LIGHTS • VIDEO • STAGING • INTEGRATION

Adele smashes all venue records

Inside the most successful music tour ever

+ ## Simple Minds
The day the heat almost broke the technology

+ ## Canberra Theatre
Upgrade sounds the right note

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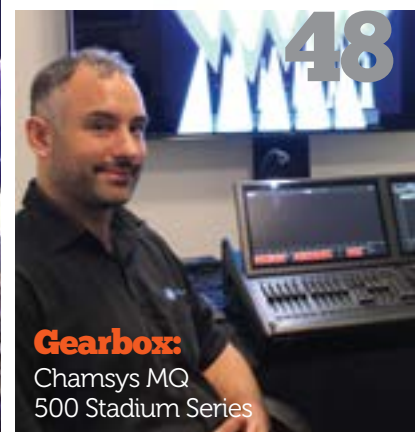
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Chamsys MQ 500 Stadium Series

• Cover photo: Alex Waespi

DIGITAL NETWORK
cxnetwork.com.au, cxmagblog.com, cxevents.com.au, juliusmedia.com, Roadshows

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AV in house war
More hotels, less money

P eter Worth's Audio Visual Dynamics has won the contract of the soon to be completed Sofitel Sydney Darling Harbour hotel to become the 5 star hotels exclusive preferred AV provider.

"It was a very tough tender ..... but they all seem to be at the moment", he told CX.

AVD look after Accor Hotels in Melbourne including the 5 star Sofitel Melbourne on Collins and both Melbourne Pullman Hotels.

The Sofitel Sydney Darling Harbour will be Sydney's first newly built five-star hotel in nearly two decades and is part of the broader $3.5 billion redevelopment of the Darling Harbour convention centre precinct.

Meanwhile just over 'there', across Darling Harbour, Staging Connections have settled in to the newly redeveloped and rebranded Hyatt Regency Sydney with a function on Thursday 9th March for 300 VIP guests at its official opening. The event

showcased the Grand Ballroom, a space capable of hosting 1000 guests, using world-class AV technology to create a space of intrigue and delight, full of energising experiences.

The evening's entertainment included five aerial acrobatic performers using the newly installed dynamic rigging points.

Hyatt Regency Sydney has undergone a $250 million redevelopment and transformation to become the largest premium hotel in Australia.

There are six firms competing at a national level for in-house AV supply.

Peter Worth

Perth Production Woes
Price cutting and rip-offs resonate

Late March a Facebook page called 100% Upfront Club led to a vicious slanging match between several event firms and the page author, Andrew Chambers. This followed an oblique reference he made to the event firms in the context of a price war affecting his employers audio firm.

Chambers asserts the event firms had manipulated the market in Perth and were able to dictate what they would pay for live audio, which was sometimes close to labour cost only.

A day later Chambers was fired by the audio firm, who claimed the event firms were lobbying various customers to boycott the company. One of the principles of the event firms had spent time on the phone to others, and the audio firm owner believed his livelihood was under threat.

Rather than standing up to the events boss, the audio firm fired Chambers. This was despite Chambers publishing an apology on the Facebook page and clearly stating that the page was his own work, and had nothing to do with his employer.

Ironically the page was motivated by the failure to pay bills, with various festivals, promoters and even quasi government organisations named on the page. It appears some Perth production suppliers have had a bad run.

"All had been going well until a few of those promoter clients defaulted on their debts. This is disastrous for the suppliers, they have all paid out on labour, transport and a multitude of other costs before they had any expectation of cash or profit. Things changed after one particular client, who had received significant support through two prior "losses" (a bad year and a bushfire), defaulted for a third time with debts so significant that there's little to zero chance of even recouping costs."

Andrew Chambers

"It started a conversation", states Chambers, "people contributed their stories and the names of those who really shouldn't be trusted with credit. The page is a permanent and abiding testament to bad character, available for anyone that has some doubts and needs to check a name."

"The boss comes in to see me, face clouded in the way that says big trouble; 'What did you put up on your Facebook page because they want it down?' He told me about the phone calls threatening to cut-off all the work we were booked for, all the future work, all the sports, that Old Mate had spent a furious afternoon phoning every promoter and Production Manager in his address book calling on them to boycott the audio company. I had to remove that site."

"I couldn't remove the site."

"You have to go, sorry mate, I have no choice, if you don't go there's no future work from Old Mate."

SYDNEY ROADIES REUNION - ARCA GATHER ON APRIL 30

The Australian Road Crew Association is running the 2017 Sydney Roadies Reunion at The Bald Faced Stag Hotel from midday on Sunday 30th April.

Tickets are $50 at the gate or via paypal on the website, www.australianroadcrew.com.au

All road, rigging, lighting and sound crew members and non members are invited. Associate members, muso's, mentors and sponsors are also welcome to attend and show their support.

The event is a reunion for crew Australia wide, to acknowledge their service to the music industry.

Vale John McConnell
Sound Engineer

Sydney sound engineer John McConnell passed away on 23 March, of a stroke. He was held in high regard - many say he was the best in the biz.

John McConnell

Musician Leo Sayer laid tribute: "John was very special. (A) Good musician and a great engineer who loved all the music he mixed. He was fantastic to me and we found a lot in common, loving all the same music, from John Coltrane to John Prine, and onwards and backwards. He'll be missed as there weren't many like him. RIP."

In 2011 the industry came together to support John with a benefit concert after he suffered kidney problems.

At his funeral in the Newtown Mission Chapel Kevin Bennett, Kirk Lorange and James Gillard perfomed one of John's favourites - 'Sin City' by Chris Hillman and Gram Parsons.

AMPHENOL AMPHE-DANTE ADAPTERS

AMX N2400 Series video encoders and decoders are the first video-over-IP solutions to deliver full-quality 4K content over Gigabit Ethernet networks with near-imperceptible latency. With support for 4K video at 60Hz and 4:4:4 chroma, the N2400 Series joins a full line-up of cost-effective 4K solutions from Harman. The new series uses JPEG 2000 encoding to deliver content at native frame rate and colour space over cost-effective standard Gigabit Ethernet with just two frames of latency. With support for HDMI 2.0 and HDCP 2.2, the N2400 Series is compatible with all the latest 4K sources and displays. The AMX N7142 Presentation Switcher is the first all-in-one presentation switcher to incorporate low-latency Networked AV video distribution. It distributes UHD content from the latest 4K sources to most modern displays, with four 4K60 HDMI 2.0 and two VGA inputs that can be independently switched between two HDMI 2.0 outputs. Each output has a mirrored HDMI port for connecting to an additional display, encoder card, or other video distribution equipment. Two available Networked AV slots and an integrated Gigabit Ethernet switch make distributing classroom presentations to overflow seating as easy and immediate as a single LAN connection.

Australian Distributors: avt and Jands
avt.tech or (07) 5531 3103
www.jands.com.au or (02) 9582 0909

CLAY PAKY SCENIUS UNICO

The Scenius Unico is the latest addition to the Scenius family, and is powered by a 1400W Osram lamp producing 6500K and very high CRI. It includes six rotating gobos, a rotating prism, an animation wheel, and is equipped with a framing system. The Scenius Unico can also be used as a wash light with its system of diffusion filters, which may be inserted gradually. The Scenius Unico can also generate a powerful narrow beam of super concentrated light, with a minimum beam angle of only 5 degrees.

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

EPSON 2000 SERIES

Epson's 2000 series features six projectors that are ideal for business meetings, large boardrooms, lecture halls, classrooms and houses of worship. Designed for ease-of-use, the 2000 Series produces up to 5,500 lumens of both colour and white brightness, and features full HD 1080p support, built-in enterprise level Wi-Fi security, and a full interface for multiple connections and installation flexibility.

Australian Distributor: Epson
www.epson.com.au or (02) 8899 3666

EXTRON STUDIOSTATION ONE

Extron's StudioStation is a quick, simple, and convenient solution for one-touch recording of high quality video and audio presentations. To turn the system on, insert a USB stick and press the record button to begin recording. Systems are customisable to support any installation. StudioStation solutions are ideal for flipped classroom recordings, lecture capture, student assessments, rehearsal spaces, moot courts, or any other application where making a recording by pressing only one button is desired.

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

KRAMER VP-772 AND VP-778
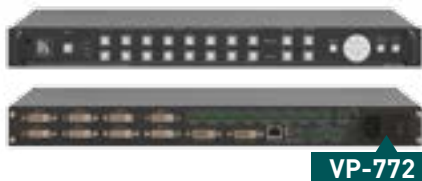
VP-772

VP-778

The VP-772 is an 8-input dual scaler with special effect transitions and a 4K option. It offers picture-in-picture, picture-and-picture and split-screen capabilities for live event applications. The VP-772's dual scalers include independent Preview and Program outputs with special effects on the Program outputs. VP-772 has DVI-U inputs with HDMI, DVI and analogue support and audio inputs that support embedded and stereo-balanced audio.
The VP-778 is an 8-input presentation matrix switcher/dual scaler with video cuts for projection applications. This product can be configured for single 4K30 UHD output or dual HD scaling with full PiP capabilities. The VP-778 can scale to two independent HDMI outputs, each with a parallel HDBaseT output. It includes both analogue and embedded audio inputs and outputs and audio DSP features.

Australian Distributor:
Kramer Australia
www.krameraustralia.com.au or (07) 3806 4290

JBL INTONATO 24

The new JBL Intonato 24 Monitor Management Tuning System offers automated calibration, and complete control of monitoring systems in stereo, surround, and immersive audio production rooms. Housed in a 2U rack-mount enclosure and shipping with extensive I/O, Intonato 24 can calibrate and control systems of up to 24 speakers with customized recallable routing of up to 24 sources selected from 24 dedicated analogue, 24 digital and 256 networked audio sources.

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www.jands.com.au
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PANASONIC PT-RZ21K SERIES.

The Panasonic PT-RZ21K Series are low-maintenance 3-Chip DLP Laser Phosphor projectors that generate up to 20,000 lm of brightness at WUXGA or SXGA+ resolution using dual solid-state laser drives. A durable dust-proof optical system significantly reduces cabinet volume and weight without sacrificing high brightness or image quality. Together with free 360-deg. mounting capability, the PT-RZ21K Series' easy handling will further expedite transport and installation for staging professionals at major events, as well as enabling cost-efficient installation and operation.

Australian Distributor:
Panasonic Australia
www.panasonic.com/au or 132 600

SHURE GLX-D ADVANCED

Shure's new GLX-D Advanced Digital Wireless is an enhanced suite of products, including the GLX-D Advanced Frequency Manager, rack mount receiver system, remote antennas, and accessories. GLX-D Advanced creates the opportunity for install customers to benefit from notable GLX-D features, automatic frequency management, and intelligent rechargeable batteries. Using the new Frequency Manager, GLX-D Advanced users can operate up to nine simultaneous systems in typical conditions (11 channels in optimal conditions). With a new rack-mountable configuration, GLX-D Advanced allows up to six GLXD4R receivers to be linked to a GLX-D Advanced Frequency Manager via the RF ports.

Australian Distributor: Jands
www.jands.com.au or (02) 9582-0909

ROBE PIXELPATT

The Robe pixelPATT is composed of 7 x 30W RGBW LED multi-chips – one in the centre surrounded by a ring of six – housed in a super-slim and lightweight brushed metal frame. Aesthetically it keeps the dimensions and curvature of the PATT 2013. Each pixel has a 200mm aluminium parabolic reflector to maintain continuity with the PATT aesthetic, and it supports full pixel-mapping capabilities. The pixelPATT can be smoothly dimmed between 0 and 100 per cent via the high resolution electronic dimmer and has an array of CT whites ranging from 2,700K to 8,000K, plus a virtual colour wheel pre-set with 66 LEE colours.

