inclusion of a 6 x 4 matrix with GEQ, PEQ and dynamics processing. The CDC four:m brings Cadac sound and build quality to the compact, rack mountable, digital console market providing a high-quality solution for all applications and budgets.

Australian Distributor: Hills
www.hills.com.au or 1800 720 000



03

CHAUVET PROFESSIONAL STRIKE 1

Chauvet Professional has introduced the STRIKE 1, a versatile single pod light that excels as a blinder, strobe, wash and flood. The newest member of the STRIKE series, this fixture has a 230W warm white LED source. An outdoor-rated fixture, it is ready to add looks to festival stages and open-air events, as well as to arena and music hall concerts. Emulated red shift warms the colour temperature of the light as it dims to replicate the look of an incandescent fixture. The fixture's 16-bit dimming control also enhances its performance by allowing smooth fades.



04

Australian Distributor: Showtools International
www.showtools.com.au or (02) 9824 2382

CLAY PAKY SCENIUS PROFILE 05

Scenius Profile is the new beam shaper at the top of the Clay Paky moving head range. The optical reflector has been designed specifically for this product, in order to make the projection perfectly uniform across the whole beam opening. Its framing system consists of four independent overlapping blades that create shapes of all sizes. It works simultaneously on four different focal planes and the exclusive "curtain effect" allows gradual total closure of the shape using any one of the four blades. The shape made may also be turned around itself up to an angle of 90°, either to change its orientation or keep it fixed as the light beam moves. The new 1400W OSRAM discharge lamp provides very high light output and CRI. A modern focus tracking system concentrates maximum luminous efficiency precisely on the effect you wish to project, and the focus may be set to be fully automatic. Scenius Profile also includes a CMY colour system, linear CTO, 7 fixed colours, 14 gobos (6 rotating + 8 fixed), rotating prism, 2 variable frost filters, and a precise dimmer.



Australian Distributor: Show Technology
www.showtech.com.au or (02) 9748 1122

EAW RADIUS

EAW has announced RADIUS, a family of loudspeakers for both portable and permanent installation applications. RADIUS is a new powered and processed platform that integrates Dante networking and iOS-based prediction, control and monitoring along with a number of useful and unique features that streamline setup and maximize results in minimal time. The RADIUS Series includes point source, line source, stage monitor and subwoofer loudspeakers. The complete range consists of 8-in and 12-in 2-way point source loudspeakers that are available in two horn patterns, a double 8-in articulated line array, single 12-in and 18-in subwoofer models - and will soon add a 12-in co-axial stage monitor. At the heart of the entire RADIUS family lies the EAWmosaic iOS-based application. This completely integrated and intuitive platform provides for prediction, control and monitoring at any location in the venue wirelessly.

Australian Distributor:
Production Audio Video Technology
www.pavt.com.au
or (03) 9264 8000

COMMUNITY ENT212 06



The ENT212 is an all-weather column line array housed in a heavy duty extruded PVC enclosure. The ENT212 provides vertical directional control at far lower frequencies than the ENT206, plus enough power to cover medium-sized venues as the primary system. The ENT212 employs twelve high-power LF cone drivers and four Community CRE (Compact Ribbon Emulator) HF tweeter arrays in a single-amped configuration that employs a 4-way frequency shaded crossover. All ENTASYS 200 models are available in standard black or white finishes, include selectable low impedance or 70/100-volt operation, a rugged pan-tilt mounting bracket and a permanently mounted safety eyebolt. The paintable enclosures share a 4-5/8-inch wide by 7-1/2-inch deep "teardrop" footprint.



Australian Distributor: Hills
www.hills.com.au
or 1800 720 000



ELATION FUZE SERIES

08

Elation Professional have launched the Fuze Series of dynamic LED wash luminaires. Using single-lens RGBW COB LEDs, they are available in moving head and IP65-rated PAR versions. Single source RGBW colour mixing gives fully premixed colour looks and an extremely flat field of light, with a lens face that appears as one colour instead of individual LED. All Fuze Series fixtures offer features including a wide zoom angle range for more precise beam control, full 100% electronic dimming, variable dimming curves and high-speed strobe. The Fuze PAR's feature an optional gel frame / barn door / snoot holder as well. Fuze PAR Z60 IP: IP65-rated single source PAR luminaire featuring a 60W quad colour RGBW COB

LED and 7° to 39° motorized zoom.

Fuze PAR Z120 IP: IP65-rated single source PAR luminaire featuring a 120W quad colour RGBW COB LED and 7° to 55° motorized zoom.

Fuze Wash Z120: single source PAR moving head luminaire featuring a 120W quad colour RGBW COB LED, 7° to 55° motorized zoom and moving head yoke.

Fuze Wash Z350: single source PAR moving head luminaire featuring a 350W quad colour RGBW COB LED, 10° to 55° motorized zoom and moving head yoke.

Australian Distributor: Lexair
info@lexair.com.au or www.lexair.com.au

FUZE PAR Z60 IP-LT



FUZE PAR Z60 RT



FUZE PAR Z120 IP



FUZE WASH Z120



FUZE WASH Z350



EPSON 4K, HDR, AND UHD BLU-RAY PROJECTORS

Epson's new EH-TW8300, EH-TW9300, and EH-TW9300W projectors have been designed to offer 4K enhancement, UHD Blu-ray and high dynamic range support, motorised optics and lens position memory. All three projectors deliver an exceptionally high contrast ratio of up to 1,000,000:1, and contain a new 16-piece glass lens. The three 3LCD panels emit a high White and Colour Light Output of 2,500 lumens. In addition, frame interpolation and detail enhancement help to create sharp, smooth and flowing images. Installation is simple and precise thanks to motorised optics, including a powered 2.1x optical zoom, powered focus and a new powered lens shift of ±96.3% vertical and ±47.1% horizontal.

Australian Distributor:
Epson Australia
www.epson.com.au
or 1300 361 054



EXTRON EBUS BUTTON PANELS

09

10



Extron has introduced nine additional eBUS Button Panels. Six of these provide volume control, microphone level, and muting control, while the other three provide full-featured video transport control. All of these easy-to-use control panels connect to an IPCP Pro control processor and feature customisable, soft-touch buttons that are backlit for easy operation in low-light environments. Each model features two eBUS ports for easy system expansion. eBUS button panels are linked to the control processor and to each other using a single cable that carries both power and communication. eBUS Button Panels are available in Decora, EU, and MK form factors.

Australian Distributor: Extron Australia
www.extron.com.au or (08) 8351 2188



Crystal Productions know they can always count on their Martin MAC Family



Crystal Productions



MAC Quantum Profile

IMAGSYSTEMS THUNDER

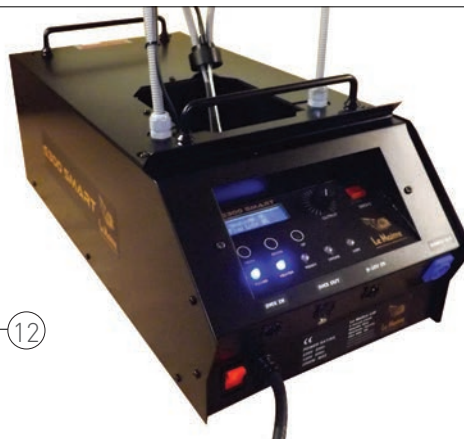
iMAGsystems has released its next line of video over IP product, Thunder. The new series offers a JPEG2000 solution designed for 1Gb Ethernet networks. Thunder has been designed for mass adoption of Video over IP for everyday installations. Using 1Gb networking provides more freedom for installations with limited network bandwidth, but in the past this often meant compromised video performance. Featuring HDMI with HDCP 2.2, RS232 and IR control, Thunder provides best in class JPEG2000 performance with latency under 1 frame. It has been optimized for video wall applications, providing installers with a simplified setup and installation procedure and the end user with an intuitive iPad app for daily control.

Australian Distributor: Axis AV
axisav.com.au or 1300 294 728



11

LE MAITRE G300-SMART



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LUMENS VC-A70H

13

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The Tech of the Tribute to the Gibbs



Queensland's Moreton Bay Council is very proud of three of their favourite sons, Robin, Maurice and Barry, who went from their humble origins in Redcliffe to become one of the most successful pop acts in history. To celebrate their lives and links to the area, Council and Barry Gibb have created **Bee Gees Way**, a permanent physical monument to their career. Jason Allen looked at the tech under the hood....

Bee Gees Way is a specially created alleyway in Queensland's Redcliffe, about 10 meters wide and 80 metres long, running between Redcliffe Parade and Sutton Street. Originally opening in 2013, it commemorated the lives of the band with some static imagery and a statue, concentrating on their years growing up in the area, and the beginnings of their career. It was such a success that plans were soon afoot to use the vast amount of multimedia content available from Barry Gibb to create something a bit more interactive and informative.

Simple, Beautiful



- > **Phil Viney**, director of Brisbane-based lighting, theatre and audio-visual design firm Design Stage, was approached by Council to add sound, lights and vision to the existing exhibit in a way that was "elegant and tasteful. That was our brief," said Phil. Working with Brand & Slater Architects, Phil and Design Stage devised an ingenious system of lighting, sound and control that divides the space into seven 'bays' that each address different

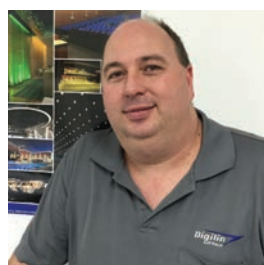
content, that not only runs autonomously 24/7, but can also have its content refreshed and updated through a completely custom-built AMX touchscreen 'show creation' and scheduling interface.

"Our design featured a large, centrally positioned screen to deliver content, and a sound system that could independently map the whole area," explained Phil. "Our vision was for it to be beautifully lit with warm white LED light. Every half-an-hour a show comes on; music plays, accompanied by the video of the song, and lighting changes to an animated coloured display. Light, sound, and video all needed to be under one show control system."

Custom Lighting, Aussie Made



With no off-the-shelf solution available for the type of lighting Phil envisioned, local manufacturer Digilin were brought in to the project. "We had done work with Design Stage in the past, and they knew we could make custom luminaires" reported **Andrew Wood**, Technical Manager at Digilin. "They wanted uplights, downlights, and lineal strip lights. For the strip lights, we custom made a high-powered RGBW LED fitting that was designed to go across the wavy ceiling structure. It gives you complete control of

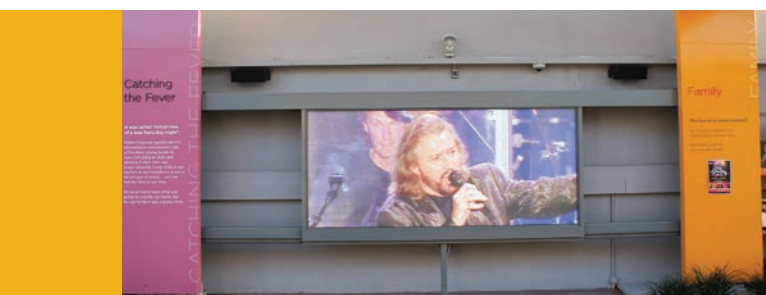


> Andrew Wood

every luminaire in two metre sections with a lineal dimming format. There's also signage luminaires in a curved extrusion, uplighting above the columns, and lights under the seats. Everything is RGBW with a colour temperature of 3K in the white, and it's all fully controllable. There's around 400 DMX channels in use." Lighting is controlled with a combination of Dynalite for the architectural elements, and an ENTTEC e-streamer for the custom programmed light shows.



Big Screen, Total Control



The centre bay of the seven content areas houses the big screen, at 3.5 metres wide and 1.5 metres high. Because the alleyway is relatively narrow, a standard outdoor screen with a larger pixel pitch would have looked terrible when viewed at close distances, so Phil opted for a Christie Velvet Merit Series LED solution with 2.5mm pixel pitch. As it wasn't rated for outdoor use, the screen had to be housed

in a custom made environmental enclosure, which was organised through the project integrator Pro AV Solutions. "We engaged a company that makes outdoor housings," said **Tristan Herrod**, Sales Account Manager at Pro AV Solutions. "It's an IP Rated enclosure. We didn't want it clouding up due to humidity, and we got a mechanical engineer to design its cooling system."

Pro AV also helmed the enormous task of integrating all of the technical elements into one simple user interface, through a UI on an AMX touchscreen. "It's a totally custom UI," confirmed Tristan. "Just using the touchscreen, users can set up and create shows, save them and schedule them. The Green Hippo 2Kan media server can store up to 500GB of video and audio, and the controller creates custom timelines over a seven day schedule by simply tapping anywhere on the calendar, setting a track from the playlist, adding all of the different elements from the other subsystems on site, and setting when it repeats. Our AMX programmer, Jody Ernst, didn't use any existing templates; this was all built bespoke."

Fighting Environment



With the music of the Bee Gees arguably the most important element of the installation, Council wanted the speaker system to deliver very high quality sound. "We needed something that could be installed outdoors," Phil Viney continued. "It's right on the waterfront, and it's a fairly brutal environment, so we needed something that the manufacturer was prepared to warrant. It also needed to be small, multichannel, and self-powered because we didn't have anywhere to put a lot of amplifiers. We also wanted, if possible, a single vendor solution in terms of support." All of these requirements pointed to a loudspeaker and processing system from Meyer Sound.

"We were initially approached by Phil when



> Chris D'Bais

he was looking for outdoor speakers," said Meyer Sound Australia's **Chris D'Bais**. "The project needed something small, discrete and high-powered that was good quality. The alleyway has a unique soundscape; you've got the beach and a busy road at one end, and trees with rainbow lorikeets in them at the other end. All day you're fighting the road, the beach and the wind, then you're fighting the lorikeets in the afternoon, and because of the beach, it's all covered in salt water. We make all of our product in Weatherproof versions. In Bee Gees Way, it's all Weatherproof, with gold connectors, stainless steel bolts, and birch timber construction that expands and contracts with humidity."

Intelligent Audio



The audio system consists of stereo pairs of Meyer Sound MM-4XPs in six of the bays, augmented by one MM-4XP on the opposite alleyway wall. The centre bay with the big screen is fitted with a front and rear stereo pair of UPM-1XPs. There is an MM-10XP subwoofer hidden in each bay's column, with an additional MM-10XP under the seat in the centre bay. Each speaker is fed its own independent signal. While the day-to-day running of the system sees it running in 16 separate zones, the entire system can be easily changed to run as one big system, run each speaker separately, and even run advanced spatialisation effects, courtesy of the incredibly powerful Meyer Sound D-Mitri DSP system.



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Pictured: The Art House, Wyong - a new 500 seat regional theatre. Other key theatre technology venues with fit-for-purpose solutions include: Blue Mountains Theatre, Eternity Playhouse, The Glasshouse, Joy Yeo Performing Arts Centre, Sydney Town Hall, Sydney Conservatorium, Sydney Opera House, Dubbo Regional Theatre - and many more.

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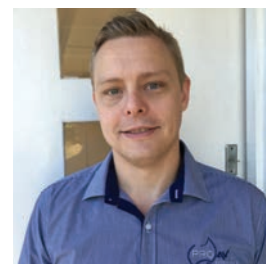
D-Mitri is used by Cirque Du Soleil and a lot of other companies around the world for show control and soundscape,” continued Meyer’s Chris D’Bais. “Each D-Mitri system has a DCP (core processor), and its modular design means you add your I/O to suit; you can build it as big as you want. The Bee Gees Way system is running 32 in and 40 out. D-Mitri DCP uses our free software called Cue Station, which gives you the ability to create matrices, groups, EQ, and other processing. After recording audio cues using Cue Station the Bee Gees Way AMX system sends OSC (Open Sound Control) commands to D-Mitri to recall cues as needed. There’s also a feature called SpaceMap that lets you lay out the speakers on the screen, connect them via nodes, then record mouse movements between the speakers, and play back audio through that recorded path. When we were testing, I recorded clapping, and then scared the painters by making the clapping ‘walk’ up and down the alleyway! It’s great to programme using Cue Station.”



v Huge Possibilities

The whole installation is remotely monitored via IP camera and web access to all of its systems through Pro AV’s service contract. Audio levels are managed through an ambient level sensing system custom programmed and implemented two weeks after opening, and a movement sensor will trigger the system to quietly play a song if someone walks through out-of-hours. The Council plans for the content to be regularly updated, and the space is engineered to be flexible. “There’s already lot of content authored,” mused Phil Viney. “If they want to have a function, the sound system has the capability. There are radio mics already programmed and patched. The control system can be paused and overridden, and you simply call up a lighting state to suit whatever you want.”