Australian Distributor: ULA Group
www.ulagroup.com or 1300 852 476

MC2 DELTA SERIES

The Delta Series includes DSP enabled power amplifiers (Delta DSP80, Delta DSP100), all featuring 4 additional independently processed auxiliary outputs, with Dante networking (inputs and outputs), and non-DSP amplifiers (Delta 40, Delta 80, Delta 100, Delta 120) at a variety of additional power levels, also available with Dante network inputs. Remote control is via direct Ethernet, USB or RS485, using XTA's AudioCore platform in conjunction with the bespoke DeltaDirect iPad app.

Australian Distributor:
CMI Music and Audio
www.cmi.com.au or
(03) 9315 2244

Melbourne's Bridie O Reilly's CLOSED

after 163 years

By Jason Allen

Ráv Thomas

Jon Stevens onstage at Bridie O'Reilly's

The pub at the corner of Brunswick and Sydney Roads, originally the Sarah Sands, has been continuously operating since 1854. Since the late 90s, it's been operating as the Irish themed pub Bridie O Reilly's, and since 2014, under management by Ráv Thomas and co-owner Mick Le Grand, has been a major venue for original live music. It all ended with a bang on April2...

Ráv is a successful singer-songwriter with three ARIA number ones under his belt. He's toured with internationals like Chris Isaak, Michael Franti and Toni Childs, and local legends Jon Stevens and Daryl Braithwaite. Raised in a publican family, managing a watering hole and running gigs is second nature. His agency (though he doesn't call it that) Ánthem Touring & Entertainment, books gigs across Melbourne and at a national level using a unique model that gives 100% of tickets and door back to the artists.

"We bought the pub three years ago," related Ráv. "It was one of those things that just popped up. As part of the nights we run in there, we were always keen that live original music was part of it. We pushed that hard, and are still pushing it hard. We were running two nights a week in there for live original music, and we do that in a lot of other rooms across the city."

BRAND NEW QUATTROCANALI SERIES

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4 Channel Amplifier Platform Effortless Installation

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1204	400 W	300 W	300 W	300 W
2404	800 W	600 W	600 W	600 W
4804	1500 W	1200 W	1200 W	1200 W

4 channels   SRM   PFC   DSP optional   channel   Armonía Pro Audio Suite   Dante

DOORS OPEN

While the nights at Bridie's ended on Sunday April 2, Ráv's agency Ánthem is still running one night each at Merchant Lane, Mornington, The Matthew Flinders Hotel in Chadstone, the Village Green Hotel, Mulgrave, and two nights at the Palace Hotel, Camberwell. It's a unique model in the industry which has seen punters filling otherwise dead rooms.

"We take nothing form the artists," explained Ráv. "For any artist we book at any level, 100% of revenue from their gigs goes back to them. That's the system we implemented at Bridie's, and we've extended that across all our rooms. The venues pay for costs, from door to production. It's about good gigs for good acts. We had 35 different acts out this week, and we also do a lot of one-offs that come about through the tours I've done, where we've been able to put acts on those bills as well."

LAST DRINKS

As tenants of the pub lease, not owners of the building, Ráv and David had no say in what the new owners, Peregrine Projects, will do with the site. According to their website, Peregrine are proposing renaming the site the Sarah Sands and that the "development will centre around the retention of the 1852 heritage façade and reinstatement of the corner pub together with the creation of a vibrant hospitality precinct which inspires innovation and engagement with the local community, workers and visitors alike." Six stories of apartments have been mooted for the valuable inner-city location.

Whatever happens to the building, Ánthem need to find another two nights a week for their musos. "It's difficult," Ráv conceded. "15 acts in a week have got to find a home somewhere else. The mantra has been that if you put live original music in, it's not going to work and you'll lose money. We go to venues and say 'If you've got a room that's not working, we'll put live original music in there, and people in your pub'. We've been flipping the assumption on its head."

PITCHING IN

The closure of Bridie's is part of the creeping gentrification that has been threatening live music in Melbourne, even with its world-leading 'Agent of Change' laws. In this case, it's not noise complaints, but just the sheer value of the location the pub sits on. "Live original music everywhere is under threat, but it doesn't have to die," asserted Ráv. "But if it's not going to die, everyone has to support it. So many bands say it's the venue's responsibility to put people in. I say 'Why is it the venue's responsibility?' It's everyone's responsibility. You need an agent that isn't greedy, a pub willing to have a crack, and the acts to do their bit by promoting their gigs. Everyone has to work together."

Ráv strongly believes that it's only when every part of the industry works together will live music succeed. "There are acts out there that just want to do the gig and not do anything else, and that's not going to work" he observed.

"As an artist, if you think putting up a gig poster on a telegraph pole and people walking past it are going to come out instead of staying home, you're kidding yourself. Booking over 400 acts last year, we've had acts with significant followings and no-one came, and then acts doing their first gigs that get 400 people because they promoted heavily to their networks. It's organic – they talk to their fans and ask them to come out. That's what it takes."

DOLLARS AND SENSE

"Original music has always been a difficult business," Ráv concluded. "It's shifted so quickly. It was only a handful of years ago when we were selling CDs. You recorded music, and had the optimistic aim to get your money back. That's now impossible. We had 10,000 streams of a track last year and got $44. That part of the business model is over. That's another motivation for us to do what we're doing – it comes down to your gigs and live music; that's all you have left to generate revenue to keep your business going."

A full band room at Bridie O'Reilly's

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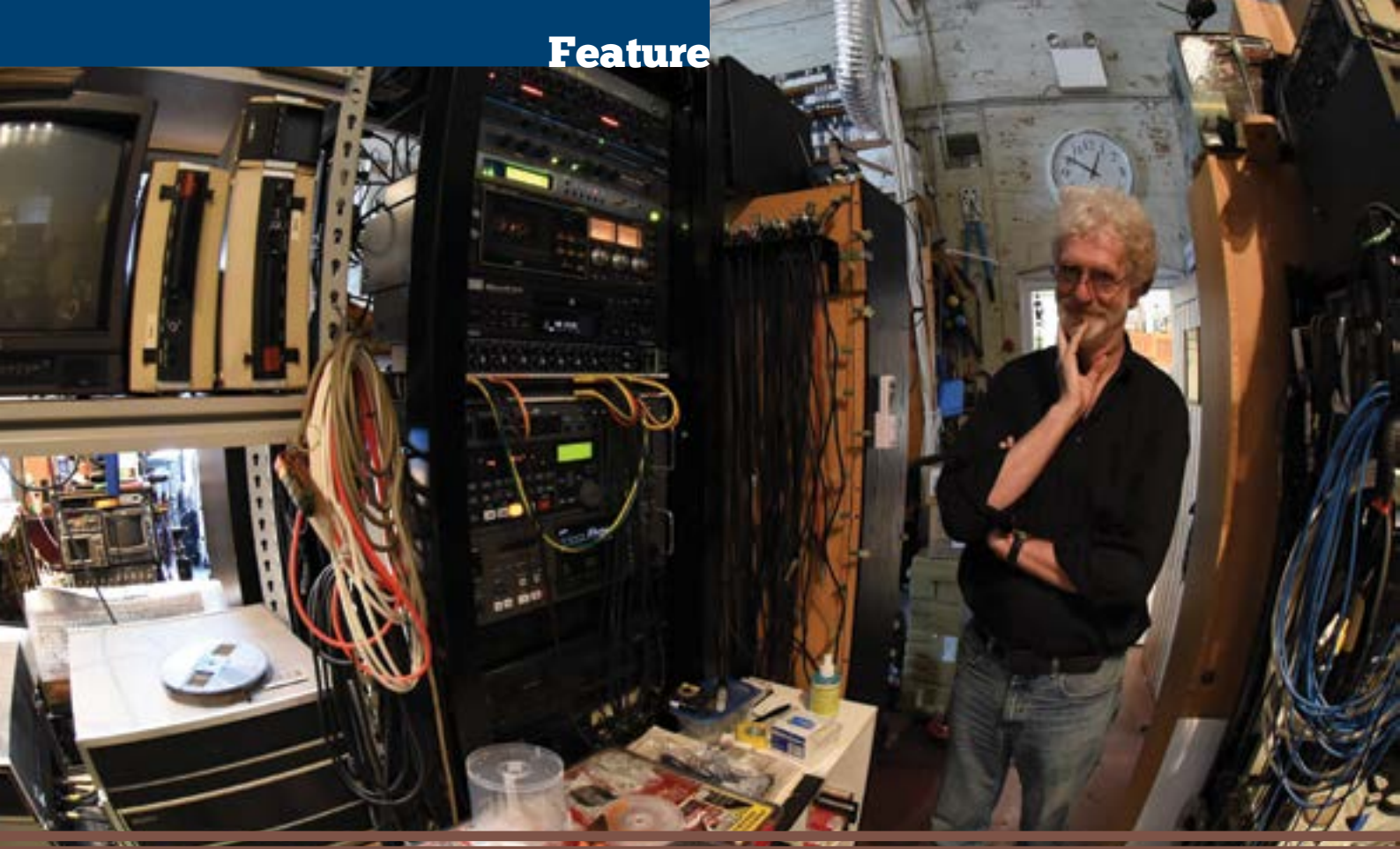
Digitizing *tapes*

Inside
Roderick Van Gelder's cave

By Julius Grafton. Pictures by Bob King

As magnetic tapes die, a colossal amount of history goes too. Imagine if every photo ever taken were to fade and crumble. Imagine if every new digital file was wiped. The former is happening, the latter improbable.

Magnetic tapes were expensive at the time, and are very perishable by nature. Roderick Van Gelder found himself restoring his own tapes, and now has an extensive facility at his home - ironically an old telephone exchange in Sydney.

"The whole thing started because as a lighting designer my personal archive is on every video format known to mankind. Fifteen years ago I came up with the idea I'd make a show reel, but it was difficult to find the machines to play tapes.

"Magnetic video and audio tapes you need to have the exact same recorder type to play the tapes – you can't put Beta into VHS. You need machines for formats."

It'll help to understand the complexity of this by looking at the various types of tapes Roderick has encountered.

VIDEO

"In the analogue formats, pre 1960 it was a reel to reel video format with 6 different formats of half inch tape.

"Different manufacturers used the same tape but with different configurations. Sony had CV, Panasonic had a slightly different format, as did Shibaden as well. In the 70's everyone was going nuts with all the formats, so they developed a half inch video format that standardized the format with speed and lines of resolution. That was divvied up between the EIAJ (Japanese format), and the CCIR (European format). America took the Japanese format. Australia and Europe went with the European format. Just to make it fun. These are different in tape speeds and lines of resolution.

"Then came 2" Quad (4 heads, with a rotating drum) video, 1" video in A format, (Ampex), B (Bosch), and C (Final subsequent format) which became the television standard format in the 1970's.

"Earlier you had the 1" alpha wrap which related to how the tape was wrapped around the heads of the machine. IVC was the main company that made that machine.

"There was a quarter inch video tape from Akai which was surprisingly OK.

"The half inch tape formats for video were initially used for black and white video.

"This was well and good for black and white – the Sony AV series were standardized half inch video. Then some smart guy had to make a colour version.

"It got interesting with the differences between Euro and Japan, then along came PAL and NTSC. You get the division between the two colour formats, with small variations in how different manufacturers treat processing of the colour information – Sony, Shibaden, and Panasonic. That's just the reel to reel formats.