> Pro AV’s **Tristan Herrod** speaks highly of the driving force behind the project. “Moreton Bay Council have been a very rewarding client for us,” he enthused. “They’re not a typical council. They’re a diverse council that cater to a lot of different community groups. As a council, they’re really progressive and see value in using technology to enhance their business capability and to attract and engage the community. You don’t see many projects like this.”



The Art House Wyong

The Central Coast builds its own Fly Tower Theatre

The Art House Wyong is a new, much needed fly-tower equipped performing arts venue in the heart of NSW's Central Coast. Having just opened in May 2016, the centre is already a success, boasting a 500 seat proscenium arch Theatre, and a flexible 130 seat 'Studio' space that is suitable for emerging artists, or can be digitally linked to the Theatre and function as an orchestra room. Jason Allen went Coastal to find out more...

The Art House Wyong has been just over 10 years in the making, and **Julie Vaughan**, its Project Manager, was there at the very beginning. "There were a number of studies undertaken at a local and state level that identified the future needs for Central Coast," she said. "We had a 65 year-old centre with a leaking roof and poor wiring that didn't service the needs of the growing population. In the first few years of the project, there were three design iterations for a replacement. The first was a much bigger facility, similar to The Glasshouse in Port Macquarie, which would have been a \$42m facility. We scaled that back to a \$24m facility. The council committed \$8m, and sought matching funding from both the state and federal governments. After four year's lobbying, when that didn't come to fruition, we modified it to a \$12.7m facility to be completely funded by Council. We believed strongly in what we were building, we were committed, and invested in capital infrastructure and 10 years' operational budget to fill the gap in our region."



If You Build It...

The lack of a fly-tower theatre on the Central Coast became an important factor influencing the design and construction of what would become the Art House. "Council had a number of discussions with theatre facilities and arts organisations, looking at the types of touring groups that were attracted to other venues," explained Mike Horan, Project Manager at Council. "It goes to the business case as to which acts you can attract and the fees you can charge. It's about providing a mixture of facilities to both professional and amateur groups while also producing an income. The combination of a fly-tower with a seating capacity of 500 was a must." Julie Vaughan agreed; "Including the fly-tower represented a significant amount of our already reduced budget, but it was vital to the integrity of the theatre, and to ensure we had a point of difference for touring product and a level of competitive edge."

Sydney architects Tonkin Zulaikha Greer provided all three of the Art Houses' designs, with partner Tim Greer helming the construction of the final version. Theatrical equipment manufacturers and distributors Jands won the contract to supply and fit out specialised flying and draping for the venue, with Sydney's The P.A. People providing all the other theatre technology including lighting and sound equipment. The original theatrical consulting task on The Art House was courtesy of the legendary Tony Youlden. Simon Austin of Schuler Shook subsequently engaged with the project and took it through the process to delivery.

Gearing Up

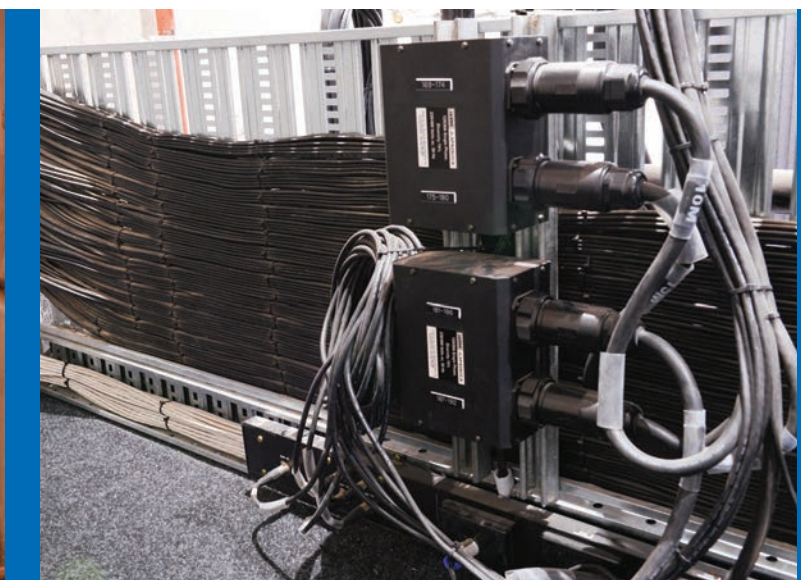
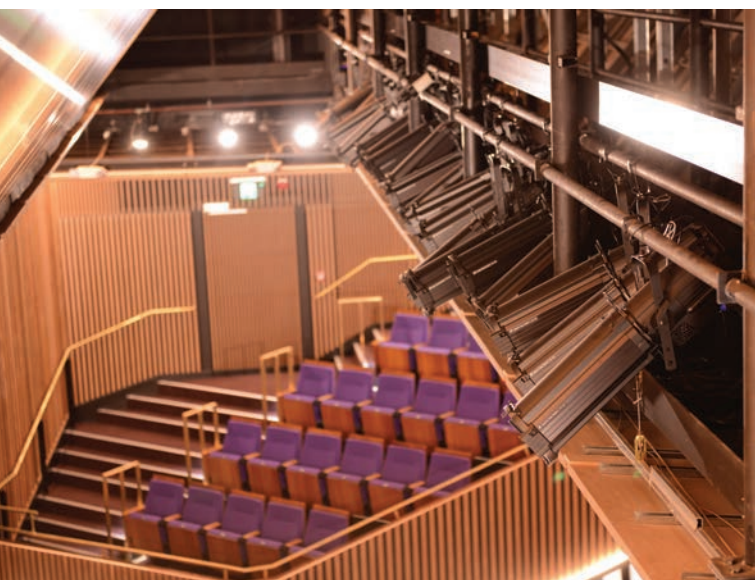
Project manager for The P.A. People was **Brett Steele**, who worked with Council and Schuler Shook to ensure that the technical fit-out was industry standard and the best they could afford. Chris Dodds (MD, The P.A. People) led design and to this end, several changes to the specified design were made as the project evolved:



Brett Steele

"One of the biggest changes was the LED lighting rig," said Brett. "Originally they had specified various GPOs around the lighting bridges and galleries to power up the LEDs, but to turn them off they would have had to do a site walk and switch them off manually. We convinced them of the virtue of putting in dimmer racks that, with patches to the lighting bars, would give them the option of using traditional incandescent fixtures if they wanted, but also use them as power distribution through relay switching, and turn the rig off from the control room or dimmer room. In the end, both the Theatre and the Studio have a dimming system. The Theatre is an LED rig and the Studio is traditional rig of 40 Profiles and 40 Fresnels."

Another significant change to the technical specification was the decision to make the audio control and distribution digital instead of the original analogue design. Brett and The P.A. People recommended a Yamaha mixing and signal distribution solution, moving to a Yamaha QL5 digital mixer and various Dante enabled I/O devices installed or floating around the venue. "Changing to digital saved infrastructure costs," Brett agreed, "and they got a great desk in the Yamaha QL5. It's very well understood and recognised in the industry. With operators coming and going with touring shows, the Art House needed equipment that techs feel comfortable to come and use."



Audio Spec

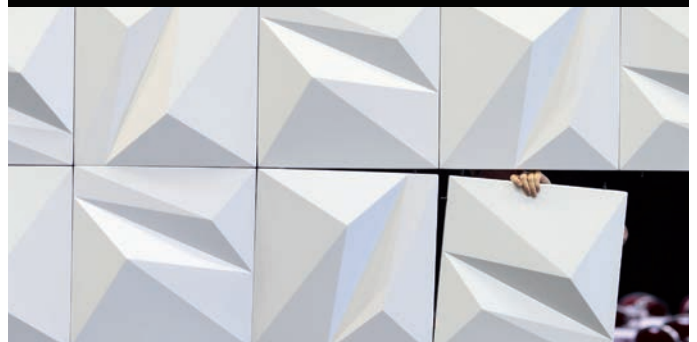
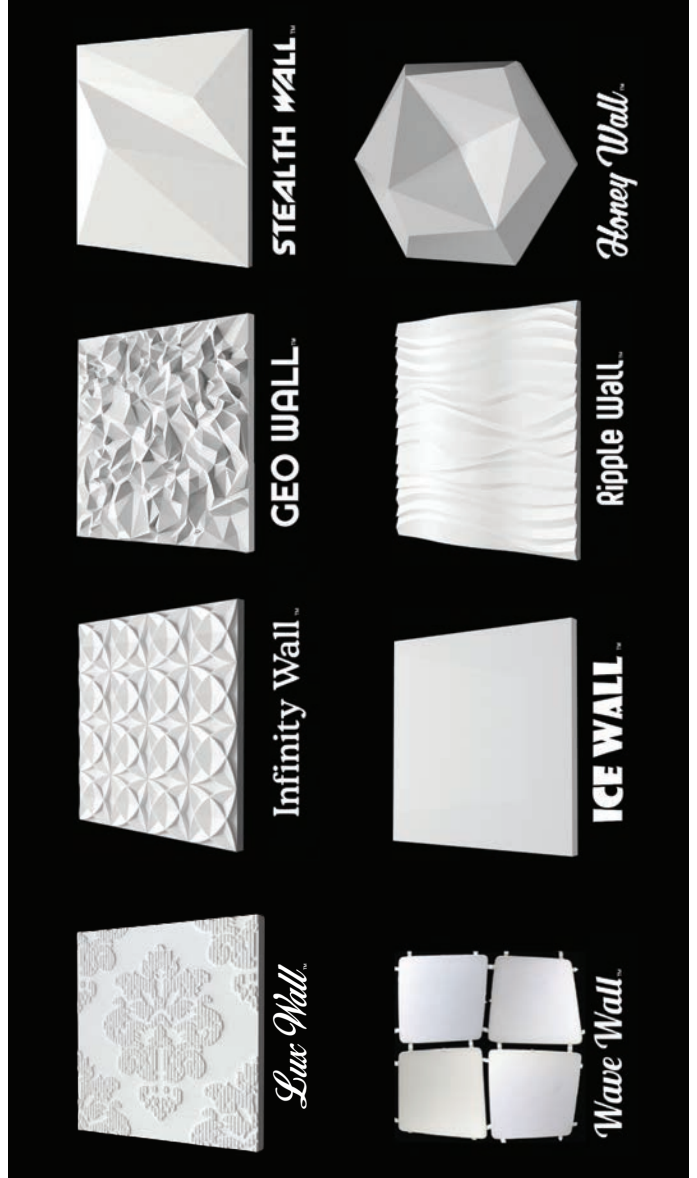
The Theatre's PA is a JBL VRX 900 Series system, with four elements each of VRX932LA-1 at left, centre and right. Two VRX918S subwoofers are flown above centre. Front fill is provided by five JBL AC18/26s, with a further 2 AC18/26s used for 'under balcony' fill. The rig is powered and processed by a combination of Crown DCi 4 and DCi 8 amplifiers. Further processing for the Back-of-House system is courtesy of a BSS BLU-100, also connected to the Dante network. The Studio's PA is a flexible system of JBL EON615s and 610s that can be flown or tripod mounted as required. The house mic kit is a mixture of wired and wireless models from Shure.

Mixing desks are Yamaha digital on a Dante backbone, with a QL5 for large shows in the theatre, and a smaller TF1 for the Studio, or smaller, single operator shows. A Yamaha Rio3224-D sits at the Theatre's prompt side, a Rio1608-D at opposite prompt. A second Rio1608-D is sleeved and can be deployed anywhere on the Dante network as needed. An eight in Ri8-D and an 8 out Ro8-D are mounted in the bio box for local I/O. Dante sits on a separate switch from the building's IT network, with the Primary and Redundant connections run on separate V-LANs. There are 24 dedicated Dante patch points throughout the building.

Lights and Management

The stage management console is a custom build by The P.A .People, and houses a Jands EZICOM 401 master station, a Leon Audio QLM16 MK4 cue light master station, Shure mic and a dual 8" LCD video monitor. Comms headsets are from beyerdynamic, and Back-of-House area paging is through a combination of JBL and TOA ceiling and surface-mount loudspeakers.

Theatre lighting control is from an industry standard ETC Gio, while the Studio is run from a smaller ETC



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Element 40. The system is built around 20 Jands HPC12 digital dimmers, which control a predominantly LED rig built around ETC Source 4 LED models and Selecon Rama LED Fresnels, flown from Jands JLX-Pro lighting bars. Cyclorama wash is provided from seven Chroma-Q Color Force CF72 LED battens.

The P.A. People also installed Jands curtain track in the Studio, JLX Lite lighting bars, and designed and installed the lighting grid in the Studio. They installed 11 LED video displays, three cameras for digital signage and performance relay throughout the building and the video infrastructure to support it, including HD-SDI links between the Studio and the Theatre to enable the Studio to be used as an orchestra room.



...They Will Come

With the Art House already a success, the venue is taking bookings solidly into the future. Well received by locals and visitors alike, both Council and the team who worked on the building are proud of its success, which comes down to all parties working together to deliver the best possible bang-for-buck. "Theatres are a beast by themselves," said Council's **Mike Horan**. "The Art House project was exciting, difficult and challenging. What worked really well was the proactive approach of all the parties involved. We chose a local builder, which paid dividends. Most of the money went internally. That's what the theatre is all about – if it doesn't work you have a dud."



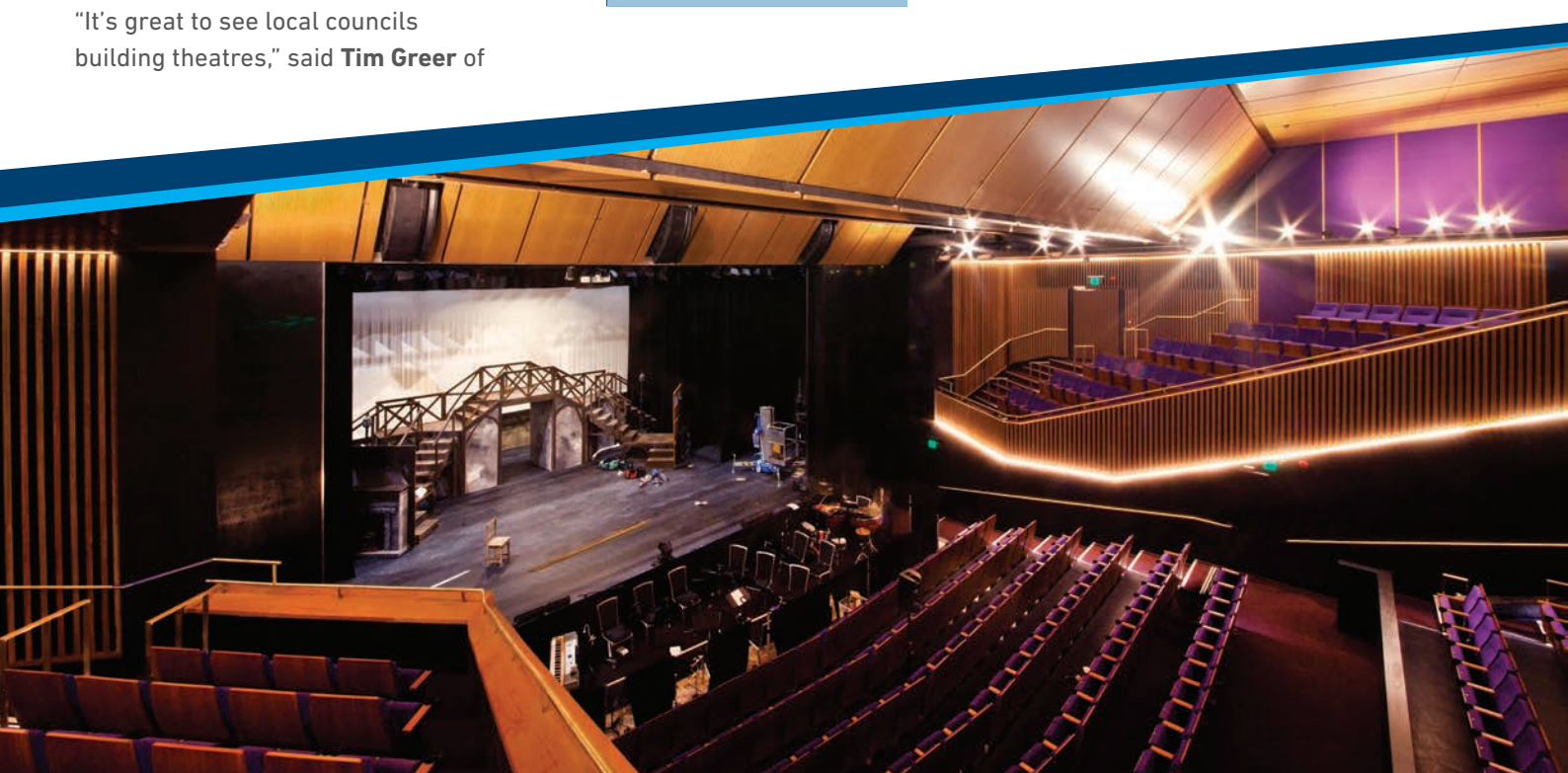
Mike
Horan



Tim
Greer

"It's great to see local councils building theatres," said **Tim Greer** of

TZG Architects. "They're very difficult buildings to deliver, with their multiple stakeholders. Wyong, with their limited resources, now have a great asset. Not everyone in the community agrees that there should be a substantial amount of money committed to the performing arts, but Council has a responsibility to build projects in all areas, whether its sport, arts or public spaces. They have to manage constrained budgets. It's terrific they've delivered this. There's a strong culture of theatre and performance groups within the local government area of Wyong who have agitated for this venue for a very long time, and it's good they've got such a great facility."



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Touring NZ

SAME ONLY DIFFERENT

By Julius Grafton

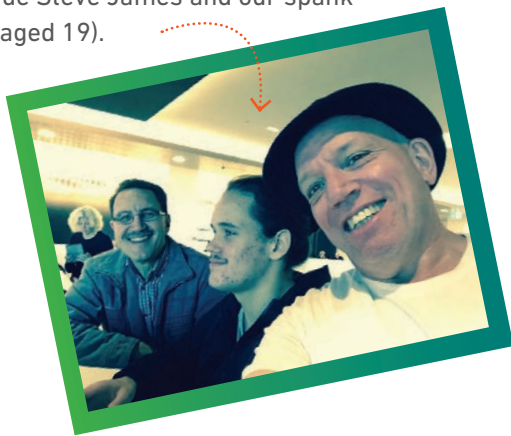
In July we had the pleasure of a short NZ tour with ENTECH NZ Roadshow. Having done this across Australia for some years we were keenly anticipating our new experience.



Figuring out what to take was easy, we had airline baggage limits so no touring drawers cases or all the stuff we have at HQ. An Australian tour starts with about nine cubic metres of our freight. We have 2 cases of power cables, a case with black table cloths, another case with metal stands we use to signboard each exhibitor space. Then there is a drawers case for our touring registration, with laptops, printers, paper and working admin things. Another drawers case for tools, and a dolly loaded with 15 cable trays.

For NZ we hired everything we needed from Oceania, who also supplied our two trucks and crew. The way things turned out, we will review what we do in Australia.

It was almost exciting rolling up for the flight to **Auckland on Sunday July 24th**. I was joined by my long suffering senior colleague Steve James and our spank boy, Jackson (aged 19).



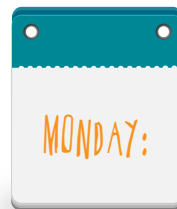
We were not impressed at the new deal from Virgin Australia which includes exactly no food at all unless you buy it. This marvelous innovation is also matched on Air NZ. After three foodless hours we arrived and queued for

immigration, then the longer queue for customs screening. This almost always involves your bags being x-rayed, as the Kiwis have very strict biosecurity regulations and there are severe penalties for anyone who breaks the rules.

The queue is always entertaining as you inevitably see some hapless tourist bailed up and relieved of their food, feathers, bones, tusks, furs, skins, hunting trophies, stuffed animals and reptiles. Or their weird medicinal whatnots accompanied by futile protestations as the tut tutting border cops wave fingers and shake heads.

Finally into a taxi to experience the weirdness that is Auckland's road system – the South Western Motorway from the airport to town suddenly stops and throws you onto suburban streets. Living in Sydney where the M4 motorway does the exact same thing, it almost felt natural.

We holed up in the Langham Hotel, which is most excellent, and enjoyed a small but excellent steak downstairs.



LOADING DAY

Our roadshow always starts from a freight depot where we unpack every exhibitor consignment. These are supposed to come ready roadcased, but often are on shrink wrapped pallets. On our SECTECH roadshow we marvel at the ingenuity and imagination that goes into what some

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cabinetmaker somewhere interprets is 'a roadcase'. Some of those look like something from the Crypt in 'Search for the Lost Tomb'.

We unwrap, make sure all the cartons on the pallet are labelled, and load these loose items into hired roadcases which we label with the exhibitor name. Our biggest day doing this was in Sydney last February where we had 30 exhibitor shipments with at least half on pallets. Imagine our surprise when we arrived at Oceania to find 23 consignments all lined up – with just two of them on pallets!

To make a good moment great, we then met the Evitan crew of loaders. Eight better guys you'd be hard pressed to find – we were not sure what to expect. These guys threw themselves safely into the task. What was also unexpected and rewarding was that Oceania's drivers – Conrad and Ford – were expertly and enthusiastically supervising and controlling the truck packing.

In Australia the general expectation is that the drivers stand around and watch, hands off, as the loaders load. We are used to the Australian pace, so the Kiwi pace was surprisingly brisk.

"So what does Evitan mean?" I asked a crew dude. "Bro, it means Native, backwards!"

Well inside two hours we were finished, as opposed to the usual four hours it takes in Sydney. Also refreshing is the hourly rate – we pay the loader agency NZ\$27.50 per hour (A\$25.80) and in Sydney we pay upwards of A\$48 per hour. One difference is that in NZ they have a four hour minimum call, in Australia it is three hours.

Somewhat at a loose end, we went back to the Langham for some last minute visitor promotions and emails.



SHOW DAY

New Zealand wakes up two hours earlier than Sydney so it was a crazy early start for the 6am load in. A nice constant winter shower was belting down outside as we loaded into a taxi for the short ride to the AOTEA centre.

There we were impressed to not only find our two trucks but also all our loader friends, and the venue event coordinator all on time and ready. The Lower NZI room was also ready to go, our event brief had been read and actioned. There was nothing in the way and the heating was mercifully turned on.

The first thing we do after induction is to measure and mark up the floor. On this tour we needed 29 spaces, each measures 3 metres by 3 metres. First thing we do is use a laser measure to crosscheck the venue plan is correct

– sometimes they are out a bit. We can't place a stand space across a fire escape or block a fire hydrant, and we have to also allow 3 metres aisles. We also look at where the three phase power originates as we need space for the distribution boards.

We use a rope marked every 3 metres as a short cut. Measuring and marking up at 6am before breakfast is never easy, the three of us blundered around while the loaders quickly unloaded and stashed the endless array of cases into a holding area.

Once we had 29 spaces marked up, we taped a sheet of paper with the exhibitor name in front of each. Then the loaders started to deliver cases to each space. Our attention turned to powering up.

POWERING UP

New Zealand also redefined power up, because at each of our three cities the local crew were more than capable of

following direction and also knew the fundamentals. You'd think it is easy and you'd hope loader crews would know the basics. There are some rules. We start with everything being recently tested and tagged, and travel with more cable than we think we need.

We supply one ten amp feed to each space, this was a little confusing in Auckland as the Oceania three phase distro's come loaded with 8 x 15 amp outlets, instead of the 12 x 10 amp we are used to in Australia.

Keeping 29 power runs neat and tidy was important, as was not leaving unused cable rolled up as this causes it to overheat when heavily loaded. Many of our exhibitors needed all 10 amps, so excess cable needed to be laid in a figure 8 pattern neatly out of the way.

Running power neatly is time consuming the first time you do it, luckily our morning schedules were totally under control in NZ due to crew enthusiasm and energy!

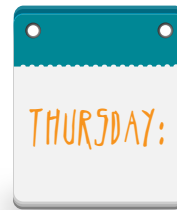
From venue entry at 6, we were powered up by 8 and ready for the exhibitors to come in and unpack their display gear. As they did, the loaders wheeled out their empty cases and stashed them.

The loaders clocked off and went home progressively, leaving the three of us to run the registration and look after the exhibitors. After doing this many times, we were almost ready for anything and easily handled small issues that popped up.

Once happy hour came to a happy end at 6pm, the loaders regathered and the empty cases materialised. Exhibitors are always keen to get away and have dinner, so the pack down never lasts longer than 7pm. By then the kiwi crew had much of the power cables rolled and the floor just cleared.

This was where New Zealand won us over, because those drivers just smashed it, supervising their truck packs. We walked off the floor when the last exhibitor left, and were seated at dinner by 7.30pm. In Australia we have to do a final after the truck is supposedly ready to go as we often 'find' stuff that has been 'overlooked'. This tedium has sometimes meant a mad dash for last orders at a restaurant at 9.30pm.

There are a few drivers in Australia who can be trusted to check a venue is empty, mostly they are simply automats that reliably drive from A to B and that's it.



WELLINGTON

Such a beautiful city, showcased as you fly down the bay to land along the shore. The sign at the airport says 'Welcome to Middle Earth'. A taxi ride around the bay delivers us to the Intercontinental Hotel which is right opposite our venue, Shed 6 at TSB Arena.

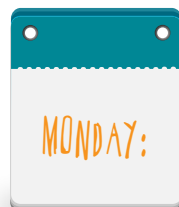
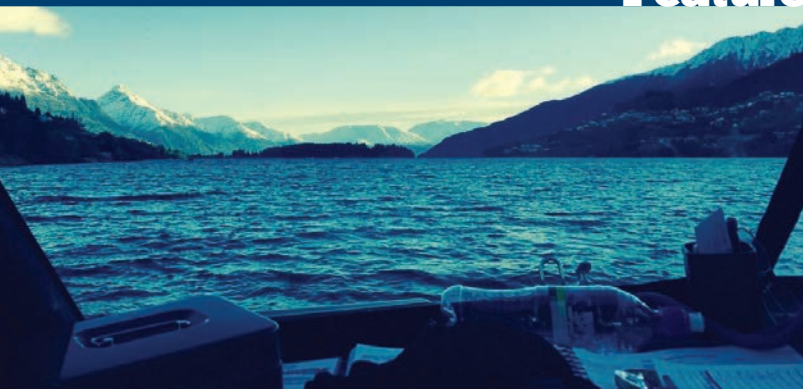
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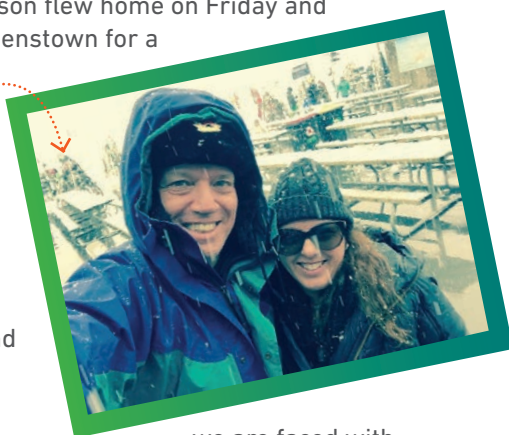
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CHRISTCHURCH

Steve and Jackson flew home on Friday and I headed to Queenstown for a weekend with Kate. We all reunited at the George Hotel on Sunday afternoon, one of the nicer places you'll find anywhere.



Walking past the venue we deduce it is available to mark up, and a quick call means we are in there doing tomorrow's chore today. This was just as well because the load in is direct from truck to venue floor, there is nowhere to park cases while we mark up.

We're enamoured with New Zealand now, and have a chilled evening meal at a restaurant a few blocks away. We're glad we took an Uber because it was up hill and down dale to get there.

Next morning it is much more relaxed due to the floor markup being ready, so I just wander over and greet the loaders from Eugene Pope's Strongback Crewing. I'm again infused with confidence because this is a bright and switched on mob, quite unlike some (not all) of the characters who turn up in Australia.

Everything then goes precisely to plan with the exception of the free parking which turns into a complete debacle. Wilson Parking are just a bit too big and impersonal, so a communications issue saw us given 'Pay and Display' tickets for the day.

Anyone who comes to our Roadshows knows that the usual routine at most big city parking stations is to grab a ticket from the boom gate and pay on the way out. We bulk buy exit tickets and hand one to each pre registered punter. But in Wellington this was not possible.

Wilson took our \$3,000 and didn't explain they changed to Pay and Display. This would never work, since the punters would need to park, leave the car un-ticketed, and walk to us to get the pay and display, then walk back to car to put it on the dashboard. In the meantime, they may have had an expensive parking violation.

'What can we do'? we asked Wilsons. The answer was a variation of 'tough luck'.

So we put several loaders wearing orange hi-viz at the entry to each car park (there were three different Wilson locations). Armed with a list of registered punters, they dished out the 'pay and display' ticket.

It was expensive, and it was deadly boring and cold for them. We deeply appreciate their willingness.

Monday at 6am we are faced with minus four degrees and a lack of taxi's, eventually we find an Uber and arrive late at the venue. Fortunately the drivers and Andre Goldsmith's crew are already halfway through tipping the first of the Oceania pans.

I didn't mention, NZ has a different trucking fleet to Australia where we normally tour in 48' semi's with a Kenworth up front. Over there they have a lot of Japanese imports, typically a Fuso rigid twin steer with a lazy axle. These carry about 60 cubic metres, compared to around 90 cubic on the Australian trailer.

Plus you can't just 'whistle up another truck', like we can by using ATS in Australia. They are big enough to be able to do that, indeed we had that horror in February when we realised for a variety of reasons that we would not fit into two trailers.

Our Christchurch venue was the Airforce Museum and it was a bit out of town, on the site of the former Air Force Base at Wigram. The exhibition hall is very large and contains several aircraft. Luckily it also contains 22 kilometers of heating pipes under the floor!

The trucks could back in, and the door was shut to keep the warm air in. Apparently it takes several days to warm the place up, such is the huge volume of the enormous hanger.

We did a routine markup, and then wrestled with the unusual 60 amp 3 phase power outlets. Fortunately the venue had breakout boards, so after some searching and improvisation we had a successful power up.

The day proceeded as planned, everyone did the business, and when we pulled the plug at 6pm it was with firm knowledge that we would be back to do it all again in two years.

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Biz Talk

September 2016



By Julius Grafton

Going for Broke Guide to bankruptcy



Somehow I found myself talking to a couple of friends who are recently bankrupt. One just filed, the other was recently discharged. I thought their experiences were worth sharing.

"I went home and told my wife my business was collapsing", Andrew* said. "Her first reaction was 'oh my God, we'll lose the house'. I was very particular with her: we would NOT, because I had a plan. But she wasn't listening."

Bob's* slide took a long time, from wealthy to zero. He didn't do anything wrong, he had a business that took a big whack in the GFC and then a climate event led to a big pause in the building trade. Eventually he had a perfect storm of events and long story short, just filed for bankruptcy.

"The tax office served me with a notice and I had 21 days to pay them an enormous amount. I couldn't. I owe banks and credit card firms. Essentially I lost everything and filed to get peace of mind". Bob's wife works independently, he has her love and support.