Confused yet?

"Panasonic came along with a half inch colour cartridge format. It was a really interesting idea – it had a single reel. The tape would shoot out a leader that'd snake out through the track inside the machine, around the heads and to a take up reel in the machine. You have to rewind the tape into the cartridge to take it out. I have three of these machines, the only ones in Australia.

"Then you enter the realm of Umatic – the first real cassette based video system. There were a few other sideline formats, but they didn't take off. Umatic was the breakthrough from reel to reel to cassette for the professional and broadcast market.

"The domestic video cassette market started with VHS and Betamax. The war between VHS and Betamax was won by VHS because the porn industry decided it was cheaper to use VHS!

"In the domestic market there were a range of formats such as Video8, and Hi-8 which were aimed at replacing the 8mm film format.

"In professional, Sony developed the Beta Cam, a higher speed version of the Betamax format. That becames the broadcast standard for many years up to 2000.

"Panasonic tried to muscle in on that with their DVC – I could talk for three days about the different video formats.

"Once we got to Digital, technology improved so fast there was a new tape format every year. The production houses would go broke because the machines are obsolete before they are paid off. A Digi Beta machine was $85,000 a decade ago and you needed three machines – two feed machines and one recording machine.

"The end of video tape was the 2011 Japanese tsunami which took out the Sony tape factory – then the supply dried up. That coincided with hard drive video recording.

"How is it possible that we ended up with one factory that made all the tapes?

"Look at what happened with some old shows – because of the expense they erased the tape and used it again for the next show. An example is Top of the Pops where they lost most of the shows. Only a really big act would justify keeping the tape!"

AUDIO

"As most people know, it started with wire but we start with reel to reel. That began as one track quarter inch – mono. Then it went to stereo, known as half track.

"You could have a stereo tape with 2 tracks running in the same direction, or in domestic use you could turn the tape over – one track one direction, the other track the other direction. Tapes were very expensive.

"Domestic rolled the tape at 3-and-3-quarters of an inch per second or 7 and a half inchs per second. Audio buffs would record voice only on 3-and-3-quarters and music on 7-and-a-half.

"On the professional side it comes down to sound quality. They would record at 15 inches per second, very fast. A 10" reel would give you just over half an hour.

"That was at a time when the mix would go straight to two tracks, mixed live.

"The development of multi track recorders meant you needed a half inch tape for 4 tracks, or a 1" tape for 8 tracks. 16 tracks wanted a 2" tape. That was the initial multi-track technology.

"Tape was still expensive, technology allowed more tracks, each smaller without losing too much quality. Each iteration is a new format. 4 track quarter inch, 8 track half, 16 track one inch and eventually a 24 track 1 inch. 2 inch stopped at 24 tracks, if you needed more you synced two machines.

"Remember it was all based on analogue technology!

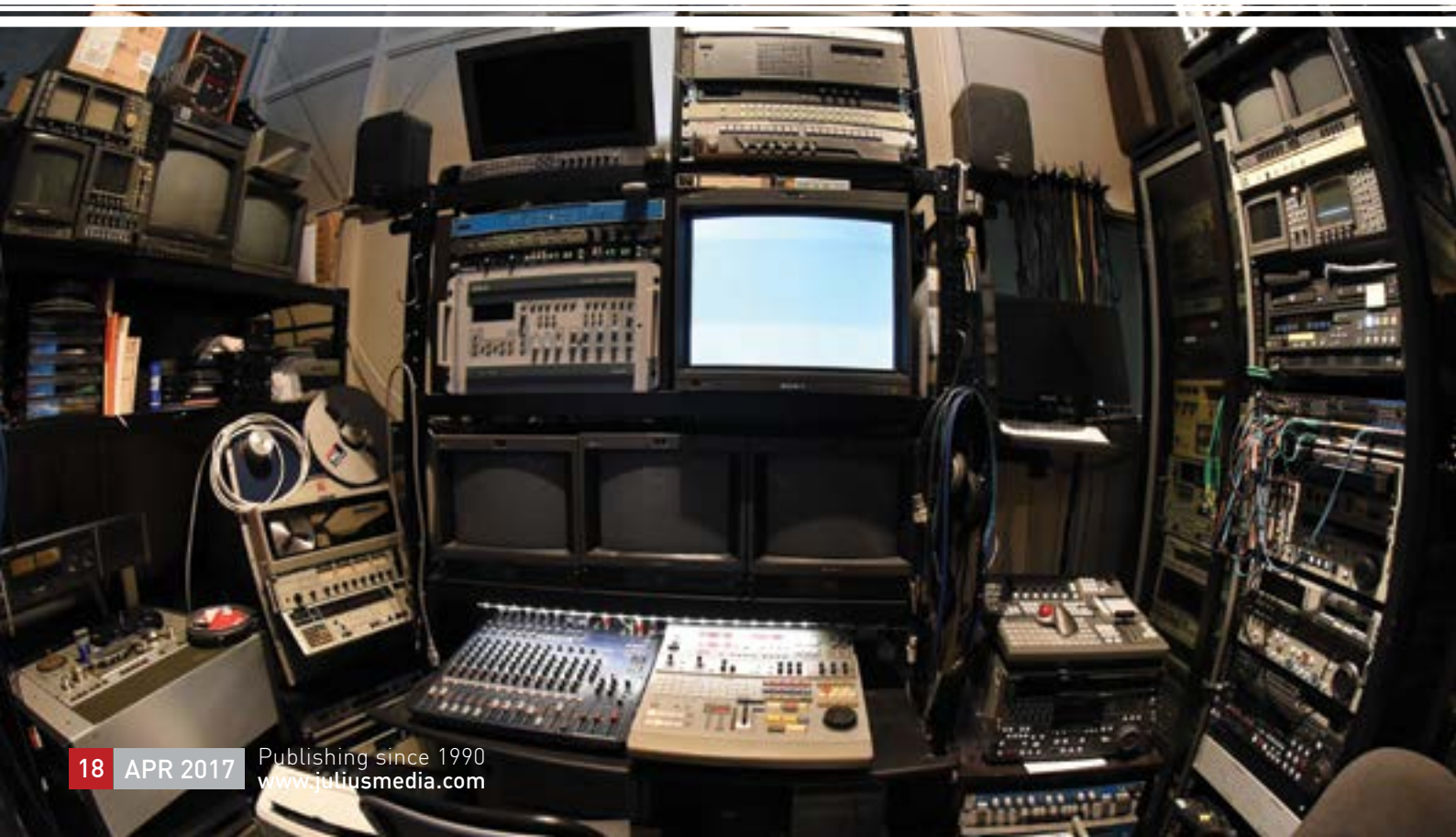"Mastering was done to 2 track quarter inch.

"Cassettes started as a domestic format, at eighth inch tape. Before that, 8 track was a weird endless tape format for automobiles from the 1960's – quarter inch tape with a single moving head.

"The problem with magnetic tapes is they are a layer of oxide on a substrate and that is the great weakness. Over time the oxide binder starts to deteriorate – known as sticky tape syndrome.

"The issue is the formulation, it all comes down to humidity. Playing the tape scrapes off layers of info. The factors are age and storage conditions, the whole system is based on magnetism.

"Now we are at the end of the life cycle of most tapes. This is the time to transfer them before they are lost.

"That's what I'm doing."

TRANSFERING FROM TAPE TO DIGITAL

"I had to get the equipment, now I have to maintain the equipment, and treat the tape before you play it."

This all sounds somewhat daunting, and the biggest element is preparing the tape for the machine.

"There's a range of different things I do – the most popular one is known as baking. For God's sake don't stick your tape in the oven – you have to dehydrate the tape first, and process it.

"There's different levels of test and check – once you have processed the tape and made it playable it lasts for some time. But you need to do the transfer at the highest possible resolution.

"Digitizing a video tape captures the video image as uncompressed AVI which takes 2GB per minute. I figure I have one chance to capture, at least I get the highest quality and definition.

"If technology improves, it is easier to deal with raw data later on. Compressed data needs a specific CODEC – yet another format.

"Some of these machines are older than me!
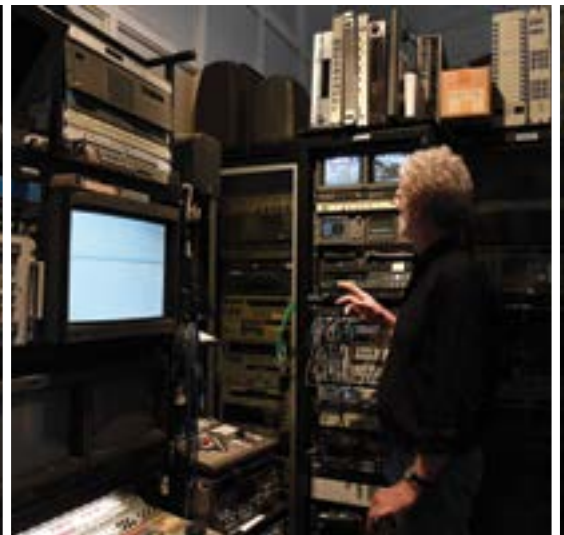
REVIVING MACHINES

"You need the service manuals, most were produced well before any electronic format and are paper format. When a production house closed down, I'd go to the auction. People would bid for the machines, I'd buy the service dept.

"Strangely after 40 years Sony don't stock parts! That's ridiculous.

"I got into 3D printing – if a mechanical part fails, I take it out, measure up, draw in Autocad and print them out.

"I've come across some amazing tapes.

"If anyone has an old machine gathering dust, please let me know!"

You can see Rod's work at: **www.lightmotif.com.au**

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Pro AV Solutions Integrated Showroom

A New Concept in Selling Integration

Anthony Jeffcoat

It's one of those things that has you scratching your head and asking 'Why hasn't anyone done this before?' Integrator Pro AV Solutions have just opened a showroom in Surry Hills where clients can go to touch, use, and experience all the tech that they need to fit out their boardrooms, meeting rooms, huddle spaces and just about every other AV use-case in the market. Jason Allen talked to Pro AV's NSW CEO Anthony Jeffcoat about how it all came together…

▲ Anthony Jeffcoat giving a speech at the opening night party

"Like many things, it started by talking to a good friend over a beer," grinned Anthony. "Jason Juba, CEO of office furniture company Profile Systems is an old mate, and he was talking about how they needed a showroom. It's a massive differentiator because people want to touch and feel a chair before they buy it. I discussed with him at the time how strange it was that in the AV industry there's nothing like that. So we discussed further and thought, why don't we build something together?"