Andrew on the other hand lost his marriage. "She just couldn't get over the situation", he said. "Despite my lawyer holding her hand all the way through the negotiations with my trustee." Andrew had a white knight who put funds forward so that his wife could 'buy' his equity in their joint home from his trustee.

"My lawyer specialised in insolvency and he assessed that we could get out of trouble (with the house) for about \$25 grand. The way it works is that the trustee eventually writes to the spouse (who is not involved in the bankruptcy) and says 'hello, you need to buy your

husband's equity or talk to me about selling the house'. It took four months before she got the letter".

"The lawyer handled the correspondence with the trustee. He said 'Hey, we will get a valuation', because now the game was to get the equity value of the house sorted out." They had a pretty big mortgage, which was being paid by a third party.

Andrew's wife called in a valuer and – following instructions from the lawyer – just acted normally. "She cried, and told the guy honestly all about what was happening. That was just perfect, as his valuation was low. The trustee didn't like the valuation, and arranged a real estate agent to come over. The trustee didn't want to pay for a valuation. She repeated the scene – it wasn't hard, she was just acting like she normally did."

That valuation was rather high. "The lawyer objected on the grounds you can't trust a real estate agent, and said the trustee should appoint and pay a real valuer. He came, got the wife in tears routine, and filed a valuation fairly close to the first one. They all agreed to meet in the middle".

The lawyer negotiated hard with the trustee, they took the middle amount of the two valuations, took off selling costs like agency fees, marketing, and house preparation costs. Then they halved the remaining equity, and she agreed (through the lawyer) to pay the trustee \$25,000.

At that point the trustee left her alone, took the caveat off the title, and happily banked the money. Any trustee (an accountant appointed by the Australian Financial Security Authority – the Government agency that runs a bankruptcy) is always looking for a neat sum to cover off their charges. This guy promptly billed himself \$14,000, and that left \$11,000 to distribute to Andrew's creditors. He owed them \$350,000 so it didn't go far.

Lawyer and Andrew's wife were left with some complications, like the mortgage continued in both names. The bank could foreclose because Andrew (one of the two people on the mortgage) had defaulted on the mortgage contract by going bankrupt. But the lawyer pointed out, so long as the payments came on time, the bank did not care.

Bob just needed to get on with life. bankruptcy involves filling out a form and the day you sign it, is the day you become a bankrupt. He mailed it off, and wrote to his creditors to advise them they would hear from his trustee in due course, and that if they hassled him again they would be in breach of the law.

"A debt collector from American Express actually came down the drive almost yelling my name, yelling he was from Amex and he need to 'go over my account'. It was harassment, pure and simple".

Andrew was pursued while bankrupt by a voracious mob called Panthera Finance. This slop house buys bad debt – they had some of Andrew's from the Commonwealth Bank – and hounds people beyond comprehension. Despite him telling them he was bankrupt, they kept going. It took a media campaign to stop them.

"You find out who your friends are", said Bob. "Bankruptcy has a terrible stigma, I don't tell anyone", Andrew added. "It was hard to rent a house. I still get knocked back by some mobile phone firms and utilities, even though I am discharged".

Your credit history is wiped four years after discharge – and the term of an uncontested bankruptcy is 3 years. In theory seven years after entering bankruptcy, Bob and Andrew will have a clean slate. But not with any of the banks they owed money – they will never do business with them again.

Andrew had to pay a percentage of his income once he earned over \$60,000 to his trustee. Bob had a higher threshold of around \$80,000 as he has three dependent children at home. This goes on for three years and one day, at which time the bankruptcy automatically ended.

During bankruptcy the trustee holds your passport to avoid you fleeing the jurisdiction. Andrew needed to travel for work, so needed to get a letter from his employer stating where and when he would travel. The trustee would mail the passport to him, and expect it be returned. "It bothered me because I had a brother overseas who was prone to sickness and I worried how long it could take to get the passport back to go help him if needed", he said. Fortunately the situation didn't arise.

The trustee held one 'investigation' meeting with Andrew, which lasted about an hour. "They were just fishing about, I had nothing to hide so they had nothing to find", he concluded.

If a trustee has evidence or a solid suspicion a bankrupt is hiding assets, they can apply to the court to extend the period of bankruptcy. "They never do this unless they have an angry or aggrieved creditor prepared to pay the costs of the court case to gain the extension", an insolvency lawyer told CX. "A trustee exists to be paid, and they won't work for nothing".

One theme emerged – despite Andrew's wife bailing out, friends and families are essential for survival. And not everyone would help out. "I found out who my REAL friends are", concluded Andrew.

** Names changed due to the stigma.*



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THE MILL REPORT

By Andy Stewart

BLACK BOX RECORDER



Don't you just love it when things break in your studio mid session? Like your favourite vintage mic that's worth 14 thousand dollars but still manages to sound like an Antarctic blizzard barely 30 minutes after it comes back from the repair shop. *Oh the joys of old valve mics.*

Sometimes I contemplate my studio maintenance schedule as if it were an aeroplane. From that point of view alone the decision would be clear: I wouldn't take off in my studio, or anyone else's for that matter, if you paid me a million dollars.

Even when I've made a concerted effort to ensure everything in my studio has been well maintained, something always breaks, goes into hyper distortion, or drops a rail. It's just the nature of recording studios. They're a loose collection of objects at best, made up of components from different technological epochs that were never really meant to play on the same team. Sometimes I sit back during a mix session and marvel at how it all holds together... and the next day something fails and I'm back on the phone to my studio tech.

There's reliability, then there's studio reliability. Only one of these would you bet your life on.

HOUSTON, WE ALWAYS HAVE A PROBLEM

The other day I was mixing a song – on my own thank God – and out of nowhere I was clobbered by a 125dB screech that tore through me like a light sabre.

How my Event Opals survived it I will never know. I guess they're as bullet proof as people say, or I just got very lucky. How I survived was another matter. I was genuinely brutalised by the wavefront and instinctively dove for cover like a shell-shocked digger.

Somehow I managed to scramble instinctively for the console's mute switch during the incident, before rolling back in my chair to recover my senses. After a few

choice expletives that the control room acoustics dutifully absorbed I was back on deck, trying to inch my way around the board looking for the cause of the calamity, hoping to avoid another Mike Tyson left hook.

I instinctively wanted to take an axe to the console after the incident. Not a great maintenance regime I'll admit, and as it turned out, it was my Mac, not the board, that was the source of the sonic boom and a reboot settled things down in typically inexplicable fashion.

I was on edge for hours after the incident as I ploughed through my day's work, trying to get just one of the 11 albums I'm currently working on over the line.

'Imagine if I had to rely on this setup to fly me and my family overseas,' I thought to myself as I worked on a mix. 'Thank God this studio never has to leave the ground'.

The reason I was thinking along these aeronautical lines is because I was due to fly to the US a couple of days later, and as I write this article I'm currently in Lake Tahoe on the California/Nevada state line, far away from the studio.

Us studio engineers call this process of being away from the console 'a holiday'... because that's what it is.

NOR CAL

I'm spending a month over here in the US, hiking and visiting in-laws mostly, and hopefully when I return my clients will still be there, waiting patiently. I've also been playing some amazing acoustic guitars on my travels, some around the campfire (with one eye on the fretboard and the other peeled for brown bears), and others in shops. Some of these acoustic guitars have had price tags well into the six figures.

One such beauty was at my favourite Northern Californian acoustic guitar shop – Schoenberg Guitars in Tiburon – a 1930s era Martin D-28 that sounded so beautiful I really could hardly believe my ears. It was exquisite. It's the sort of guitar you could point just about any microphone at and have it sound incredible. As if I needed reminding, it proved yet again that good recordings are all about the instrument and the player, not the mic and recording chain.

The D-28 had no price tag on it, like many other guitars in the store, only a small piece of paper on the wall that read: "enquire about the price."

So I did.

"How much is this D-28 Eric?" I asked politely.

"Oh, that one is \$115,000, but it is quite rare."

"Right, is that all?" I quipped sarcastically, before deciding to return it forthwith to the hook from whence it came with a newfound respect for the instrument and a shaky right arm.

It wasn't something I'll ever contemplate buying in this or any other lifetime, unless I win TattsLotto.

Then there was the far more affordable Gibson J-35, from 1940. At a cool nine grand, this thing sounded so dry and deep it made you weep. The bottom-end, oh the bottom-end. Words cannot describe how deep and clear this masterpiece sounded. It quite literally filled your body with tonal resonances as you held it against your chest. I really wanted to take this guitar home with me, and while I'm here in California I'm still contemplating how I might do just that. Perhaps I'll sell my car (and my wife's car) when I return and we can just ride bikes

around for the next 12 months. Hmm...

But there are also two other guitars in Eric Schoenberg's little shop of envy (actually there are dozens, but who's counting?) that I'm still vaguely contemplating buying before I return to Australia: a 1960 Gibson Country Western, which possibly sounds even better than the other two, and a 1967 Country Western that also sounds astonishingly good and is about one-third the price of the J-35. This is a phenomenal strummer's acoustic, with a very thin neck that is in incredible condition for its age. I was actually shocked that this guitar was under three grand – still a lot of money of course, but it's easy to feel like that's a bargain when you're surrounded by all the amazing guitars in Eric Schoenberg's shop.

Why am I crapping on about all this? Well, while I realise CX is not a guitar magazine, I guess what I'm experiencing on my Californian trip is the same thing I always do when I'm far away from the studio playing beautiful acoustic instruments – that great sounds exist without technology having any involvement whatsoever. It's a fact many of us occasionally overlook as we strive to make things sound better. Stick a great mic in front of a bad instrument and amplify it through any setup of your choosing and the result will basically be the same... ordinary.

Investing in great sounding instruments is a lifetime's passion of mine, and guitars of this calibre always benefit me and my studio in countless intangible ways, not the least of which is the fact that they bring The Mill to life in ways that pro audio equipment never can.

Without instruments around me the studio seems lifeless and dormant, and more and more these days I find myself searching for instruments rather than mics and preamps. I just love the sounds I get from great guitars like the ones I've played over here, and know from experience that investing in mics rather than instruments tends only to

reveal how bad something sounds... what's the point of that?

I have about six albums I'm working on at the moment that could benefit greatly from the sound of at least one of these great instruments. But of course I'm not made of money, and for all my pontificating about the sound of these gorgeous guitars, only one or two of them are even vaguely affordable. I may come

back with the Gibson Country Western, or possibly a 1950 Gibson J-50... but I feel like a spoilt brat even thinking about it.

First-world problems at their pathetic best...

ONE LAST THING

On a side note, and to change the subject of this article completely (if there was ever one to begin with) before I sign off, I've noticed an ugly trend in recent times that I must strongly object to via the pages of this magazine.

There's been a rash of articles in several popular pro audio magazines recently that are at best advertorial and at worst downright misleading to the thousands of pro audio enthusiasts around the world who, by and large, take what is written in the pages of their favourite magazines at face value.

One thing that really drives me up the wall is the constant reference by famous rock stars to their new can't-do-without, never-heard-anything-so-incredible monitors or microphones.

In most cases, this is spineless advertorial content cooked up by gutless magazine editors who are basically controlled like marionettes by their advertisers – present company excepted of course.

The interviewees of most of this current crop of articles are essentially given the

products that they then, not surprisingly, endorse (though this can never be proven), to generate sales in the same way a famous movie star might sell lipstick.

Australians are good at smelling a rat I reckon, and I would strongly urge anyone who reads articles involving famous rock stars who happen to be endorsing a certain product by mentioning it by name in the course of a conversation,

to take their printed opinions with a grain of salt. Most of the time these articles are manipulated contrivances of the real interview that may or may not have even taken place. Moreover, there's no real way of knowing whether the gear was ever

purchased by these people or not, making their endorsement seem like hollow rhetoric at best.

The best way to judge if a piece of equipment is any good is to use it yourself. Nothing ever beats your own first hand experience of a product. This isn't always possible of course without first buying it, hence the articles people like me write. The next best thing is to seek the opinions of trusted professionals first hand; people who have handed over their hard-earned and use the equipment every day. Hassle them at gigs if you have to, talk to them on the phone or quiz them during recording sessions.

Most of my colleagues are pretty honest and forthright with their opinions, and will generally set you straight about which pieces of equipment are mainstays in their setups. They will also have their biases and preferences, as we all do. In the end it's then up to you to weigh up all the information you gather and make your own informed decision. Just beware of rocks stars reporting miracles in print.

Andy Stewart owns and operates The Mill in the hills of Bass Coast. He's happy to respond to any pleas for recording or mixing help... contact him at: andy@themillstudio.com.au





LISTEN HERE

FRESH IS BEST

By Andy
Stewart

Mix decisions

Without doubt, some of the best mix decisions are made at eight in the morning over a bowl of cereal.

Almost nothing beats it – fresh ears I mean. The cereal is optional.

You can spend all night working on a mix and be convinced you have a masterpiece on your hands only to discover the next day that there are some major imbalances between the speakers. Mental clarity the morning after a solid mix day often allows you to hear things that no amount of toil the night before can perceive.

It's one of the reasons why polished mixes sometimes take so long. Wherever possible, time should be allocated to allowing at least one fresh start on any given mix, whether it's the next day or weeks after the mix process began.

Having a hiatus of a day (or days) has the added benefit of putting distance between you and your work, allowing you to be more impartial to the sounds you hear, and less tied to your previous hard graft. Fresh ears are a precious commodity that can often be squandered when an engineer becomes too convinced that his or her amazingly clever mix chain, immaculate reverb or incredible guitar tones of the night before are too good to tamper with.

And the idea that there's somehow an intrinsic 'risk' involved in making changes the next day is a falsehood. Trust your instincts when you're fresh. If your ears are telling you there's too much 900Hz in that kooky guitar tone, they're probably

right – especially if the EQ boost took place at 3am. Like anyone who toils on something for a long period of time and likes what they've achieved thus far, a mix engineer will tend to be more protective of their work and defensive against any criticism around it the closer they are to it in time. Coming back to a mix the next day (or weeks later) allows you to soften against outside criticism as well as being more open to the new ideas you yourself will inevitably have. Being able to critique your own work and progress swiftly and decisively through the blocks and barriers of the previous session is a sign of a good mix engineer and a crucial aspect of any good mix – every bit as important as your prized bus compressor or that beloved Neve console.

Recognising the changes your mix requires and acting on these insights confidently and decisively before the clear waters of your fresh perspective become muddied can save you huge amounts of time down the track.

Fresh ears are arguably the best bang-for-buck way to achieve fast mix results, albeit at the cost of requisite time passing – typically a good night's sleep.

When I'm at home working at The Mill, Day 1 of a typical song mix (where I might be mixing a 100+ channel song) normally involves a 10 to 15 hour session (whether that should be classified as 'normal' work practice, I suspect not). This is typically followed the next day by a morning – maybe two or three hours – of coarse, medium or fine-tuning.

I don't like to wake up with any expectations on Day 2 of a mix. I never assume my adjustments will always be 'fine' either. I might listen to my previous day's work and hate it, or only like certain aspects of it. This may force Day 2 into a full session on the same song, or I may choose (after a chat with the musicians involved, and depending on the recallability of the session) to move onto another song as a further way of maintaining a fresh perspective.

What I usually like about the morning of Day 2 is that it's often the most invigorating point along a typical mix's timeline. Big things can be achieved, changes to the mix seem obvious and solutions are often straightforward since most of the genuinely time consuming, tedious hard work around file management, editing, bussing, and effects setups (that often take place on Day 1 while the musicians are off sightseeing or surfing) are taken care of. We're now free to really listen to what's coming out of the speakers, knowing that we're able to react quickly – things like faders, effects sends, analogue and digital mix chains, groups and VCAs are all setup and ready to tweak.

Of course, sometimes there's far more to these changes than a few adjustments to the status quo of the night before. Sometimes wholesale changes are required, even though this concept can be a bitter pill for you and your clients to swallow. The morning of Day 2 can throw up countless scenarios. You might merely sip tea, listen in

astonishment and agree the mix is flawless and print it. Or you may wake up with a jolt realising that there are a few big moves yet to be made that require more time and effort from you and your clients.

Maybe the track has a structural problem requiring hours of editing; maybe the main vocal sounds far too pitchy (thanks to your new-found clarity that has made it so obvious) and now it requires microsurgery; or maybe the tone of the whole mix is just way too dull and the drum kit is way too subtle...

Whatever Day 2 throws up, face it with a positive attitude and trust your instincts. Don't get deflated by the workload like a middle distance runner who's just discovered there's another lap of the track yet to be covered. Day 2 will feel like weeks if you carry that attitude around all day.

Flexibility and focus are in finite supply when you mix a song, so make the most of your fresh perspective while it's at your disposal. There's no point getting most of the way through a mix only to stiffen up at the last hurdle in reaction to the workload that's still ahead of you.

The trick on the morning of Day 2 (even if this happens days or weeks later) is to make a concerted effort not to prejudge your own reactions. In fact, don't hit play on the mix expecting anything at all – one way or another. You should neither be expecting the

mix to be perfect nor a pile of garbage. Stay wide open to the sounds you hear, and hit the ground running the moment your reactions start to flow. This is a hugely productive time don't forget, one that cannot be underestimated. Strike while the iron's hot and trust your instincts, particularly around things like the basic volumes of key musical elements, panning imbalances, tonal anomalies and distortion levels. These are the sorts of things that will seem clear to you after a good night's sleep that went undetected the night before.

One last point to make here before I sign off about fresh perspective on the morning of Day 2 – that never gets mentioned by anyone it seems – is to be very careful to make certain that you're back at the point where you left off the night before.

Make absolutely sure you choose the right session file if you're working digitally – don't call up the wrong file whatever you do! And if you've powered down in between sessions, make sure all your analogue chains are on, and that nothing within any of them are defaulting to another mode or in bypass somehow. It happens all the time, believe me! And nothing is more deflating or demoralising than working for three hours on Day 2 before suddenly discovering that the master bus compressor is in bypass or the vocal compressor is off!
Happy mixing.

Andy Stewart owns and operates The Mill in the hills of Bass Coast Shire in Victoria. He's happy to respond to any pleas for recording or mixing help... contact him at: andy@themillstudio.com.au

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Mission Critical Show Networking

by Simon Byrne

The live production and presentation industry relies on extremely reliable data networks to deliver our sound, lighting and vision content. The days of large analogue (and heavy) multicores are gone. This can be scary for those of us who have been around for a while. The concept of transporting all of our content on one single network cable is difficult to get comfortable with and if done wrongly, will cause major grief. It does have some huge benefits. Less copper, less weight, less cost and no long analog lines which means less noise in the systems. This shift means we need to be smart about how we deploy show networks. Let's start off with some fundamentals.

>> Your box needs an address, an IP Address!

An IP Address is a unique string of numbers separated by full stops that identifies each device using the Internet Protocol to communicate over a network. Production equipment nearly always uses IPv4 addresses. That is 4, 3 digit numbers separated by decimal points make up an address. You would have seen them such as 192.168.0.1. You'll notice that the latter 2 are not 3 digits! From a maths point of view, it really is 192.168.000.001. It is a 32 bit number which means there are theoretically 4,294,967,296 unique addresses. However we should always use what are called private addresses.

Private addresses are special ranges of numbers assigned purely for private networks. 99.9999% you use one of these ranges because IP packets addressed from them cannot be transmitted through the public Internet, even by accident.

Furthermore, all your devices must be in the same range otherwise they simply cannot communicate (unless you use a router, which would be a dumb thing to do). There are 3 of these special ranges.

Private IP address range	Number of unique addresses
10.0.0.0 - 10.255.255.255	16,777,216
172.16.0.0 - 172.31.255.255	1,048,576
192.168.0.0 - 192.168.255.255	65,536

By far the most popular range is 192.168.XXX.XXX (replace XXX's with actual numbers).

So a small audio network might look like this:

Device	Address
Router/DHCP Server	192.168.0.1
Audio Desk	192.168.0.2
Digital Stage Box	192.168.0.3
Laptop	192.168.0.4
Wireless Microphone with a network port	192.168.0.5

Every device must have a unique address.

>> You need a Subnet Mask too!

You will always see an IP Address paired with a subnet mask which usually looks something (or exactly) like 255.255.255.0.

A subnet mask is the way of segmenting networks. That is a method for devices to know whether they have a direct path to another device that it is communicating with, or whether it needs to go via a router (more on routers later).

Address Range	Subnet Mask	Unique Addressess
192.168.0.xxx to 192.168.0.xxx	255.255.255.0	256
192.168.0.xxx to 192.168.255.xxx	255.255.0.0	65,536

Put it this way, if you have less than 255 devices on your network, your subnet would be 255.255.255.0. If you have more than 255 devices, you are in the realm of serious networking and you probably want a professional to help you with a networking strategy.

>> How do these devices get these addresses anyway?

There are 2 ways, Static and Dynamic addressing, or a combination of both.

Static addressing is where someone literally enters a unique IP address and subnet mask number manually into a device. That person needs to ensure that they keep track of everything so that they do not create any problems or conflicts. The benefit is that you know precisely what address is being used for each statically assigned device. The downside is that it takes time to set and if you have a lot of devices, you might not have that time available. Despite this, some equipment only has static addressing. Dynamic addressing is where addresses are dynamically assigned by a "DHCP Server". A DHCP server is a feature of nearly all routers. This is a huge time saver and is the standard way that most networks operate.

This is what I do, I give static IP's to the big stuff such as the router, switches, mixing desk and digital stage boxes. Everything else is dynamically assigned.

>> And talking of Routers...

It is good to have one.

Firstly, they contain a DHCP server which provides IP addresses for your other devices. They usually have a network switch with 4 or so ports which is useful at FOH, and with a Wifi version, you can connect your phone/ipad which gives you remote control of other devices such as the mixing desk, wireless mikes etc. If you don't have a router with DHCP, you must manually assign all IP addresses to all of your devices...somewhat boring.

They can also connect your network to the internet (which is actually their primary function). However, you want an extremely good reason to risk connecting your private, mission critical show network to the internet and it is definitely not recommended.

I have a couple of Apple Airport Extreme routers for my shows. They are set up like this:

Ip Address is 192.168.0.1

Subnet Mask 255.255.255.0 (which means my network can only have up to 255 devices).

The DHCP server within the router is setup to only provide addresses from 192.168.0.129 to 192.168.0.254. That leaves 192.168.0.2 to 192.168.0.128 to be available for static assigning to other devices.

Special Note - There is a protocol designed to interconnect devices without a DHCP server or static assigning called "link local", self assigned IP addresses. Most computers can do this. However, they are not guaranteed as unique so this method is unpredictable and is not recommended in a show critical network.

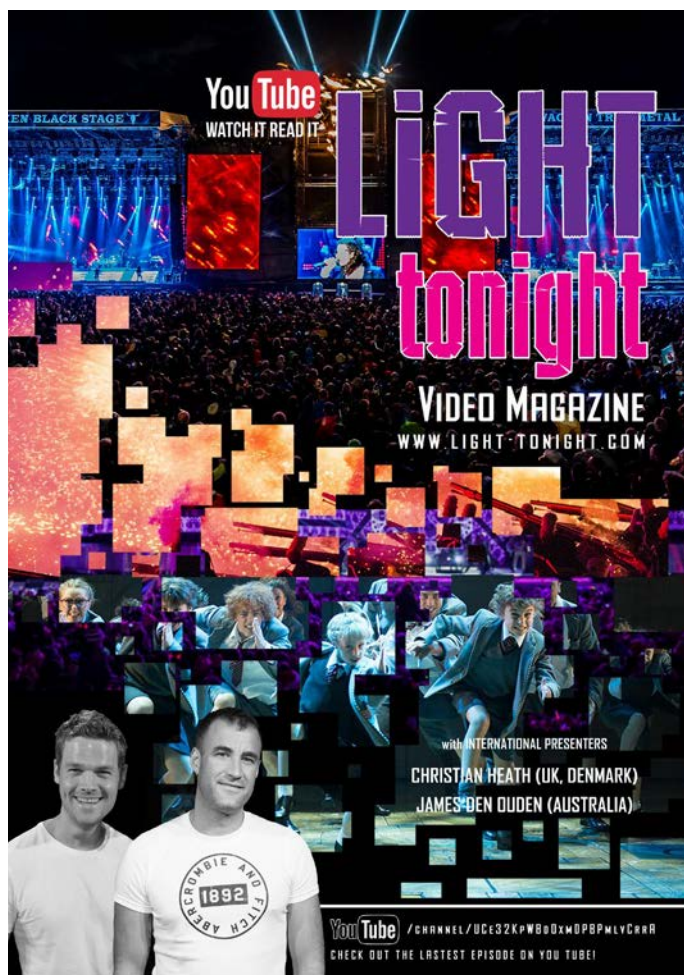
To be fair, companies such as Dante, Yamaha, Soundcraft and Allen & Heath have done a fantastic job of making this



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technology work with their equipment. The problems arise when other items are added to these ecosystems. Put it this way, it is an inconvenience if the office printer does not print because of a network addressing problem, it is a catastrophe if the PA system fails during a show due to poor IP addressing.

Self assigned IP addresses are easy to spot as they always start with 169.254.XXX.XXX. This is a great hint if you are trying to diagnose network problems.

Always have a dedicated private network with a good numbering scheme. A small audio network might look something like this.

Device	IP address	Static or Dynamically Assigned
Apple Airport Extreme router (with DHCP server built in)	192.168.0.1	Static
Cisco SG300 Network switch	192.168.0.5	Static
Yamaha CL5 Mixing Desk (network control port)	192.168.0.10	Static
Dante port on the same CL5	192.168.0.3	Static
Yamaha Rio Stagebox (primary only)	192.168.0.2	Static
Apple Macbook Pro	192.168.0.129	Dynamic
ipad	192.168.0.130	Dynamic
Shure ULXD4Q	192.168.0.131	Dynamic

In this small example, all items start with 192.168.0.X which means they are in the same private network, followed by a unique number. Some of the unique numbers have been manually assigned, the other were dynamically assigned by the DHCP in the Airport extreme.

You will notice that there is no device with the address 192.168.0.0. This is a special address used for designating a whole network when creating a path between separate networks. It must not be used for most of our applications.

>> Network Scanners

Network Scanners are cheap (or free) apps that scan your network for connected devices and returns their IP addresses. They are invaluable for quickly identifying network problems. They are available for all platforms **I like:**

For iPhone or Android - Network Analyzer.

For Windows, Mac and Linux - Angry IP Scanner

>> Network Switches

Switches are the heart of any network. They take data traffic and efficiently route to where it needs to go, and importantly does not route it to where it does not need to go. This keeps the traffic on the total network to manageable levels. It makes sense to invest in them wisely.

Device	IP Address	MAC Address	Manufacturer
Skynet5 (7)			
SB-APE2	192.168.1.1	34:12:98:01:99:3f	Apple
BKLYN-II-0bb80a	192.168.1.2	00:1d:c1:0b:b8:0a	Audinate Pty L
SB-IPH	192.168.1.4	N/A	Apple

Network Analyser App displays what is connected to your

All switches at a minimum should have this:

- » **Spend some decent money** - You have spent some serious coin on the rest of your equipment, so don't skimp on the boxes that bring it all together.
- » **At least 1gigabit speed** - 10/100 megabit has no place in our realtime networks. They simply don't have the throughput needed.
- » **Good indicator lights** - Really useful for quickly establishing whether things are connected and traffic is passing.
- » **Avoid Wall Worts** - My pet hate. Buy a quality router that has a built in power supply with a good AC connection that can be secured. You don't want a show to fail because that twenty buck wall wort fell out!

Here are some features you also probably want:

- » **Qos (Quality of Service)** - Qos is a data packet prioritising system. High priority traffic is tagged by the sender as such (say, realtime audio), and the lower priority stuff has to wait (say the the iPad remote control of your desk).

- » **Rapid Spanning Tree Protocol** - Networks cannot have loops (the digital equivalent of feedback), yet it is desirable to have some redundancy between front of house and the stage. Rapid Spanning Tree Protocol (RSTP) will let you connect 2 cables between 2 switches. If one of the cables fails, the switches will switch to the 2nd cable. It is not seamless, but it is better than nothing.
- » **Loop Protection** - Poorer version of Rapid Spanning Tree Protocol. Loop protection does the same job but does it by blocking one of the duplicated ports to stop a loop. If the first connection fails, the switches unblock the 2nd ports.
- » **Power over Ethernet (POE)** - Power over Ethernet provides a DC power supply over the ethernet cable. I suspect this will become more important as more professional products are powered by POE.
- » **Ethercon** - Ethercon is the ruggedised and lockable version of the 8P8C connector (often known as RJ45) manufactured by Neutrik. If budget can extend to a switch with Ethercon, it is well worth the extra investment.

THE CURE



BY CAT STROM

PHOTOS BY TROY CONSTABLE

There aren't many artists who can perform for three hours and after 36 songs including four encores, have people still chanting for more.

The Cure did just that at Auckland's Vector Arena where their performance was hailed as a once in a lifetime concert for all attending. With little fanfare, they took to the stage to embark on a show that had way too many highlights to register. The show was an intense rollercoaster of emotions and not once did they come across as old rockers churning out the hits.

The backdrops and lighting visuals throughout the night echoed the emotions adding a whole other layer to the show. The visuals were cleverly thought out and turned the show into a beautiful sight to behold.

The man behind this was Angus MacPhail who has had an illustrious career lighting legends such as Generation X, Joy Division, and Siouxsie & The Banshees. He first worked with The Cure back in the eighties when he decided to do something quite radical – add floor cans to the show!

"It was a time when Genie towers with Par cans on them were state of the art," Angus recalled. "I did a Dr Feelgood tour once and was most impressed to actually have a truss."

Fast forward a few decades and Angus is still producing atmospheric, dark and moody lighting. Sometimes he gets notes and instructions from Robert Smith, sometimes he is left to his own creativity.

"The songs and their lyrics are always the theme and to an extent, dictate how the lighting should be," said Angus. "Over the decades that does not change, but what does change it is the technology and the equipment available to use so you can produce the same theme but on a grander scale."

Angus works hard to ensure there is a balance between the video content and the brightness of the lighting, saying many people do not get that right.

"It's not easy to get a perfect balance but I try as much as I can," he added. "Everything on the stage then merges into a single picture."

Along with programmer Ben Hornshaw, Angus spent close to a month programming around 120 songs in preparation for the tour.

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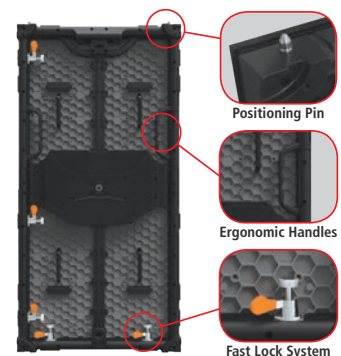


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"It was very time consuming and there are still songs in the repertoire that I know I only have the bare bones for as they haven't been used yet," Angus admitted. "It's a constant evolution, every time you hear a song you know you can tweak a little bit here and there."

At the start of the design process Angus knew that he wanted a staggered, simple truss formation with curved edges. The front truss was moved more downstage so that Angus did not need follow spots, as this way he achieved enough front light at a good angle.

"I knew I wanted a lot of firepower at the back which we have with a lot of rear lighting options," he added. "I've always liked side lighting so I have an annoying amount on this show although I try not to blind people. I also wanted an unmasked riser as I had all these lights low down at the back and when they shine through it looks like the riser is floating."

Downstage edge on the floor are Clay Paky Sharpy washes with Mythos and GLP impression X4L fixtures circling the stage. GLP impression X4S are located around the risers.