The idea had legs. Pro AV and Profile settled on Surry Hills as a location, as it's the centre of the office furniture supply trade in Sydney. "It's a short cab ride from the CBD so people come over with their clients for a tour of two or three suppliers," Anthony continued. "After we committed, we found a lease, which was a process in itself."
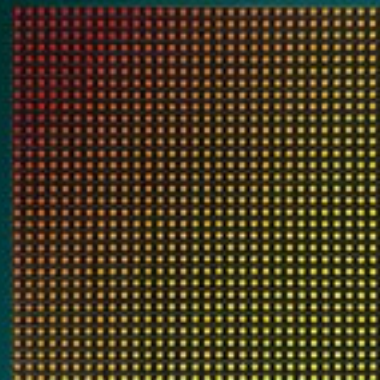
The Space

With the lease secured, the plan for how they would fit out the space took shape. "When we first sit down with a client, they lay out their floor plan and outline the user brief for all their rooms," Anthony explained. "My vision was I wanted to cover 90% of those use cases in one showroom. We wanted to showcase user experiences that were similar in function across the three main control systems – AMX, Crestron and Extron."
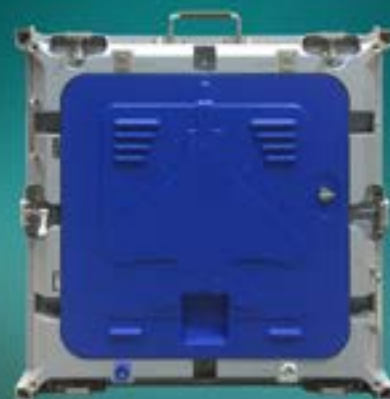
At the entrance through the lift on the first floor, a 55" NEC ShadowSense screen functions as a directory, showing a map, and Outlook room bookings. It runs visitor sign-in, asks guests if they want a locker, and if so, gives them a code for and a map to it. Samsung stretched panels on the building's columns run content via Samsung's MagicInfo Lite software. A 3x1 metre UHD video wall is also running MagicInfo, while Triple-Play set-top boxes can run content over the network. A Sony laser projector mounted vertically from the ceiling projects welcome messages from a BrightSign player onto the floor.

The Boardroom

The Boardroom features a single large screen. Video conferencing is handled by Polycom, with audio available from Polycom or Shure table mics, or a Shure MXA910 Ceiling Array. Visitors can switch between point-to-point Polycom VC, connect to another space that uses Cisco VC, and also switch audio sources, listening through JBL Ceiling speakers. Autosensing AMX HydraPort retracting cables are fitted in the table, and users can share content with Barco's ClickShare wireless. There's vision via Apple TV, and video streaming to and from the room via AMX's SVSi. Control is via a 10" hardwired AMX touchscreen on the table, complemented by iPad, with AMX 10" and 7" room booking screens outside. A Zumbtobel video conferencing lighting system spreads 400 lux evenly through the space, with automated blinds from Screen Technics. The ceiling is acoustically sealed, and there's acoustic treatment on the walls.

Boardroom control

The Meeting Rooms

The two meeting rooms are designed to showcase Extron and Crestron solutions respectively. Their functionality is identical, the exception being that the Extron room has a dual screen Cisco video conferencing system versus a single screen in the Crestron room. The Extron room uses a Sennheiser Team Connect ceiling tile mic, switchable to a Cisco table mic. There's an Extron Cable Cubby built into the table, with Extron room booking fitted to the exterior.

The Crestron room uses a 65" NEC ShadowSense display mounted on a balance box so it can move up or down with just a touch. A Lumens camera feeds vision into Skype for Business, running on a PC with table connectivity. The room is controlled via a Crestron touch control panel, with room booking handled by Crestron's Fusion software.

Meeting, Huddle and Collaboration ▲

The Collaboration and Huddle Spaces

▶ *1. The Collaboration Space*
2. Huddle Space and Collaboration Space
3. The Entrance

1.

2.

3.

The Collaboration Space showcases interactive screen products from three manufacturers – ViewSonic, SMART, and Commbox. All run their own whiteboarding software. A NUC PC mounted on their rear runs Skype for Business. A roving Microsoft Surface Hub 55 is currently mounted on a trolley, with Pro AV in the process of installing a Surface Hub 84 that will see the 55 made available to clients for trials.

The Huddle Space features a 49" display, Extron Cable Cubby, Polycom RealPresence Trio collaboration kit, Skype for Business, and a SMART kapp 84" whiteboard, which can be paired via Bluetooth so users can share what they're annotating or drawing on their mobiles.

The Broadcast Solution

The Broadcast Solution is a space fitted with green screen and Sony camera, feeding into an Extron SMP 351 streaming media processor, enabling live streaming to Facebook and LinkedIn. "When vendors bring in new products, we'll make video about it," elaborated Anthony. "We can make 'how-tos' or explain features and functionality and stream it live, all with our look and logo added. We can also show a 'Town Hall', where the CEO streams a speech live, and runs their presentation in the background."

Integrated Space

The whole space can run in 'Town Hall' mode, with video distributed to all points via SVSi, and audio via QSC's Q-SYS. "Q-SYS not only runs audio for each space and handles four zones with room combination, but we're also using its control capabilities," Anthony pointed out. "It's controlling a Screen Technics motorised lift, and you can even go to a Q-SYS touch panel, connect a laptop and bring its video output on screen. Q-SYS not only brings audio in four zones together, it also talks to SVSi and pushes content to it from any sources in the space."

Credit Where Credit's Due

Anthony thanks his team for their hard work; "Pro AV Sales Manager Tim Pollack was intricately involved in the concept and design from day one. Pro AV Engineering Manager Jason Workman and his team coordinated and carried out programming, commissioning, and configuration. There's been a fantastic response from our suppliers, and their support was great. They've all said there's just nothing like this."

Adele
LIVE 2017
ARTIST ABSOLUTELY SMASHES ALL VENUE RECORDS!

PHOTOS BY ALEX WAESPI

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Adele's debut Australian tour has been a mammoth affair proving why she's one of music's true superstars. A remarkable 570,000 tickets were sold for the eight Australia stadium shows, before three final shows in Auckland added 130,000 to the tally. >>
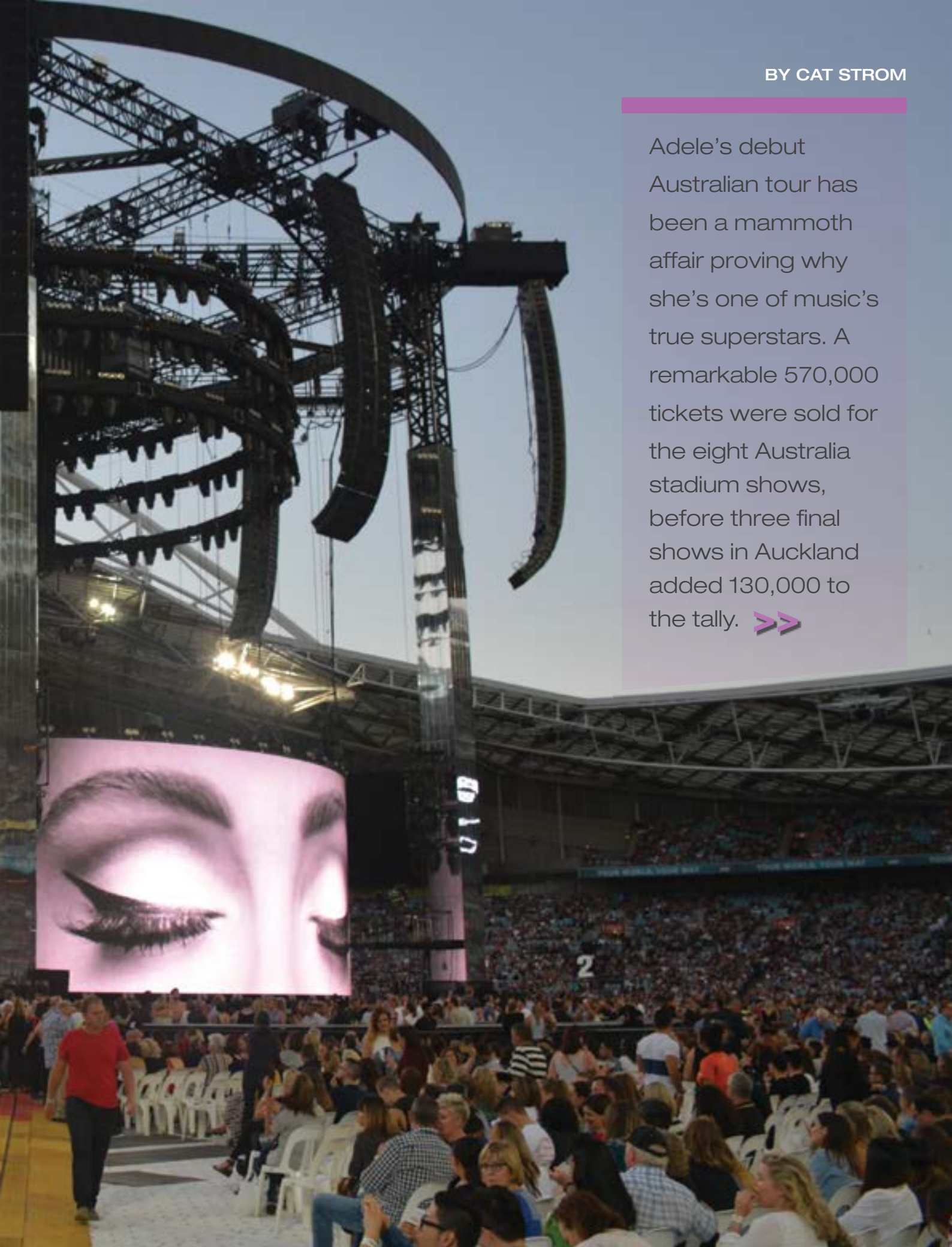
> **The audience wanted to hear her and see her, minus the superfluous frills.**

There were no dancers or fancy costume changes, in fact she wore the same dress for all seven shows. The show focused on Adele's powerful voice and songs. The audience wanted to hear her and see her, minus the superfluous frills. This is a performer with a great talent to make her audience feel connected to her.

Whilst the show may have exuded effortless grace, there was no expense or technical expertise spared.

The spectacular custom-built 360 degree stage, designed by Es Devlin, sits smack bang in the middle of the stadium field. Prior to the show beginning, the massive circular screen around the stage features a close up of her trademark lashes. As the show starts, the video screen moves upwards and the black and white images transform to reveal her eyes wide open and then blinking. Adele is revealed all by herself on a raised platform wearing a sparkling dress as she belts out her hit Hello.

Adele | Much of the lighting is designed to light up the audience as Adele interacts with them
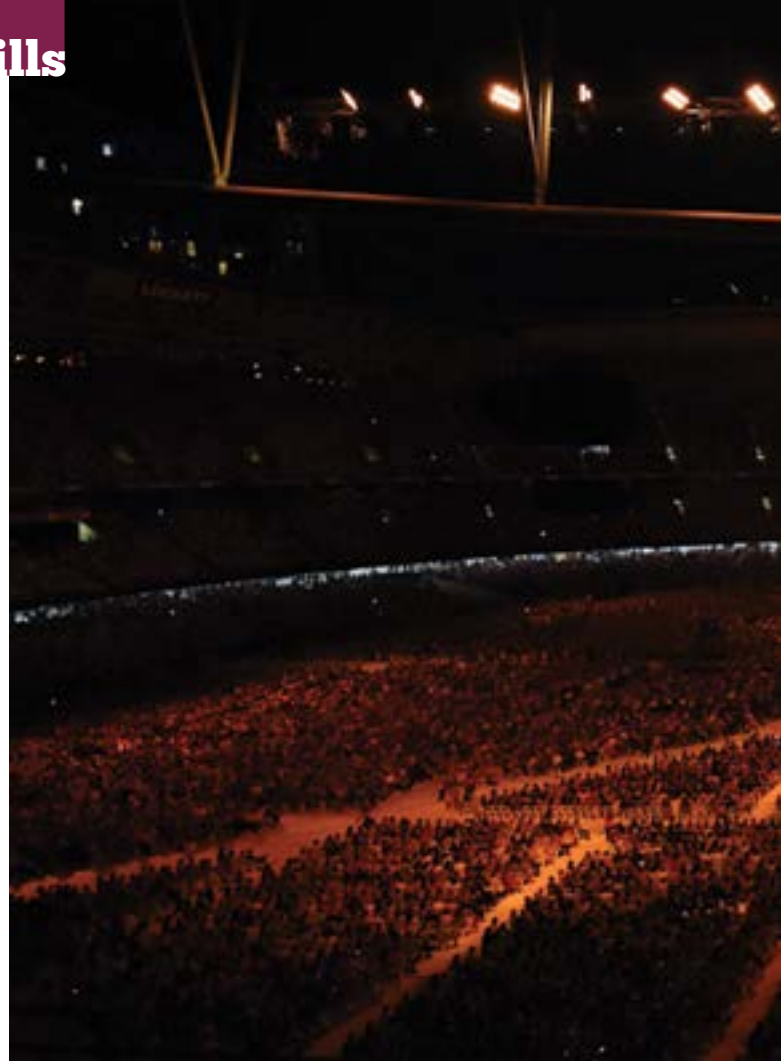
Big design

The design for the stadium show is a complete departure from last year's Adele arena tour. It's a lot of work and expense for what are only fifteen shows; seven shows in Australia, three in New Zealand and four at Wembley Stadium at the end of June. But if you look at the amount of people who will see the show it makes more financial sense. Plus the in-the-round setup allows for approximately 10,000 extra paying punters at each show. They are billed as a farewell to her fans before she takes a five year break to concentrate on her family.