The truss holds mainly PRG BestBoy Spots and Washes along with GLP impression X4 Bar 20 fixtures with Angus favouring their tilt function. Strobes were a mixture of Martin Atomics and TMB Solaris Flare LED Strobes.

"It's all very minimal and open," said Angus. "Everything has a slight curve on it; the truss, the risers, the lights at the side, the screens at the back."



Normally the video screen at the back is split into five sections with towers inbetween each holding four Ayrton MagicBlades, two Clay Paky Mythos, a Martin Atomic Strobe, a GLP Impression X4L and a PRG BestBoy Wash. However at Vector it had to be one big screen. The five towers that normally sit in front of each screen were still used with each one housing an Atomic, a gelled eight-liter for a more opaque finish, a couple of Sharpy and topped off with a BestBoy Spot.

"Most people are very wary of placing lighting in front of a screen but it's never bothered me," Angus said. "You can still see the image if the tower is fairly minimalist and I like the way the towers stand out against the backdrop."

An MA Lighting MA2 was used for control with Angus commenting that he is at the point in his life where he knows it is smart to have a programmer!

"Ben can do it in half the time it takes me and it also allows me to sit back and concentrate on the design and not how long it will take to program it," he said. "We work together as a team alongside Dan Large with the video content."

"It's important to enhance the music and not second guess it. With a cue, it's better to be late than a little early unless of course it's a cue that's supposed to be early, like a dramatic effect cue. The audience get the surprise of hearing a particular thing in a song, and then there's a light to enhance it."

Globally the audio package is supplied by Britannia Row Productions and wherever the tour goes there's a universal FOH and monitor system. An L-Acoustics K1/K2 PA is preferred but in New Zealand where Oceania Audio is the local supplier through strong connections with Britannia Row, an Electro-Voice X-Line PA was used.

"Both companies have supplied and serviced an EV system for the last ten years so there's a lot of trust in what Oceania can deliver," commented Adam Smith, Systems Engineer on the tour. "There's a strong team of local engineers who have designed and installed the system on our behalf. We've come in to try enhance the situation further. The Oceania guys are very up to speed on the EV's development and its IRIS-Net system management."

In Vector Arena there was a main left/right hang of twelve EV X-Line Xvls with two X-Line Xvlt trapezoid versions of the Xvls as a downfill on the main system with some LF reinforcement flying some subs behind the main left/right in a contour mode. On the side hangs there are twelve X-Line Xvls with L-Acoustic Arcs filling in a shadow. A series of Xsubs were situated on the ground in a sub arc, 18 elements in groups of three equally spaced across the front with some L-Acoustics dV-Dosc front fill and some Arc outfill.

A different PA didn't phase FOH engineer Paul Corkett who has been mixing FOH for The Cure since 2011 when Robert lured him away from his more usual studio environment.



"When we first switched on the EV X-Line it felt pretty different to what we've been using but we just run a previous show through it and do our tweaks," he said. "The rooms are always changing anyway and they all have different characteristics and we tune the PA to how we want to hear it. We're pretty consistent in what we do."

Paul describes himself as someone who translates what comes off the stage; all the dynamics from the band, all the effects. His job is to enhance that performance and make the shows as exciting as possible. Robert's brief to Paul is basically that he should be able to run the mix with minimal tweaks.

"It should all come straight from the band so hence I don't use gates or compressors," added Paul. "Originally I did but when Robert listened to it, he said he didn't feel the dynamics of the band. So now I leave it really open with no effects at all, it all comes off stage. There is one vocal delay and that's it. With the nature of the rooms we play, there's usually a 3 - 5 second natural reverb so adding stuff just confuses it. All the effects come off the guitars and all the dynamics come off the band. When it's a three hour show, it makes it much more exciting than running one slab of compressed sound."

After initial rehearsals for the tour Paul remarked that they came out in a good place and all he has to do is basically tune the PA. Robert may give him a few notes after a show but basically it's pretty set.

Paul has been mixing with an Avid Venue Profile for the past five years favouring the way it integrates with the Pro Tools system and every show is recorded to two Pro Tools rigs.





Robert was approached to use in-ears. He said NO!

"We record audience mics with about 80 signals coming into the board so the show can be mixed for later use," he said. "Microphones consist of a basic drum package of Shure 91 inside the bass drum, Shure 52 outside, Shure 57 on top of snare, Neumann 105 underneath the snare, HDT P-98's on cymbals as well as AKG414's. We used to mic all the amplifiers but now we're coming straight out of the amps via Palmer or Radial boxes. It sounds surprisingly tight."

Robert's lead vocal microphone is a DPA D:Facto which he only started using on this tour. Paul reports that it has great sound rejection which is a necessity as the stage is very loud plus the kit is on a riser quite close to the vocal mic.

The stage is heavily populated with monitors with monitor engineer Rob Elliot describing the set up as pretty old school as the band has been playing through monitors for forty odd years.

"Only the keyboard player and drummer use in-ear monitors," he said. "Everyone else uses wedges LOUD. Robert's is especially loud, his rear wedge has got everything in it mixed quite loud and that's what he likes, to hear a complete mix with him up on the stage."

Rob admits he did approach Robert about using in-ears but Robert replied NO before he could finish asking the question!

Rob recently switched to using a DiGiCo SD5 for mixing having used a Yamaha PM5d for the past ten years.

"It got to the point where I couldn't fit anything more in or out of the board," he explained. "At first Robert was hesitant to change as it sounded good but it was more of a technical situation and it does sound great."

Again Rob uses no effects, gates or compressors. Well almost, he does have a little bit of compression on the ambient mics behind the keyboard player, which he feeds into his ears, and the drummer but ssshhh don't tell Robert!

"During the show, I hardly touch the board unless Robert tells me to as he doesn't like anyone to fiddle with anything, I just sit there and keep an eye on him," commented Rob. "I send the drummer sends and he mixes them himself on his little Mackie 16 channel mixer. The other three, once they're set don't require anything so basically I'm keeping an eye on Robert for three hours."

Disclaimer: CX travelled to New Zealand to cover The Cure at Auckland's Vector Arena however the live photos in this article are from the Sydney show at Qudos Bank Arena where the full lighting rig was used.

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Matt Landers at FOH 

Matt Corby

BY CAT STROM

PHOTOS BY TROY CONSTABLE

FOH engineer Matt Landers has worked with Australian singer-songwriter Matt Corby since 2012 and is currently touring through Europe with him. Occasionally he has time to mix for other acts such as Ball Park Music, Seekae, Flight Facilities and Sarah Blasko but for the past year he has spent eight months with Matt.

"Matt's show is definitely the most challenging I've mixed but also the most rewarding," said Matt. "By no means is it a set and forget mix or a snapshot show. It's all played live, no track or samplers just humans playing instruments on stage."

"Our on stage sound is actually really quiet which obviously helps me a great deal out the front," added Matt. "There are no wedges, just a drum sub. The band line up is drums, bass, two keyboardists with BVs and flute, guitarist and Matt on vox and guitar. The bands control of dynamics is pivotal to our show."

"We use a condenser on his vocal so that can open up problem areas," explained Matt. "There's only so much I can get out of that mic without causing feedback, especially in smaller venues or acoustically challenging venues."

Then there's the loud audience members on a weekend show in Dublin for example... I've always got a finger on the main vocal VCA and one on the band VCA mix. My snapshots are effect changes, mutes, panning and that's pretty much it. So there's definitely work to be done during the show."

Matt Corby isn't a big fan of sound checks with Matt saying that he's usually giving about 50% vocally as his voice usually hasn't warmed up by 3pm and he's saving it for the main event.

"Which is understandable but still.....I've used virtual sound check for a while but at the end of the day the band sounds are fine, it's the open vocal mic's with the band mix and how that reacts in a room full of people," he said. "No amount of virtual sound check can imitate 2500 people singing along louder than the PA! Sound check to show mode does change significantly but I know what to expect and not to stress too much."

For the Australian tour Matt used a Venue Profile running off two Midas DL431's and not using the Avid stage rack.

"We approached our Australian audio supplier about using this combination of Midas pre's with a Profile after

**No
amount of virtual
soundcheck
matches
2500
voices**



investigating other acts and engineers touring this same rig," clarified Matt. "I really like mixing on a Profile surface and the Waves integration is far better than the other console manufacturers, in my opinion. Adding Waves to DiGiCo consoles is great but it always feel like you've performed an organ transplant, the console often rejecting the unstable foreign object, then never acting the same after this operation plus the myriad of other issues that seem to pop up!"

The mic's pre's are controlled from monitor world. Signal is piped to FOH via an AES50 stream into a Klark Technik DN9650 which converts to Madi. A Madi card is installed in the Profile FOH Rack and it's all clocked via a BigBen. The Profile gain control becomes a trim level which gives Matt 40db to play with. Most inputs he's generally trimming about -2 to -8db.

"I set the 431 gains during the first show line check and set trim levels out the front," Matt continued. "Once the process is setup it's fairly smooth sailing. I think I've made maybe 3 or 4 gain changes on the 431 since the first show so it's not something that I'm constantly hassling our system tech or mons engineer about. I do minor adjusts on the trim when needed. I've also been multi-tracking the shows via a MGB running out of the 9650.

Matt has his own delay unit on stage that he's in control off. The mic runs into a Radial mic splitter on his pedal board that splits a dry output, plus an output into a Whirlwind Selector XL footswitch that engages his delay pedal (Boss DD7).

"Matt has always liked to control his own delays," added Matt. "We used two mic's in the past but it caused more issues and looks stupid. So we've setup this split, footswitch and the DD7 runs a 100% wet signal into a DI. There's a third split which goes into a loop pedal for vocal loops in one song. That loop station also sends 100% wet signal so there's never any double up of dry vocal which always causes not only level issues, but phasing. This chain works great and Matt has control over all this literally at his feet."

"I use the DVerb plugin for my drums. I have a long hall rev for a few quieter rim shot moments plus one song that has a rack and floor tom moment that needs a little fairy dust. I also use a moderate amount of drum compression but again keeping it somewhat transparent, you know it's there but it's not a Flaming Lips show."

Matt Corby's vocal abilities are quite astounding, like no other act Matt has worked with. The dynamic range of his vocal alone is incredible and no amount of compression is going to tame it without sounding unnatural. FOH there are a lot of small rides of the vocal fader.

"Mind you, I do have a comp, limiter and multiband comp on his vocal channel," admitted Matt. "I also run the vocal into a sub group along with his vocal effects and process that with a 10 band parametric EQ or Graphic EQ. This allows me to get a few extra dB from his vocal and make any EQ cuts without effecting the PA EQ. Each show I open up the vocal on stage and have our monitor engineer Boz talk into the mic. I notch out any unstable frequencies to clean up the vocal sound in the room. Once we have the vocal stable and at a good level, that's the point I work the band mix around when we sound check. I'm often hovering over that vocal group EQ for the first song to touch up any offending frequencies while maintaining the natural sound of his voice and clarity in the mix.

For the Australian tour mostly in-house PA's were used with the exception of three venues where a d&b V rig and a J rig were bought in. Apart of the touring control system, Matt takes 4 x d&b Q7's for lip fills. These were used at the Enmore plus he added two Q10s as under balcony delay. It was important for Matt to push the energy to all parts of the venue and maintain the clarity for the uber fans down the front and 'sit down and drink wine' fans up the back.

Matt's system preference would be newer L'Acoustics and d&b systems plus he reports that he's had a few really good shows on the Martin MLA.

The band are all on IEMs with the only monitor speaker on stage being a drum sub (Qsub). The bass player, guitarist and Matt are on wireless Shure PSM1000's and the other three, drums, and two keyboard players are on wired Whirlwind PA-1 headphone amps. These players are all stationary so the headphone amp gives a cleaner signal path, full spectrum and wider dynamic range. Also the less RF being used on stage is always a good thing especially in larger cities and festivals.

Matt tours all the mic's and DIs. There's a mix of Shure, Sennheiser, Beyer, AKG, Josephson, Audio Technica and the overhead mic's are Lewitt LCT640s.

"We use a DPA d:facto II on Matt's vocal," Matt elaborated.

Matthew "Boz" Boaro was on monitors using a DiGiCo SD5 with Matt describing their partnership as close, pushing each other and the band to achieve the best results every show.

20 QUESTIONS with

Alex Saad



Alex Saad is a dim sim connoisseur, lighting designer for some relatively unknown local, national and international acts, comedy through rock and roll and anything in between.

- 1. What are the three best things about your job?**
Seeing my mates.
Seeing happy punters after a gig.
Watching/listening to each act perform.
- 2. And the three worst things?**
Leaving my family, even for one day.
Shit coffee.
Too much soya sauce.
- 3. What do you never leave home without when working?**
My phone, my watch, my laptop, my USB sticks, my iPad, my in ears, my hard drive, my torch (even though it's flat), my Bose head phones and my passport.
- 4. What was the worst nightmare you encountered on the road?**
Losing power during a gig - twice - once with Nickelback, the other was The Wiggles. I don't know which was worse (I do know actually).
- 5. What has been the strangest request from an artist?**
A red light on the piano player's feet, a phone book and 144 condoms.
- 6. Who was hell to work with (probably best not to actually mention name but elude to it)?**
A: Me.
B: An Australian singer songwriter back in the early 80s whose nick name was Ralph C. An English comedian, who is 76yo but grumpy all the time. Then again at 76, you're allowed to be grumpy all the time.
- 7. What is the most stupid request you've had from a member of the public, artist or promoter?**
Do you know where I threw my underwear?
Can I have the last dim sim?
Can you do the gig for nothing so I can send my child to Private school.
- 8. In your opinion, what's the best show you've worked on and why?**
In no particular order: Flight of the Conchords, Icehouse, Bill Bailey I just love the acts.
- 9. What is the most bizarre sight you have ever seen at a gig?**
Cam Batten flashing his dick at every gig with

Nervous at Midnight. He was the lead singer and every night during one song, he would drop his pants and his wanger would come out swinging. I swear it would hit the ground every night.

10. **Who do you admire in the industry and why?**
Flea, such a hard working dedicated guy.
11. **Which venue is your favourite and why?**
The Palais Theatre in Melbourne. I saw Jesus Chris Superstar with Marcia Hines and Reg Livermore, first gig I went to when I was eleven years old.
12. **Which recent piece of production gear do you view as a game changer?**
Mac 301, the LED wash with zoom.
13. **What is the most outrageous thing you have ever done on tour?**
Careful answer..... run around naked backstage after show.
14. **What was the worst weather event you've encountered at an outdoors gig?**
Wolfmother at Kryal Castle in the 2000s I think. It pissed down during load in, setup, sound check up to doors, then stopped for 2 hours then rained all during the out. Everything and everyone was wet!
15. **What would your ideal rig contain?**
Perfect haze and clear loud talkback.
16. **Which band would you most like to work for and why?**
Any band on a full time basis.
17. **Do you have a favourite mantra to get you through the day?**
No, but I love the Pullman Quay Grand in Sydney or QT Sydney.
A dim sim a day keeps you healthy in a number of ways.
Never say NO.

18. **What do you think of the Australian live music industry at the moment?**
Needs more medium sized venues 1000 to 1500 pax for bands to perform instead of depending on music videos for exposure.
19. **If you could invent anything to do with lighting, what would it be?**
Wireless power. Truss less rigging.
20. **What did you really want to be when you grew up?**
Working on a grand prix team.



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MACKIE PRODX

ULTRA-COMPACT DIGITAL MIXERS FOR NOT-SO-COMPACT GIGS

By Jason **Allen**

Just when you thought that a digital mixer couldn't possibly get any smaller, along comes Mackie's ludicrously small new Pro DX series. They are billed as 'Ultra Compact', which is almost an understatement. With the DX4 at 76mm x 160mm x 140mm (HxWxD), and the larger DX8 just 76mm x 230mm x 140mm (HxWxD), these mixers would almost fit in a large microphone case. So what do you get in a package this small?

The DX4 gives you two combo jack mic/line connections, plus balanced TRS outs for left/right and the one aux bus. There's also a 3.5mm jack line input, and a 3.5mm jack phone output. The DX8 gives you six combo jack mic/line inputs, and two aux busses with TRS output, in addition to the L/R outs, and 3.5mm ins and outs. Both models have an external power supply and a mini-USB connection for future firmware updates. The DX4 has four mix channels in total, the DX8 eight, with both having the ability to bring in stereo playback either through the 3.5mm jack in or via Bluetooth.

Front-panel wise, it's pretty minimal. There's a big 'One Knob' type control, and push buttons to select which channel or bus it's affecting, including the single

effects bus and the monitor bus. The vitally important Bluetooth pairing button also resides on the front panel, and that is really key to the mixer's use.

The secret to getting all of this mixer into such a small space is of course to outsource critical operations to another device, in this case your iOS or Android phone. When installed and paired with a device, you get access to each channel's compressor, whose control is a simple bar that gives you 'more' as it increases, and its EQ, which very nicely includes a high-pass filter and three bands, with a sweepable mid. Effects send levels are also set through the channels' control screen, as well as channel pairing.

Accessing the control screen for the mains or aux busses will give you access to a seven band graphic EQ (125, 250, 500, 1K, 2K, 4K and 8K), while the effects buss lets you choose from one of 16 presets. There's no further control over effects parameters, except the master level. Overall, the system lets you save three mixer-wide presets and recall them.

While the DX packs a lot into a small space, there are some things to be aware of – operating through MixerConnect doesn't ergonomically lend itself to making quick changes, even with an iPhone 6S. And if you do, and sweep the mid frequency on a channel EQ quickly, for example, you can hear a few audible artefacts. But that's not what ProDX is all about anyway – these things are made for solo, duo and small musical acts, or small corporate presentations, to do 'mix yourself' or 'set and forget' jobs. The most strenuous thing these mixers should ever do is be asked to turn the effects master down between songs, and fader movements thankfully don't cause artefacts.

The ProDX Series doesn't let you get in trouble by being able to do too much of anything. The preset reverb and delay effects have been reined in so as not to get out of hand, the compressors can't be pushed too far, nor can the high-pass filters. Operation is intuitive, as is set-up and connection. The pres are clean and honest, as is the output. All of this speaks to



Brand: Mackie

Models: ProDX4 and ProDX8

RRP: ProDX4 \$449, ProDX8 \$599

Product Info:

mackie.com/products/prodx-series

Distributor: www.cmi.com.au

the amateur or semi-pro target market of the product, or gigs at the smaller end of the corporate spectrum, including break-outs. Considering you could pack one of these mixers in your lunchbox, and the extremely low barrier-to-entry, they're going to suit a lot of applications.

PHOENIX AUDIO TECHNOLOGIES CONDOR MICROPHONE ARRAY (MT600)

HIDING YOUR CONFERENCING MICS IN PLAIN SIGHT



By Jason **Allen**

Anyone who's ever installed conferencing gear in to a corporate environment knows that no-one ever wants to see the microphones. Or the speakers. Or anything else that needs to be near a source or receiver to create a decent result. No, just the vast and expensive screen is the only thing that can be in eye-shot, and they might even make that retract into the ceiling if they have budget. As such, creating solutions for capturing voice while being visually unobtrusive has become a righteous quest in AV.

Phoenix Audio's Condor Microphone Array is one such attempt to solve this problem. A sleek black tube, 1.2 meters long and 6 cms in diameter, it is designed to blend in when mounted underneath or over flat panel displays or projection screens. It can also be stood on its included feet if it needs to sit on a surface.

Inside, 15 microphones create seven fixed-direction directional beams with constant beamwidth. The Condor is intended to pick-up voices around a conference room and deliver them to a hard or soft codec conferencing system at equal volume, while cancelling noise and echo, reducing reverb, and automatically adjusting gain. Operating range is quoted up to 11 metres, with a recommended range of 7 ½ metres. It can pick up sounds up to 180 degrees

from centre.

Happily, the Condor does exactly that. In our test, through a remote hook-up, we had a test subject walk around a boardroom, and the audio stayed consistent no matter where she went. The Condor created no artefacts or latency problems, and handled echo cancellation, noise reduction and gain adjustments smoothly. On the other end, our subject reported the same results from our identical set-up. For the record, both rooms used a flat panel, mounted around 1.5 meters up the wall and the Condor fitted squarely under the screen, with a small (5") pair of powered monitors left-right providing audio. The remote end was quiet, while our end had a reasonable amount of ambient noise.

The Condor is quite flexible in how it can be used. Reference audio can come in via analogue or digital connections, and microphone and programme out have both digital and analogue options. If it's connected to a PC, you can simply power it via mini-USB. If you're not using that option, there's an included 5V power supply. The Condor even includes a built-in SIP phone, which you can configure and use via a web GUI on a Windows or iOS device sitting on the same network as the Condor. There's even a recording utility available (Windows only).

Every room may be different, but if you aren't allowed to make holes in a precious hardwood table, can't or don't want to run mic cable under around and through the room, the Condor may just suit your application perfectly.

Brand: Phoenix Audio Technologies

Model: Condor Microphone Array (MT600)

RRP: \$2963.22 inc. GST

Product Info: www.phnxaudio.com

Distributor: www.madisontech.com



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There are several good arguments as to why hybrid lighting fixtures – ones that can do more than one thing – are a good thing. Deployability is a word that spellcheck tells me I just invented to describe how easily or frequently a type of fixture may be used on different types of gigs. High deployability = high ROI. That's a good thing where the beancounters are concerned.

A fixture capable of multiple functions may take the place in a rig of two or or even three more singularly purposed luminaries, leading to smaller and easier to tour lighting rigs. More versatility means fewer types of fixture need to sit in your inventory, meaning so do fewer types of spare lamps. It's a small thing, unless you own a lighting company in which case lamps can tie up a lot of capital!

The XR330 BWS is touted very much as a multi purpose luminaire, capable of Beam, Wash and Spot functions. There's half the name

PR LIGHTING XR330 BWS

PR HYBRID FIXTURE

By Jimmy **Den-Ouden**



explained in three words or less. Like many manufacturers, the PR Lighting crowd have realized that the development of more efficient optics means you don't need to stick a 1200W lamp into every fixture nowadays. The XR330 uses a 330W Sirius HRI lamp, notionally good for 1500 hours of use. The name has now been fully explained, so the real question is does the fixture live up to it?

The beam and spot functions see the XR330 BWS at the narrow end of its zoom range, with beam reducer taking the beam angle down to a rather narrow 2.8 degrees. Spot mode runs from 5 to 22 degrees with linear zoom and focus adjustable across this range. 14 fixed and 9 rotating gobos are available, as is a mechanical shutter for strobe duties. I didn't find the gobo projection to be super clean - one edge would invariably be a little out of focus while the other was sharp. This said, I was projecting from a bit of a nasty angle across a relatively short distance, so changing either of these parameters would likely reduce the problem a bit. The PR Lighting website also mentions a lens option to increase gobo clarity.



Brand: PR Lighting
Model: XR330 BWS
RRP: \$5535 RRP
Product Info:
www.pr-lighting.com
Distributor: www.jands.com.au

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www.arkaos.net



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Interestingly it seems very easy to dial in the focus quickly – other fixtures seem to need lots more fine adjustment while the XR330 BWS kind of just naturally seems to fall into the right place. Weird, but definitely good. Also very good was the dual prism selection, both of which can be simultaneously used. The fixture seems to automatically change something in the focus section when you insert a prism such that an already focused gobo remains in focus.

All the spot and beamy things either met or exceeded my expectations. I was very happy with the CMY colour mixing as well as the fixed colour wheel. Some random colour macros are available on the CMY channels too which is a nice feature if you want some quick colour without all the emotional burden of choosing a specific one. So where's it fall down?

The XR330 BWS is unfortunately bound by the laws of physics, or thermodynamics, or something like that. You can't get out of it more than you put in, and when you put a 330W lamp into a fixture you'll always struggle to make it work well as a wash light. It's got enough output to work on a small stage, but it's just a bit too noisy to get away with putting into such a sized venue. I think if you stuck to using the wash mode as an aerial effect you might get away with using it on a much bigger stage where the fan noise wouldn't be a problem.

Either way, it's still good as a beam and spot fixture, so while I don't think it does exactly what it says on the box, I think it's still a good and capable little unit regardless.

**The dual
prisms
can be used
simultaneously**





By Jimmy Den-Ouden

RTI XP6 ADVANCED CONTROL PROCESSOR GREAT VALUE

Let's face it, if you've ever worked in the world of commercial AV then the concept of unified control systems won't be anything new to you. Going back well before 2000, plenty of such systems were installed in corporate and educational facilities. They typically used rack frames, and control cards, and were out of reach to most users. The XP6 is a bit different, and a bit more accessible all round.

The XP6 is an Ethernet enabled system control processor, designed to integrate multiple pieces of technology and allow them to work as a unified system. A single command can be sent to the device, to trigger a sequence of events, complete with logic tests, timing options and other common control

operations. Visually it looks like every other control system processor on the market - pretty boring. It's a black metal box with some mounting flanges, connectors, and a couple of LEDs.

How the unit looks is of little consequence though, since it's likely to be buried in the back of a rack or AV cabinet. Physically it's quite practical, being easy to mount on a surface and attach connectors to. Once all that's done, it could well be the last bit of physical or visual interaction anyone ever has with the box.

The XP6 is designed to interact with other equipment



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in a variety of different ways, and as such is equipped with plenty of connectivity options. Three relays provide dry contact closure interface for controlling anything from a garage door to a projector screen, or even interfacing with a commercial power sequencer. Six IR ports allow infra-red control over devices such as bluray players, screens, and anything else with an IR window. The output level for each port is adjustable via recessed potentiometer. Infra red control commands can be routed to all ports or one or more specific ports, so several devices of the same type don't pose a problem. There's also a high level IR output which allows you to connect multiple IR emitters via an external connecting block.

Should you require one way RS-232 control, each of the six IR ports may be used for this purpose with the addition of a CM-232 converter. For two way control, two on-board ports are included as standard. The RS-232 ports use RJ45 connectors, and the XP6 is supplied with dual RJ45-DB9 adapters. This means you can use standard cat6 cables to link the processor to other devices, which is a lot easier than field-terminating DB9 connectors on long cable runs!

Three logic inputs allow control signals up to 24VDC to trigger events in the processor, while three 12V DC outputs can be used to activate external devices. While it's possible to connect an IR receiver to the XP6 and have it respond to learnt IR commands, better interaction is available using either one of RTI's dedicated controllers, or alternatively an Ethernet control option.

A selection of cabled and wireless controllers is available to match with the XP6 (and indeed other RTI processors), including in-wall keypads and desktop touch panels suited to corporate installations. Wireless interfaces are available in both 433MHz and 2.4GHz Zigbee bands, and one of these is required to communicate with handheld remotes. Zigbee allows

for two-way communication, so feedback may be sent from the processor back to the remote.

If the XP6 is connected to a local WiFi network, software license options allow for control via iPad or other tablet/smart phone. Standalone executable PC control panels may also be created, and require no additional licensing to operate.

The XP6 is programmed via the Integration Designer software, which you'll need to be an RTI dealer to get hold of. Ethernet and other control "drivers" are pre made lumps of code which allow easy interfacing with a selection of devices. They cover anything from AV receivers to lighting control and even watering system and air-conditioning interfaces. Drivers are generally very reasonably priced though seem to be sold on a per processor basis (many allow multiple instances on one processor). It's a small price to pay for someone else to effectively do all the programming R&D with a new device. In addition to the official drivers, 3rd party drivers are also available from a discussion forum, which has a nice sense of community about it.

Once the unit has initially been programmed via USB, updates can be made over a network connection, which is a nice convenient way to connect to a device which is typically mounted somewhere hard to access.

Overall the XP6 is a solid little box with plenty of interface choices and more than enough processing power to boot. It's priced keenly. My only vague annoyance is the lack of easy rack mounting options, but if that's a real bother then you could always upgrade to the top end processor (the XP8) instead.



Brand: RTI
Model: XP6

RRP: \$1150 RRP

Product Info:

www.RTICorp.com

Distributor:

www.avation.com.au



Meyer Sound

Everything Matters



By Julius Grafton

Since inception in the 1970's Meyer Sound has occupied space in San Francisco's Berkeley precinct and today 350 people make almost everything they sell, right there. It's an eclectic precinct – the organic food market at the end of the street can feature a Sitar player. A gourmet hotdog tent does lunches up on the corner.

But beyond the neat pavement flower beds of sunflowers and petunias lie a set of facilities tailored to the science of audio. Because founder John Meyer is an astronomy enthusiast, each facility or building has a planetary name. Naturally I start my tour at 'Earth'.

John McMahon, Vice President of Solutions and Strategy (right)

g greets me, and we move into the area where speaker cones are made. Meyer has made their own transducers for over twenty years, which jives with their obsession for accuracy.



MAKE IT FROM SCRATCH

We visit the cone manufacturing area where a 5,000 litre tank contains water laced with an unspecified but not toxic chemical compound. Into this a hopper dispenses a measured dose of fibres. If they are making a 12" cone, they insert what looks like a stainless steel pasta strainer into a vacuum head that lowers into the solution and sucks onboard a prescribed layer of fibre.

This fragile mushy porous cone is then placed on a heated mould, applying pressure until it is baked hard, then it is coated. It is weighed, and measured and if perfect sent down the line for bonding with the surround.

All up the Meyer plant makes one speaker every 30 seconds. They often work multiple shifts to keep up with demand, as product such as CAL come with up to 96 tiny drivers (speakers).

It is laborious, "there's a lot of touch time", says John, as "it yields consistency. John Meyer says it is easy to build one great loudspeaker but it is not easy to build thousands."

This is a detail rich tour, walking through the complex, visiting Venus, Saturn, Mars and other out-stations up and down the road. Meyer Sound has a 'dynamic' manufacturing system where smaller orders of just several products can be made, because there is no warehouse full of finished product.

Instead they use the Kanban system where sub sections and vendor parts, that is the things Meyer don't make, are all lined up ready to build. John explained that vendor components include steel and timber, as there are many suppliers for these nearby and Meyer can't add value to the process.

"It's in the vendor's interest to keep the stock lined up, so we can buy it and use it," he said.

This amazing dexterity means literally thousands of parts of the product range are all lined up, usually sub-assembled, waiting for an order. When sequenced, an assembler starts the process and works right the way through to signoff. This means each assembler has a range of products they might build, which gives them ownership and invests them in the process.

I saw it in action – a guy is building a LEO. He starts with the empty wood cabinet, on a trolley, and visits the bays for each part required. A job packet of serial numbered test sheets is collected on the way. Each component has already been tested. At the end of the line, he signs it off to Quality Control, where the system is put through a set of tests.

Along the way every component comes with a test report, so at the end of assembly there is quite a packet of paperwork which is then all scanned and digitally attached to the serial number.

Prior this the electronics module (containing amplifier and processing, as



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every Meyer product is self amplified) has been to hell and back – courtesy of a test rig that bakes and freezes (zero to 50 degrees C) which I am told tends to identify any loose or out of tolerance items.

THEY TEST EVERYTHING

Quality Control answer to Helen Meyer, who has a major role in compliance and oversight and of course is a co-founder. The message I see is that test and monitoring of performance of components and systems is a major investment at Meyer. Manufacturing in this era usually relies on sample testing of batches, but at Meyer they test every component, then they test every manufactured item.

Over at the final test zone, all systems are run up in one of several test chambers, where they need to meet tight (and secret) company tolerances otherwise they are not shipped. Because the components and sub assemblies have already been tested, it is rare for a final product to fail.

If any variation at all exists it can be compared, as they keep a 'master' of each product in hand for comparison testing. This way, one master of everything is there for real time comparison tests, just in case. This eliminates specification fade.

In the electronics factory, every finished amplifier or processors (such as Galileo) are run through the hot and cold oven, ranging from zero to 50 degrees Celsius, whilst running. John says this is the only way to truly test fit, fixing, wiring and components.