She told the Mount Smart Stadium audience that she may never tour again.

"We wanted to make it as elegant as we could and as intimate as possible in a stadium," commented Roland Greil, lighting director. "Hence the centre stage, which is the best you can do although people in the grandstands still watch the show on the screens.

"Even in a large stadium, Adele's show is very theatrical, quite minimalistic and without the big special effect gags," said Roland. "It's all about her and her stunning voice. She has a massive character on stage and really she could carry a show with one light and no staging."

Adele

Roland Greil, part of the lighting team of Patrick Woodroffe and Adam Bassett.

> " *Adele told the Mount Smart Stadium audience that she may never tour again.* "

Whilst that might be a cost effective idea, the punters would be expecting more and so the lauded lighting team of Patrick Woodroffe and Adam Bassett were chosen, creating an elegant yet dramatic design.

"Like last year, we have avoided using saturated colours except for a handful of special looks," added Roland. "It's mostly desaturated colours or, as I like to say, fifty shades of white. Patrick worked closely with Es to make the lighting fixtures as invisible as possible although we have 420 movers."

Much of the lighting is designed to light up the audience as Adele interacts with them so much. The stage has three upper tiers housing Philips Vari-lite VL3500's and Robe BMFL's. Behind the video screen circle there is another inner truss of VL3500 and BMFL's used for key lighting as well as lighting the inner circle VIP area.

Each of the four towers has frames hanging down with VL3500's for key lighting the band and BMFLs for Adele's key light when she's in the middle of the 'wedding cake'. Four 4K Robert Juliat spots act as her key light when she's on her walkway.

Around the lower stage there is a trough with Philips ColorKinetics iWhites as footlights for the band as well as Martin MAC Auras. On the floor, at the base of each tower, there are six Clay Paky Mythos to create beams out into the audience for a big stadium look.

Scenic LED incorporated into the stage includes a Perspex circle backlit by RGB LEDs on the top part of the wedding cake and the walkway is edged with 285 metres of Firefly FloppyFlex LED neon.

It is however the simple four light moles scattered around the three upper tiers and the two light moles top and bottom of the video screen, that are the most effective lighting by adding a warm glow and sparkle to the centre structure.

It's important with a show of this scale and type to give the stage some kind of background and this is done with audience lighting. The amount and placement of trusses varies depending on the venue, but the trusses hold VL3500 washes and Clay Paky Mythos. The Mythos really come into their own during Skyfall when the stadium is filled with falling beams.

"It's good to have a fixture that can be both a beam but also deliver texture over the audience," remarked Roland. "The obvious difficulty is not having a backdrop, the audience are always the backdrop and need to be incorporated into your looks. Also with the lighting on three upper tiers, you can't create looks on the actual stage, only out into the audience which is another challenge. It's also very difficult to get a proper haze to make your lighting look good, even though we have eight MDG hazers, as we are always dependent on wind and a little bit of luck."

Adele | The walkway is edged with 285 metres of Firefly FloppyFlex LED neon.
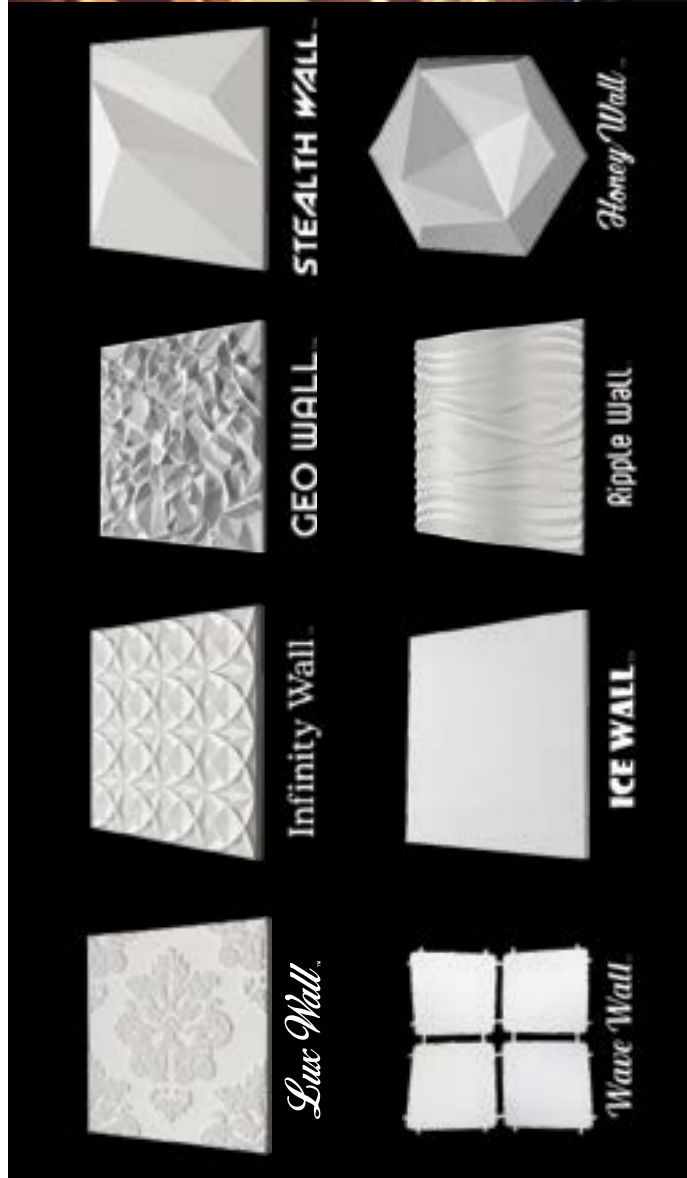
Control is by MA Lighting MA2 full size (with one as a backup), with an MA2 light used for tech focusing, and six NPUs. There is no timecode used with Roland preferring to operate manually as the musicians onstage are all playing live and there are no tracks used.

All of the dimmers, along with the amplifiers, live above the stage in two 20ft shipping containers which once hoisted into position, has everything working in a short time frame.

Towards the end of the show, as Adele sings *Rolling in the Deep*, audiences have been delighted to be showered by 'hand-written' confetti notes supplied by Quantum SFX who are providing an impressive 400kg of confetti and 80 CO2 jets for the fourteen shows.

All stadium shows need to climax with fireworks and in Australia, Howard & Sons provided their expertise.

Touring heavy steel

The production team, headed up by Richard Young, leap frog the ground support structure and audience lighting whilst the rest travels as a universal kit. The stage load in is normally two days, whole production load in is one day. The lighting came from Neg Earth in the UK, with production rehearsals taking place early January in Phoenix before the gear was shipped to Australia. Only one of the advance audience lighting kits is sourced locally.

Ulf Oeckel designed the audio system, saying it took a long time to build and prep but fortunately sounds way better than he expected it too!

"Our main goal was to have everything off the ground, there's not one speaker blocking any view, no subwoofers, no near fill … nothing on the floor," he said. "It was essential to make a nice slim looking design."

The entire audio system weighs about 13 tons and the PA is eight hangs. The PA system comprises 144 x L-Acoustics K1 boxes and 46 x K2, plus a sub array of 32 x KS28 driven by 105 x LA-8 and 10 x LA12X amplifiers. Sixteen KARAs hang underneath the rain roof in the centre, providing audio to the VIP area in the inner circle. Having the amplifiers flown above the stage means the cable lengths are more acceptable.

Playing in the round means the distances the audio has to throw are not as great as a traditional stadium show and so no delay towers were required, although at 125 metres you wouldn't want to go much further.

Dave Bracey mixes the show on a DiGiCo SD7, by far his preferred console - in fact he doesn't mix on anything else.

"Obviously stadiums are a tricky environment anyway, then doing shows in the round are more so but we're very pleased with the results," he said. "Depending on the space you're in, sometimes you get reflections you're not happy with because you're firing square on to reflective surfaces instead of hitting from an angle, like you are if you're firing down a stadium. If you deliver quality audio to a hard reflective surface it is going to bounce back in the opposite direction."

Mixing Adele live in a stadium, Dave commented that he is doing less to her voice, in terms of processing, than in the arena shows.

"Her mic technique is very good," he stated. "She's very close to some infills we have hanging underneath the rain roof, and she spends a lot of time out on the walkway which is in front of the PA, but she's doing exactly the right thing with the microphone so I'm not having any troubles at all."

Dave used mainly onboard effects, all the dynamics are done on the console as are the rerverbs and delays except for a Bricasti M7 outboard reverb for Adele.

Adele | Ulf Oeckel designed the audio system.

Adele | Dave Bracey mixes the show on a DiGiCo SD7.

Adele | Control is by MA Lighting MA2 full size (with one as a backup), with an MA2 light used for tech focusing, and six NPUs.

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Remote Monitors

Monitor engineer Joe Campbell was ensconced in the bowels of the stadium a good couple of hundred metres from the stage.

"For the arena tour I was put underneath the stage, which is a departure from the norm, but this stage is simply not big enough for the equipment that we use," he explained. "However, because it is all on a fibre optic link we can easily be 200 metres away. I have access to all of the cameras around the stage and robo-cams underneath the stage, so I can always see what is going on. I can see when Adele is in the underworld with a microphone in her hand, I can see the technicians, the radio microphone receivers and a glimpse of the transmitters as well."

If Adele is walking around the rim of the stage, Joe can switch to any of the cameras to see what she is up to. With a fibre optic link there are no delays in reception or sending of signals.

Everyone uses IEMs with no wedges on stage

at all. It's Sennheiser equipment throughout, with whom Adele has an endorsement. Sennheiser 9000 radio microphone systems are used for vocals, with racks and racks of Sennheiser 2000 Series IEMs for all different regions of the world.

"I would say the Sennheiser 9000 digital radio microphone system is the best that I have ever used, certainly with handling noise, reception and audio quality," said Joe.

The team have duplicates of everything so there is no single point of failure in the entire system. There are four IEM transmitters running all the time just for Adele on two completely separate antenna systems, separate cabling and IEM amplifiers. A lot of stuff would have to break at the same time for her to be switched off!

"We've been out for such a long time and done so many shows, just about everything is programmed into my DiGiCo SD7 so really it's just a matter of keeping an eye on it all," commented Joe. "We've done all the difficult bits already."

The stadium shows are minus quite a few musicians from the arena tour elsewhere in the world, as there is no orchestra or brass section so Joe is using far fewer inputs than the arena tour.

"I use some of the effects in the console plus a TC Electronic M6000 and 4000 reverbs as outboard which means, if we go do a television show I can unscrew the M4000, tuck under my arm and I have all the settings for her reverb needs."

Adele

Joe Campbell has access to all of the cameras around the stage and robo-cams underneath the stage.

Adele | It's important with a show of this scale and type to give the stage some kind of background and this is done with audience lighting.

Adele | Philip Haynes, Tim Jones and Piotr Klimczyk in video world.

With Adele's voice, one of the main challenges concerns radio reception and transmission due to the nature and size of the stage. The radio microphones and IEMs have to work under the stage, on top of the stage and also on the outer rim and all the way to any of the north, south, east or west exits of the stadium. That's a considerable distance to transmit for the IEMs and to receive for the radio mic. Joe deploys quite a complicated antenna system to ensure this works smoothly and he admits it has been his main challenge.

With the video such an important element in the show, it's not surprising to find that the tour has quite a sizable video department of eighteen crew.

The cylindrical main screen of G-Lux product is fed by four feeds coming from a Photon media server, which is used as a screen controller as iMag goes through it as well. The lower screen is a Roe Creative Display flex product.

"This allows infinity loops like a zoetrope around the whole of the drum just from some smart programming on the timeline via Photon," explained Philip Haynes, media server operator. "Everything comes into the media servers, it's the end of chain before we then send through a medianet, which is a fibre connection that takes us to the stage, and then we distribute that signal to the main screen, lower screen and all the CCTV cameras. We have as many CCTV cameras as broadcast cameras to capture the show. It's all about making sure there's a filmic, classy look with no reframing or zooming in like on a standard rock'n'roll show."

Playing Australia has been quite challenging for Adele because of the heat and she's very mindful of hair and makeup, so if that's not right it's very obvious on the screens.

"The first show in Perth it was 38 degrees and she was very sweaty despite her fantastic make-up artist," said Matt Askem, Multicam Director. "We then added fans to the stage which make her hair more Beyoncé wind swept, but at least she's more comfortable.

"I look at the stage floor in quadrants, with four big cameras out in the field to do centerline close-ups similar to all of her photography which is always plum centre. We try to emulate that as much as we can. I then have four cameras on the inner rings of the pillars and a Steadycam. I've never toured with a Steadycam before and consider it to be a luxury item that I usually only have on TV productions. But she walks around the ring so much and she hates pictures cutting quickly, so the Steadycam can travel with her. I also get some good light beams coming down the lens which gives us lens flares that look quite pretty."

At Sydney's ANZ Stadium, Adele performed to her largest audience ever on tour with her two concerts attracting 95,544 people per concert. This was the largest audience the venue had seen since the 2000 Sydney Olympics (which had additional temporary stands that took overall seating to around 100,000).

Adelaide and Melbourne shows followed before four Boeing 747's flew the gear over to New Zealand then back on a ship to London. Four sold out shows at Wembley in June could signal the end of touring for Adele, who plans a five year break in any case.

With a stellar line up of the Machinations, Models, B-52s and Simple Minds, this Day on the Green at Bimbadgen Winery in the Hunter Valley promised to be a hot event. And it was. Literally.

SIMPLE MINDS

BY CAT STROM

As the temperature hit 46°C, organisers struggled to keep the punters cool. A large shade area was erected, as well as a rather small misting tent, and a water truck dumped water on the crowds at the back. There was free drinking water but by the time it travelled through metal pipes, it too was hot. Cooling scarves were available for $10. Not surprisingly, the queues for alcohol were the smallest I've ever seen.

While there were safety concerns for the punters, spare a thought for the crew who did not have the option whether to attend or not.

"It was a very stressful day and once you get past 39°C, you cannot cope without a proper cooling system," said Olivier Gerard, FOH engineer for Simple Minds. "As you know, all of

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the digital gear and computers are all based on hard drives and hard drives cannot cope with such heat."

The decision was made to line-check early in the day and then all equipment FOH was completely shut down, which was a bit of a gamble. Luckily Olivier had a cooling system for himself and his gear during the show, having experienced gear failure on a previous hot Australian tour.

"Unfortunately with the Soundcraft Vi series, especially the older models, the cooling system was not that great. In my own Vi I have installed a customized cooling system into the console which takes over when there are temperature problems. Of course, at 40°C+ nothing is going to help. The computers were a problem but by the time Simple Minds took to the stage the temperature had dropped to about 36°C which was manageable."
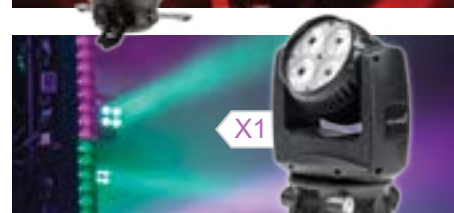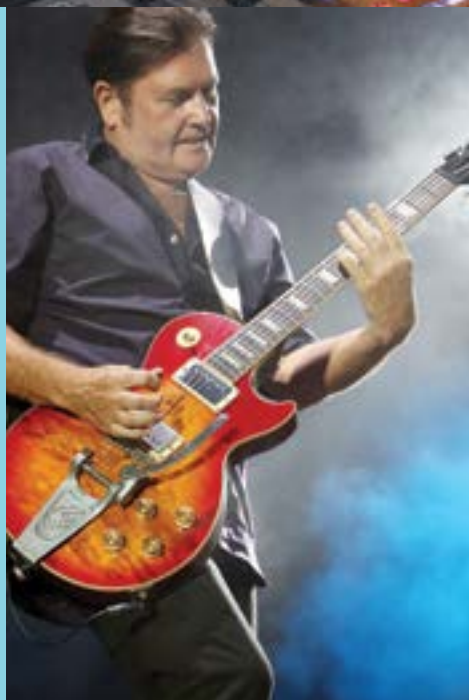
JPJ's Josh De Jong

The B52's, who played before Simple Minds, had quite a few computer problems and lost all of their keyboard sounds. Simple Minds use the same technology for their keyboards and they were worried that they would lose their keyboards too.

"We have a very good keyboard tech who kept all of the keyboards inside the air conditioned dressing room, only bringing them out at the last minute," commented Olivier. "Basically we kept all we could in air conditioning or switched it off until the last moment which is risky. Usually in our work if you turn something on and it works, you leave it on as switching gear on and off can cause problems. It was the only way we could do it and fortunately it all worked out well."

As Simple Minds travelled the country they used a variety of PA systems supplied by JPJ Audio, an L-Acoustics K1 system was supplied to Bimbadgen, which did not concern Olivier at all.

"If you have a good PA tech, they can make any system sound how you want it to, and JPJ's Josh De Jong was very good, making my job easier," he added. "Some PA systems are easier for me to work with because I feel them more, but any of the good systems will work."

Olivier describes mixing for Simple Minds as a challenge due to the fact that they cover such a long period of time and thus a variety of musical styles and dedicated sound.

"The eighties sound was very particular whereas the nineties sound was more rock," he said. "Then they got more pop before going back to rock and then electronic. Obviously their biggest hits were from the late eighties and I think it's very important

that when a fan hears one of those songs, they should instantly be brought back to that time. We worked a lot on those sounds so that you can recognize the song on the first note."

Olivier focuses a lot on bringing the energy of the band over to the people. This is a band that know how to perform and entertain but it's not all easy.

"Jim has a microphone technique of his own and you have to work hard to keep the vocal above the loud and very intense music, he remarked. "I like to bring my own microphones on tour because when everything is programmed in the desk, it's important to have the source right."

Olivier travels with his own set of microphones particularly as the band has an endorsement for the drum mics with BeyerDynamic. The vocals are taken care of by Shure Beta 58's, with the backup singers using DPA d:facto mics. There's a Beyer M88 on the bass, and a Neumann KM 140 on drum overheads for the cymbals.

FOH Olivier was running a Soundcraft Vi6 console, although he usually uses a Vi4, saying he prefers the size and footprint of it. Outboard effects are used for the vocal and the bass, with drum treatments and a compressor on the main mix.

"The band are all on IEMs except for guitarist Charlie who prefers wedges," said Olivier. "It's quite common for guitar players to not use IEMs, because guitar playing is not only what you hear but what you feel, controlling the feedback is more a physical thing - you feel the strengths oscillating under your hands and if you don't use any wedges or amps, you can't control it properly."

Evicted and shunned

Crew member struggles without a gig

By Julius Grafton

`C`ome through the garage', Michael* yelled. A jumble of tools, suitcases, clothes and cartons were strewed about. I picked my way through a pile of spanners that clattered over the concrete.

He was squatting in the shade next to the pool, smoking a roll-your-own, looking pale and nervous. Aged around 30, Michael was between gigs and had spent the past month engaged in a furious social media war against his former employer.

I was there ostensibly to talk about that but more-so because I was worried about his state of mind. Others were posting small bites of support on his page, but there seemed to be a distance where no one wanted to do anything. He was clearly damaged goods and rattling a lot of people.

The story fell out of his mouth, hit the ground, and reverberated chaotically. Photos of apparently unsafe rigging at a venue on his phone, screen shots of emails and posts, accusations, threats and claims he was being stalked by security agents. One had stopped in the alleyway beside his room the day before, and was looking in, he said.

But I soon discovered amidst the outpour, that I had accidentally arrived to witness his eviction. The guy saw us from the upstairs window, and rushed down. He was swarthy, well built, and middle aged.

"I can't help you", his landlord George said forcefully, standing over us. "You never listen to anyone. You can't help yourself. This is to help you. You have to GO NOW."

George came to me as I waited for my ride on the street later on. "Look please don't think bad of me. I have rented rooms to guys who need help for twenty years. There'll be another one here later. It's not about the money, even though he hasn't paid rent for months. It's about him not wanting to help himself."

After realizing the work disputes were entirely matters between Michael and his ex employer, I turned the

conversation to what was happening now, and what he would do next. Other than stuffing everything into his car, he had no plan. Did he have fuel in the tank? 'Yes, full'. Did he have money for food? 'Yes, some.'

I told him about Support Act, how it can help people in need who have been working full time in the entertainment industry for over five years. He qualified. We opened their website on my phone, and did the online application together. It was comprehensive and I worried that someone like Michael would not have the energy or be in the right mindset to complete the whole application.

Later on Lindy Morrison from Support Act rang me to check on the application as I was listed as an industry referee. She explained some people in need just call, and it is all done over the phone rather than using the online form.

"Do you have family", I asked Michael. "Brother and father, that's it", he replied looking sadly into the middle distance.

"Have you asked them for help?"

"No. My brother is no good anyway."

"What about dad?"

Silence.

Eventually I convince him he has nothing to lose, and I make the call. A gruff Scottish accent answers, "And who EXACTLY are YOU?" he barks.

"I'm someone who helps people in need", I stammer, "and Michael is about to be evicted. Is there anything you can do to help him?"

"No. He doesn't listen to anyone. I cannot help him".

The next day the dad is on the phone to me.

"Do you realize he turned up here, his car full of everything, and he expects me to help him?" he says forcefully. "He cannot stay. Tell him. Tell him he has to go."

I demur. "It's your son, your family", I say. He hangs up, angry.

That night Michael messages me and says Support Act have come to the rescue. I don't know the details. He is happy, settled in a new place.

But a few weeks later he is back on Facebook, slandering his ex employer and complaining he can't sleep.

Hopefully Michael will get the help he needs, so his head can come back together. Then he can pick up the pieces and get back to work, using his rigging ticket or his truck license to snag some gigs with people he hasn't pissed off.