We walk through research and development, and John jokes that he will use the 'Men in Black' pen on me after. It must have worked because I didn't see anything, despite the department being large.

The tour winds through a listening room, beautifully furnished with paintings of the cosmos. It has some nasty concrete walls, including a hob several metres down from the ceiling.

In here is a CAL 96, a steerable column array and this room is perfect to demonstrate what it does. In normal mode, it acts like a column array and disperses audio straight ahead in a 120 x 30 degree pattern. The room sounds nasty, since a lot of that audio is coming right back off the concrete hob and the back wall. Flipping a switch to steer the audio down to the listener radically improves the acoustic. The difference is startling.

John points out that CAL is accurate up to 10kHz, which is a lot of steering, and thus sounds 'more musical'. I can only agree.

LISTENING SPACES

At the conclusion of the tour, the beautiful Pearson Theatre contains a Constellation System which is renowned worldwide for its unique processing that can change the audio characteristics of a space.

The theatre was designed very dead, so that a person talking from the podium is a little hard to hear. Switching the Constellation System which in this theatre utilises 20 microphones and 47 small speakers (each processed individually) and suddenly we have an 0.4 second room – more reverberant – and the spoken intelligibility snaps into place.

John demonstrates various settings, adding 'liveness' to the room until it is a mega large reverberant hall like an old church.

We have a discussion about SPL and the wild claims some manufacturers are making these days. "We measure broadband over two hours, not some silly peak measurement. Imagine you had a light globe, and you measured how bright it got just before it fails."

Thus the uniqueness of Meyer is laid out – they have the CAL to direct and steer the sound to where the people are. They have the Constellation System to 'fix' and enhance a venue, allowing multiple types of performance at the flip of a setting. Someone called it 'electric plaster'. And of course the LEO Family of loudspeakers providing unique solutions for touring and fixed installations.

Last of all, they have a free spirited culture, seeking to 'do the right thing'. It is very clear that the firm reinvests heavily in process and design, and that if they ever ship anything faulty a big investigation will find the source of the problem.



ACETAs editorial in last month's issue of CX titled 'The First Generation of an Industry and its Unique Leadership is moving on', attracted significant interest and no argument concerning the leadership challenge our industry confronts. The magnitude of concern demanded a response in this forum along with a process to own and move forward.

You can ask the questions; do individuals actually aspire to leadership today, do the organisations that comprise our industry want to be well led, does our industry really need leadership, and the answer is a resounding yes on every count. Sentiments are common throughout the industry presenting the opportunity for a unified approach, whilst there are some who think or hope leaders and leadership just happen as a matter of course, most know it requires recognition, planning and training. If we don't encourage, inspire and educate, we will consign our businesses and industry to mediocrity at best, and an unfulfilled work-force.

The contemporary business environment is said to be very demanding, but has it ever been different. Are we achieving more today, or just working longer hours? In a mindset that is ever tending towards 'me' as opposed to 'us', the growth of self-importance is apparent. Has 'doing' and 'creating' taken a back seat, where does human interaction figure in the scheme of things, are we too disposed towards information gathering and despatching, what does all this information do for us? I suspect much of it sits in the brain consigned to eternal storage, rendering us more knowledgeable but at the expense of wisdom and doing.

To counter-balance the preceding narrative, if supported by the industry, ACETA is proposing a leadership development program founded on a mentoring environment and initially focussed on three key human qualities critical to effective leadership. The program would a) develop communication competence by studying public speaking b) refine organisational capability by studying the planning and conduct of successful meetings and c) improve effectiveness by studying the psychology and planning involved in managing time efficiently.

Public Speaking

There are many learned individuals who feel that Public Speaking should be a mandatory study at all education levels. Many people nominate Public Speaking as their major fear, a debilitating but unnecessary emotion if addressed properly in their formative and even later years. Being able to speak publically enhances confidence, self-esteem and can be considered the optimum pathway to competent communication at all levels and in all spoken circumstances.

Planning and Conducting a Meeting

Many meetings are in fact discussions often without any viable outcome, some meet because they think they should, some out of routine, others gather to consume time, and others see it as a social opportunity. The planning and conduct of meetings with purpose require complex organisational skill, most of which is under-estimated, there is psychology involved, and the mechanics to ensure productive outcomes are often subtle.

Managing Time

Are you busy being busy or are you effective, this is the question we might ask our self. In this study stream we will assert that those who manage their time well are also the most effective in terms of achieving. Aside from system and method, in this particular stream we will work on unlocking the psychological and mindset barriers that prevent us from realising our potential and become a model leader.

So it's on the table for your review, if you wish to take part in a pilot program please contact ACETA HQ on (03) 9254 1033 or e-mail info@aceta.org.au.

All the best
Frank Hinton
President

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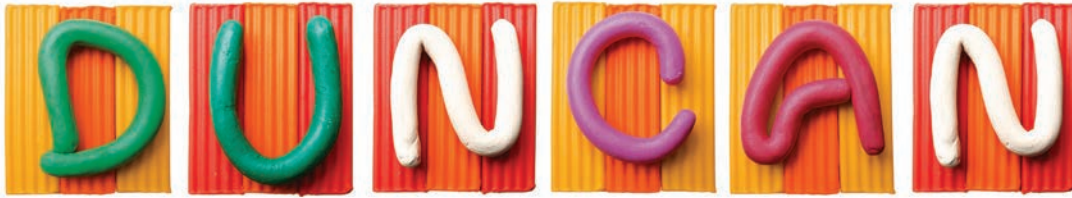
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Fry



Colin Cook for the Benefit of



he Man With The Golden Arm rang me the other day. In his capacity as the tube amp / Hammond organ guru to the musical cognoscenti of Melbourne (and probably Australia), he hears about a lot of functions and stuff that I don't.

"Are you going to that Colin Cook benefit this Sunday?" he asked. "You should go - lots of people there - you'll enjoy it."

I'd heard of Colin Cook, but he was a bit before my time - late 50s early 60s whereas my musical gene (such as it is) didn't really flower till late 60s early 70s. Apparently he's really ill and needs expensive medical care, so it sounded like a good cause.

Coincidentally TMWTGA was the second person to tell me about the benefit gig. I'd also heard about it from a mate, John Skinner, who was going to be playing in the backing band for the solo artists.

I've got a lot of sympathy with the musos and singers from those early days, who signed very questionable one-sided contracts with record companies that strip-mined their talent, made them into hugely profitable stars, then left them with nothing when the hits dried up.

Years ago Johnny Young was being interviewed on the radio, and he was bemoaning the fact that there were too many lawyers in the music biz now. I rang up and said that was bullshit; there have always been lawyers involved, it's just that now the artists have them too, and can understand what usurious contracts they're being asked to sign!

So I said to my gf, "Put your glad rags on honey; let's skip rebuilding the kitchen for a few hours and go see some music."

The benefit was on at the Lucky 13 Garage, a small factory in the industrial suburb of Moorabbin, that's been converted into a car-themed, quirky music venue. Plus the added attraction of the Phillip Morris factory over the road if you're busting for a

ciggie!

And as luck would have it, only a short walk (yeah right) from Fry Towers, in sunny downtown Cheltenham.

A quick check online told me this was Benefit #2 for Cookie, so I wondered whether there would be many there this time. I needn't have worried. The place was jammed - over 300 people hoppin' and boppin' when we got there, and all having driven at least one car, judging by the bumper to bumper parking outside. We should have walked there from home; it would have been closer than walking from where we had to park the car!

"Seniors discount?" I asked the people on the door, flashing my card hopefully. They all started laughing. "We're all seniors here mate," they chuckled "Not going to raise much money if we all give each other a discount, are we, ya bloody idiot!" and so saying helped themselves to the contents of my wallet.

The venue has an appropriately sized PA system from Proel, with 15" and horn cabinets each side of the stage, plus subs, 4 stage monitors and the usual mics and stands. I couldn't get to the Front-of-House desk, because of the crowd, but online it says it's a Midas Venice F24, although when I went there for the Joyce Brothers reunion a couple of months ago they were using the little Midas digital.

Rumour has it that the bar nearly ran out of beer there that afternoon, due to a serious miscalculation on the amount of alcohol the Joycies fans were capable of drinking in 4 hours!

But I digress.

Les Stackpool, guitarist for 50s band the Thunderbirds, was just winding up as we walked in and as he finished I went and got us a couple of drinks. I saw Skinner over by the stage so we squeezed our way across to him and bagged a good position



down the front.

Next up was Ronnie Charles, lead singer from The Groop. I was hoping he'd be singing *Woman You're Breaking Me*, my favourite Groop song, but no, just a few unmemorable bluesy songs. He informed us that it was also his birthday, as well as the 50th anniversary of him joining the band. Time flies!

Singer Buddy England was next, immaculately dressed in a blue reefer jacket, looking like he'd just stepped off a Las Vegas stage after perhaps staying a bit too long at the smorgasbord (He must have been next to you Dunk. Ed). He brought his own pair of backing singers with him, who helped out as he sang some standards, plus his big hit "Please Mr Movin' Man". His set finished with a surprise version of Murray Kellum's hit "Long Tall Texan" which earned riotous applause from the now well-oiled crowd!

John Skinner was playing in the Heebie Jeebies, which turned out to be the collection of musos backing anyone who needed some backing. I was expecting that with a name like the Heebie Jeebies they might have been a Bee Gees tribute band, but no, not a white suit or hair dryer in sight!

"Jeez, there are 4 guitarists in the band," said my gf. "That's a lot isn't it?"

"No, no," I replied, "you can never have too many guitarists. Everyone knows that!"

Marcie Jones (without her Cookies) walked onto the stage next, and immediately owned it. Confidently strutting the stage, she delivered a well rehearsed set full of self-deprecating humour, great singing, and bookselling, having just written a popular childrens' book.

"Getting on a bit," she confided. Well, who isn't - but what a

voice!

"I worry about those high notes" she laughed, "I always think I'm going to wet myself when I hit them" She patted her bum "Hmm - OK so far!"

Normie Rowe and the Playboys headlined the show, and as the band set up, Ross D Wyllie, presenter of TV shows *Uptight* and *Happening 70*, came on and sang his two big hits 'Funny Man' and the No.1 Australian hit 'The Star', (written by Johnny Young) while Normie sneaked onstage and started playing the guitar for Ross, once he found his reading glasses to read the charts!

You've got to admire someone who is happy to play guitar in the backing band for his support act!

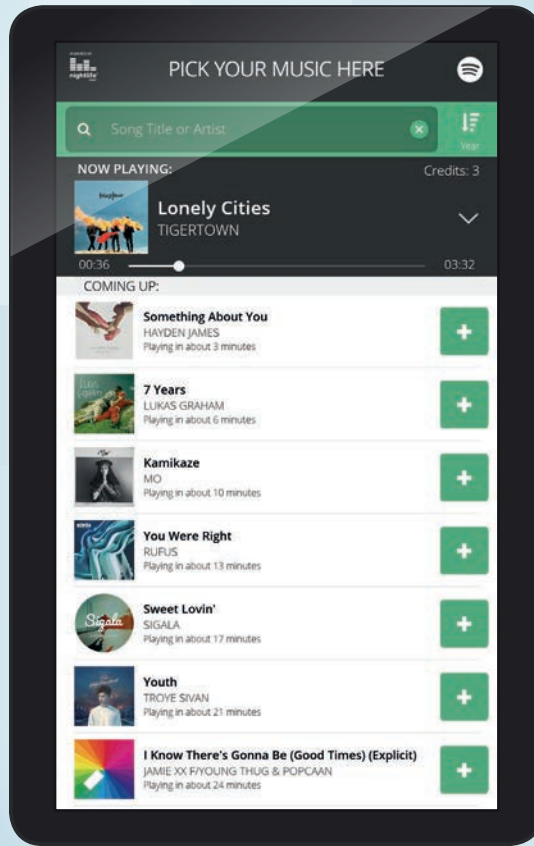
Normie himself opened his set with a version of 'Everything's All Right', by the Mojos. Strange choice to open with, I thought, until I read in his online discography that he recorded it as a single early on but it was withdrawn from release. Probably because every band and their dog was playing it live (including mine!) and the Mojos' original version was becoming a major hit. This was followed by a mixture of his many hits: *Ooh a La, Que Sera Sera, It's Not Easy, It Ain't Necessarily So, and Shakin' All Over* - a song that I hope has made enormous royalties for Johnny Kidd and the Pirates, judging by the Who's Who of bands that have done covers of it.

The highlight of *Shakin' All Over* was a long slow John Bonham type drum roll from drummer Graeme Trotman (Trotta!) which segued into a very tight press roll for the last 4 bars leading into the solo. Very tasteful and elicited much applause from the band and all of the ex-drummers in the crowd! Including me.

All in all, a great way to spend an afternoon, successfully raising over \$7,000, which I hope goes some way to paying for Cookie's medical treatment. Seniors' discount included!

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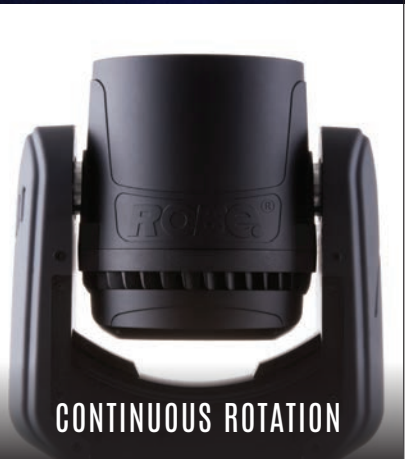
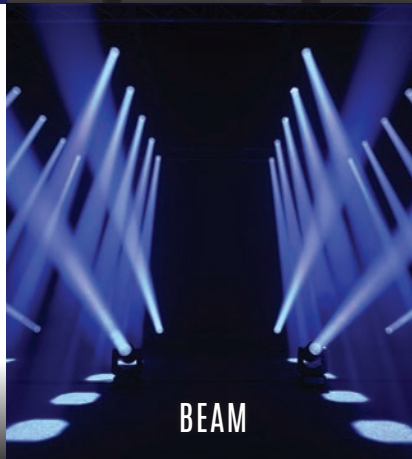
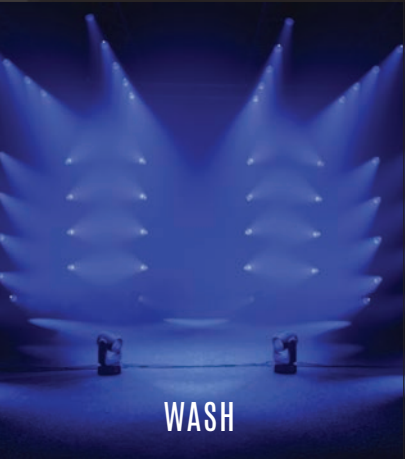
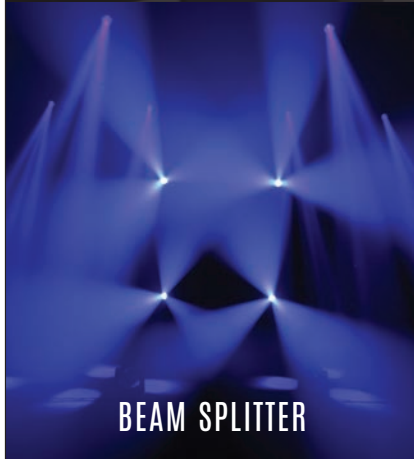
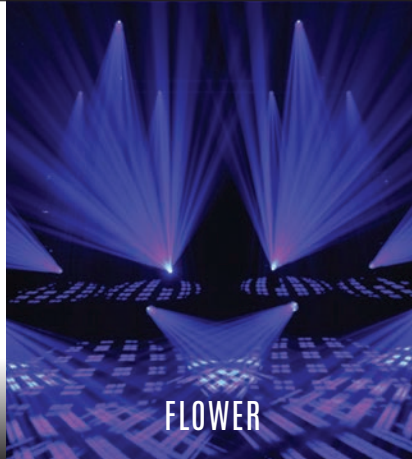
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