It's a story about mental health – the ex employer seemed to be doing everything right, from what I could glean from the slew of emails I read. Michael just fell off the planet, for reasons unclear, and lacked the willpower to do anything about it.

The rest was inevitable.

- Support Act assists professional crew who fall on hard times. Donations are tax deductible, and identities of supported people are fiercely protected. Get help, or donate, at http://supportact.org.au

* Michael's name was changed.

history
1991: 2017

CX Magazine is proud to be the go-to source of relevant **entertainment technology industry news** since our first issue in 1991. Here are some highlights this month from 5, 15 and 25 years ago. **You can read** these and all editions ever published for free at **www.cxnetwork.com.au**

→ Channels 1991

Channels #4 was published in May 1991. It was produced mainly by Julius Grafton every 2 months using an Apple Mac CI - the one with a mono A4 screen.

On May's front page was the announcement of the Jands Event console. Its arrival was part of a general industry re-think about stage lighting design - Scenes replaced by Memories, Assign instead of Faders, and Page rather than Bank, all driven by a Motorola 68000 10MHz processor - similar as the aforementioned Mac.

Also on the front page was JBL's first foray into co-axial speakers, the 2152 and 2155 (12" and 15") plus a third option in the 2142, a 12" with a dome radiator.

Also in news this month 25 years ago, local manufacturer Bonza Boxes closed its doors with Cadillac picking up options, and globalization in the industry was just appearing with Mark IV (Australia) adding Electro-Voice Australia to its portfolio that

included Altec, Gauss, and Klark Teknik.

In production and touring news we detailed rigs used by Jimmy Barnes, Hothouse Flowers, Margaret Urlich, Hoodoo Gurus and spoke with the P.A. People about the Festival of Sydney and its signature Domain production.

In the aptly named lighting column 'Bangs and Flashes' James Reid gave a compelling reason to dump the Weiland loom, and provided a brief - and it was brief - history of the use of nitrous oxide gas in Oz lighting - used to gas-up Genie fog machines and pneumatic lighting stands in the main (until nitrous was discovered to add some extra boost Mad Max 1 style when in pursuit by the police).

For the rest of us, an alternate way to fog up: "Can't afford a fog machine? Buy some smoke fluid, an old fashioned pump action fly spray (or weed spray atomizer) and an electric frypan. Set the frypan on MAX HEADROOM. Load the atomizer/sprayer with log fluid. and then blast off. Spraying the fog fluid on the frypan will make fog. Make real sure you don't reach for the wrong spray. or you could ash yourself!"

→ Connections 2002

In Connections #97, April 2002 we featured Commercial Audio and Communications plus DMX Devices with two Market Reports that named, priced and specified (as per suppliers content) all significant product in these areas.

The cover headline was a page turner: 'The Secret World of Uri Behringer', an unauthorised profile which caused some consternation from the subject in subsequent issues. Read with

other commentary about Behringer in the same edition - their up-ending of local distribution was particularly brutal - and some insight is provided into how the brand has become an industry presence to be reckoned with.

Other features that month included an interview with THE Sir George Martin, and a look at the re-release by EVI of a range of Dynacord products, building on the brand's proven pedigree

(with some photos of an original Echocord and others).

We also started the 'Daze of our Lives' series about 30 years of Rock and Roll lighting and sound (re-published in full last month) to bring some wistfulness into proceedings. In News, Jands added 28 Crown power amplifiers to its production house making a total of 200 (or 1 million watts) help drive their (then) JBL and L-Acoustics line array systems.

→ CX Magazine 2012

CX Magazine's April 2012 edition (#69) highlights: Yamaha launched its CL range of digital audio consoles; industry stalwart Stage and Studio closed shop after twenty years (filling a gap when Strand closed); and the CX Roadshow concept (replacing a centralised tradeshow) was well received in its five-capital city showing.

In theatre we profiled the technical production of La Traviata 'on-water' production in Sydney, plus Rod Stewart at the Hope Estate overseen by Lars Brogaard and David Vinnicombe of UK production company Major Tom.

Staff also caught Jon English's show at the State Theatre supported by top-line conservatorium graduates (it has been a year last March since Jon English passed away).

Did Sydney need a new 300 seat theatre with a fly tower? Well yes, as it turns out - we toured Chatswood's well appointed Concourse theatre and met its skilled production staff, and also profiled Melbourne's Resolution X facility lighting rental and production house.

Compared to 1991 and 2002, the 2012 edition features active discussion about formal mechanisms to protect and support all involved in the industry.

LISTEN HERE
DUCKING THE PROBLEM

By Andy
Stewart

Sometimes there's just no room at the top, and the only way to make yourself heard is by pushing others aside. Sounds heartless and cruel, sure, but not in the audio world. This classic mix technique is all about finding space you didn't know you had, and today, more than ever, 'ducking' has become a vital weapon in any engineer's arsenal.

I'd like to get down to specifics here as quickly as possible if I may, so there's no time for pleasantries or wisecracking. My hilarious jokes will have to wait 'til next month.
G'day, by the way.

PUNCHING A HOLE IN TIME

I want to describe here the technique of intentionally leaving certain key aspects of your mix dynamically looser or louder overall than you ultimately want or need them to be.

Preserving some dynamic in the individual channels of key elements of your music has positive affects on both the behaviour of the mix bus compressor, and later, the final master, that's audibly different from a mix where key elements arrive at the stereo bus already heavily compressed.

All too often, the tendency now is to put so much compression and limiting on individual channels and sub-groups that the stereo mix bus is often left to do very little. Although there's nothing wrong with that per se, it's important to understand the benefits of leaving some work for the mix bus compressor. Later in this article, if we have space, I might also touch on the related technique of key input side-chaining one signal into another, and the use of groups to achieve a similar, but not identical, compression outcome. In engineering circles, all these various bussing/compression techniques are collectively known as 'ducking', and yes, that spelling is correct.

DYNAMICS ON THE LOOSE

Intentionally allowing the dynamics of certain key elements (things like main vocals, drums et al) to be left a little loose or loud in a mix (by say 2 or 3dB) can provide your final master with several key benefits. The most obvious being that, when pushed up against the constraints of a stereo mix bus compressor (and later, mastering compressors and limiters), these important feature elements survive with their mix focus largely intact. The additional space they provide themselves – for as long as they're triggering a compressor's threshold – keeps them buoyant in the mix even when the mastering process is savagely reducing the dynamic range of the track.

By forcing other sounds around them backwards (i.e., down in volume), these 'dynamically loose' lead instruments punch holes in the stereo image like a car driving around with its own on-board parking space. Wherever the sound occurs, headroom appears to accommodate it – a little or a lot, depending on how much gain reduction you dial in. And let's face it; in this day and age finding space for these key elements is becoming rarer than on-street parking.

When a final master is pushed hard against limiters in order to sound 'competitive', dynamics are obviously at a premium (almost non-existent in some cases). Using the mix bus compressor to subtly duck a fully mixed soundstage under some of its key elements is therefore one of the most effective ways to circumvent the downsides of our 'loudness wars'.

We're not talking huge numbers here though. Sometimes as little as 1 or 2dB can make a huge difference to the clarity of things like vocals, lead guitars, or that crazy tom fill you want to feature (but not at the expense of the song's apparent volume). This is why mastering engineers prefer things like vocals a little too loud, rather than soft. Pushing a loud vocal against a compressor is far easier to manipulate, and has far more desirable affects on the final master than pulling a vocal up out of the murk. The latter, apart from being far more difficult to achieve, usually produces a more compromised, inferior outcome.

Now, while pushing key elements firmly against a mix bus compressor is hardly a forgotten art, or by any means an obscure technique, its affects are nevertheless often misunderstood. Overusing the push-back from a compressor to create space for

featured musical elements – particularly when this occurs at the stereo output bus – can cause problems, there's no doubt about that. So, as a general rule, be aware this is a subtle tool, not a blunt instrument. A little goes a long way, as is the case with almost anything you do globally to the stereo output. Use the technique lightly and you'll look like a mix genius; overdo it and things may start going pear-shaped.

WHEN COMPRESSION BECOMES A DUCK

What's important to learn about intentionally driving certain sounds a little 'too hard' into the mix bus compressor is not so much whether or not it's good or bad in principle, but more importantly: how much is too much?

If a key mix element – let's use the example of a vocal here since it's commonly the most important 'feature' of any mix – arrives a little hot at the stereo bus compressor and triggers too much gain reduction, the vocal is typically described as 'ducking the song'. Too much of this sort of compression will start to suck the life out of the track, and no-one's advocating that! This is, in fact, why the term 'ducking' almost always has a negative connotation – though I might add, typically only amongst engineers who tend to heap scorn on this side effect whenever they hear it. Unless it's severe, the general public never notice ducking effects, and they're the ones we're ultimately trying to please. Countless engineers argue that being able to hear the affects of ducking on a stereo mix equates to poor engineering practice. I disagree.

In a world where dynamic range has been virtually eliminated from popular music by heavily compressed mix bus outputs and similarly slammed mastering chains, preserving the audibility of key musical elements has become a fine art. Engineers all over the world are developing different approaches for this, the primary aims of which are to step around – or at least appear to step around – the problems of loudness versus punch and clarity.

Particularly when a mix becomes too dense, ducking a song's instrumentation under its lead vocal, for example, by a decibel or two can preserve the focus around the voice without necessarily making the music seem small or quiet. The moment the vocal is gone – assuming the release setting on your bus compressor is fast enough – the music reclaims the space. The gain savings are all but invisible, particularly to the general public.

GROUPS & KEY INPUT SIDECHAINS

Other forms of this type of ducking can be setup via groups if you're feeling dissatisfied with the two-bus outcome, particularly if the mix is tending to over-react to the incoming signal.

It might be as simple as establishing just two groups: one containing the vocal and any associated sounds that are most obviously getting in its way, and a second group that's not directly tied to the dynamics of the vocal signal. When you feed these two groups into the mix bus you can kind of have it both ways: some of the elements ducking under the vocal, but

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

NEWTON'S LAW

Understanding ducking, as it relates across an entire stereo mix, is vitally important to good mixing overall because it encourages you to perceive your work as an interrelated dance between dynamic elements, rather than just a bunch of disassociated individuals tracks, each with its own set of controls. It encourages you to think about things reducing in volume simultaneously as others go up, rather than always just wondering how you're going to get Sound X to be heard above everything else. What goes up must come down, as they say. Ducking sets these wheels in motion for you, by using the instruments themselves to do the automation work! Rather than painstakingly working individual sounds up and down manually, even if it's via automation groups etc, why not get some of the performances themselves to do that for you? It's generally quicker, and often produces superior sonic results.

Now, if you forget everything else about this article, remember to at least try this little trick: get four things in your next mix to duck the output gains of four others – one signal pushing aside the other. Now, listen to your mix tighten up before your very ears.

Stay tuned next issue for more on this… Meanwhile, listen, think and act.

not the whole track.

Alternatively, you might find that creating three or four groups gives you the outcome you're after. Obviously, the more you split things up, the less this original concept is relevant.

Another form of ducking – which we'll have to discuss separately next issue I think – is key input side-chaining, where one sonic element typically remotely controls the gain of another (these days this is a task mostly performed via various plug-ins' key input routing).

So, for instance, when a kick drum voices in a track, it might force the gate on a snare's reverb track to close, or close the snare channel itself. Or you might use a randomly dynamic synth part to force, via its key input, the compressor on another signal to behave erratically. Using your imagination here can produce some truly strange, cool and intriguing shifts in the dynamic response of instruments in ways that would otherwise never occur. The possibilities here are effectively endless…

By Julius **Grafton**

DAN

BAZ

CHAMSYS MQ 500 STADIUM SERIES
Runs up to 200 universes

We saw the MQ500 at ENTECH and then caught up with a couple of power users – Lighting Designer Baz Barrett, and senior tech Daniel Morgan from Austage Events in Sydney. They were pouring over the console and comparing notes. It's a smart looking upscale machine with a pair of 15" touch screens on a clever manual ratcheting mechanism that allows adjustment of screen angle.

There are fifteen non motorized faders for playback (plus three more) and you can assign another 15 playbacks for 30 including scenes or chases. It has 12 executables that let you patch anything. Four large rotating encoders and four smaller ones each have a hot switch under, allowing bump or tap timing.

But it is better to let the guys talk.

Baz: I had to go to UK to do Stereophonics, and a mate told me about this Southampton console,

so I went to the factory. They gave me a console on approval. Just like that!

Dan: The protocol is very efficient.

Baz: It's about reliability. You hit the show file, and its saved in a second. Every other console goes 'jigger, jigger, jigger'.

Dan: The PC option is great. I programmed a console, went to Canberra and left my power supply behind. So I ran my show off a laptop for one night. Not many other platforms give that flexibility – to load a show on a laptop and run it.

Baz: Me too! Qantas lost my console, so I ran my show on a laptop. I'm an obsessive (file) saver – but you can autosave.

Dan: It backs up whenever you do major changes, and it also gives you a backup for each day of the week. This is a lifesaver, things do go awry. We have got clubs where Chamsys runs on the server, we

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can VPN into their venue, and bring up lights or sort out issues. This is the fastest console to do simple stuff.

Baz: Their Media server is free – you go download the software for free. Have you seen on the internet, a Chamsys running very large shows? I saw 2000 movers in a Chinese TV show.

So what is new here? The guys said the console incorporates a lot of software improvements by offering better access and redeployed real estate more suited to the latest version.

Dan: They brought new architecture to the interface, departed from the MQ100 style and moved the interface around. There are more reachable dials, they've moved the buttons and added some new buttons.

Baz: They integrated new features from software, adding plot view. There's a visualizer button, a plot button, it's all more easy. They seem to update the software itself every month. I always grab their Beta versions, I've never had one die. I took a show file from 7 years ago, and it still works! Backwards compatibility and you can revert versions too.

Dan: Yes, the show files are not software version specific. The networking is good. In the network window, for instance, you used to have to put the IP address in manually. Now if I wanted to walk around with a laptop, I'd go to my network tab in Camsys, and it'll find the network console.

I'm asking for shortcomings. The guys look at each other.

Dan: Shortcoming: no pop out keyboard. I'm sure we'll see roadcases with it built in shortly.

Baz: You have to have your head around networking, you need network knowledge. The console doesn't have internal wi-fi.

Fun features?

Baz: Audio input! There is a fantastic 8 band graphic EQ based audio input device. I assign certain frequencies to trigger certain cues. Like at big DJ shows – it hears the bass beat and I tell it how many times, then advance to next cue. You can set up looks based on the sound frequency. It's super handy when a support band wants a lightshow and you want to go to dinner. You give them some looks, tell it every 24 times the kick, please advance to the next cue.

Dan: Tap for time is a good feature.

Baz: It has the best remote of any console bar none. I could run any show off my iphone! Virtually the whole console is on your device. It's as rock solid as a wi-fi network allows.

Dan: It means you can do afternoon or day programming and stand in position on stage, to get the spot perfect.

Baz: Funny enough I operate a majority of the time from side of stage – for multi reasons, I like to be close to the band to get the vibe, I can do all focusing on stage, go out front and check it with my mobile phone.

Dan: You can fly in, and fly out quick and it's easy to manipulate.

Baz: I like the softkeys around the edges of encoder wheels.

Dan: I prefer non motorized faders – you don't whack your fingers when you change a page.

Baz: Motors add weight to a console. Personally I'm not a fan of the feel of the motorized fader.

Brand: Chamsys
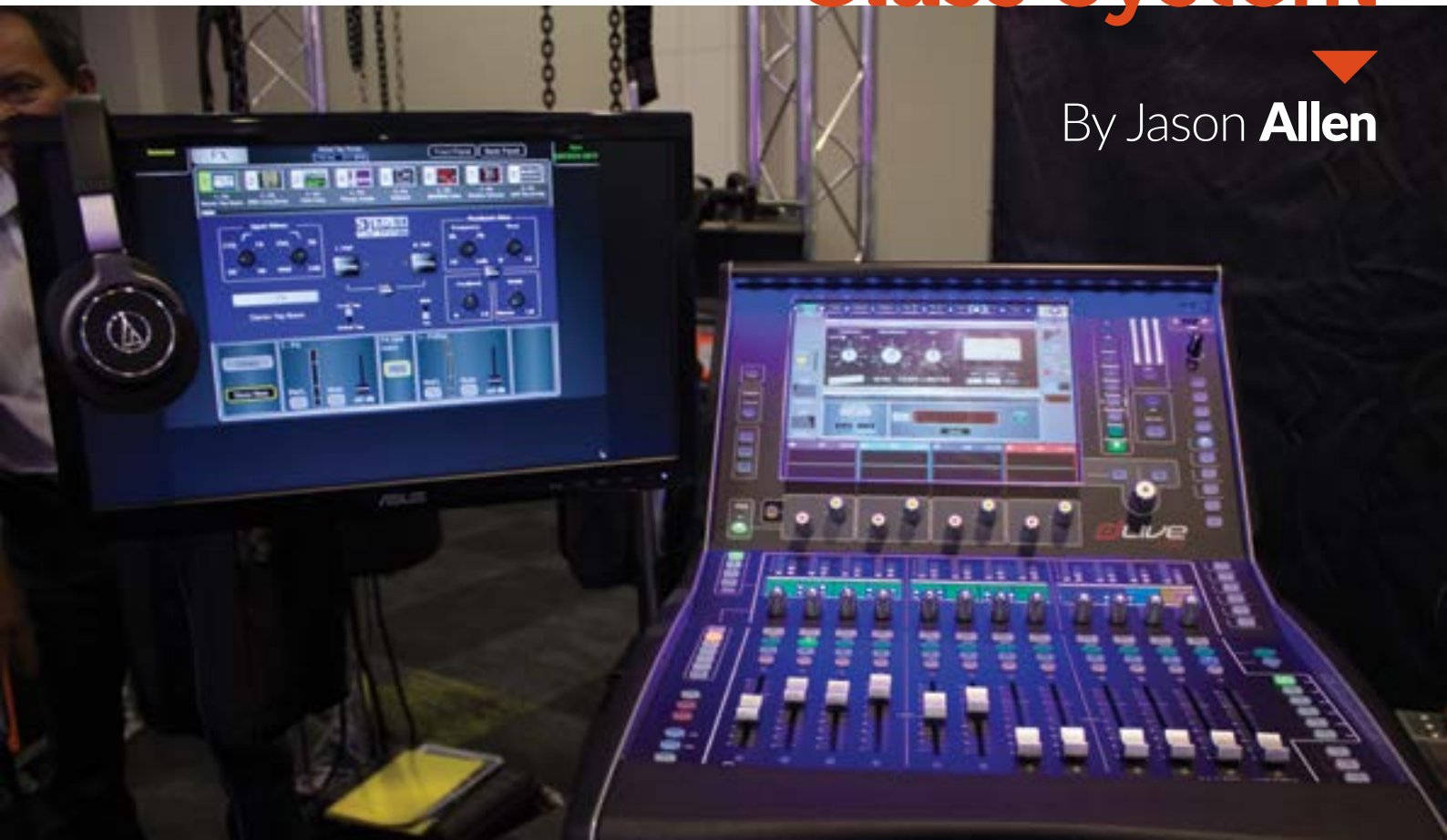**Model:** MQ500
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ALLEN & HEATH C CLASS
Class System

By Jason **Allen**

Allen & Heath's recent release of its dLive C Class products have seen them re-label the pre-existing dLive products as S Class. So what's the difference between the two and why the split? Basically, it's about cost, control, and redundancy. The three new C Class control surfaces and three new racks are all internally the same as S Class in terms of audio componentry and DSP – you can share show files across all models and all processing retains the same 128 inputs to 64 busses structure. What's different is the hardware they've left off.

The new range of surfaces includes the 24 fader, twin 12" touchscreen C3500, the 20 fader, single 12" touchscreen C2500, and the 12 fader, single 12" touchscreen C1500. The CDM64, CDM48 and CDM32 I/O racks have 64 in/32 out, 48 in/24 out, and 32 in/16 out respectively. Connection from surface to rack is via a single proprietary gigaACE connection – is this is where the list of changes starts.

The S Class racks and surfaces have two gigaACE connections for redundancy, C Class just the one. Similarly, S Class surfaces and racks have dual redundant hot-swappable power supplies; C Class are single and built-in. The next to go is connectivity; C Class surfaces have six analogue ins and outs instead of the S Class's eight, one in and one out AES/EBU versus two in, three out, and one card slot instead of two. The C Class racks lack a headphone socket, and have one card slot versus three.

On the control side, dedicated controls for gain, high pass, low pass, and trim are gone, now available via assignable rotary encoder. Happily, they've retained the four band parametric EQ frequency and gain pots, but Q is gone. C Class also has reduced the number of soft keys from 26 to 19. I was very surprised by the addition of a VGA output; if you get a touchscreen that runs at the same resolution as the built-in screen, you can use it as an extension of your control.

The new version of the dLive software adds 64 dynamic and multiband compressors, which are additional and don't take DSP from any of the existing channel or effect slots. There's also a new emulation of a Universal Audio's classic 1176 limiter, complete with the wonky buttons. I get very suspicious when manufacturers put a lot of effort into the graphical interface of their software emulations, as I feel like they're trying to fool your ears with your eyes, but insert it over a drum group, for example, and it's a lot like the real thing.

Another welcome addition is Spill. Take any of the 24 DCAs hit spill, and it populates the channels assigned to them across faders, which you can do by numerical order, or change settings to limit the spill to one bank of faders while keeping your second bank static.

So what do you get for giving up the creature comforts of redundancy and control, considering you're getting exactly the same processing and sonic quality as the S Class? A significant saving. C Class surfaces are around 40% cheaper than their S Class equivalents, and C Class racks around 20% less. Definitely enough to have a good, long look, especially in an install application.

I find the QSC TouchMix family of digital mixers to be very much in their own niche. In some ways, they actually make more sense when considered to be a relative of QSC's Q-SYS install platform, as opposed to live production products like their powered speakers. This is because of their stated design goal – to be digital mixers that are made for the non-audio professional.

It's their very success at this that makes it difficult to appreciate them fully when you are an audio professional. Your preferences and ingrained workflow are going to be very different from someone who is tasked with mixing an event that only has a grasp of the basics. So what exactly is so 'Pro' about the new TouchMix-30 Pro?

Firstly, its channel and bus count. The 30 has 24 mic pres, 1 to 20 on XLR inputs and combo jacks on inputs 21 to 24. In addition to Left/Right, there are 14 auxes, 6 of which can function as matrices, eight subgroups, 8 DCA

QSC

TOUCHMIX-30 PRO
The TouchMix goes Pro

By Jason **Allen**

and 8 mute groups. All 14 auxes have XLR outs, and auxes 12 to 14 appear on two additional TRS outs that are driven hard enough to drive wired IEMs directly. Rounding out the analogue connectivity are monitor outs on XLR, six TRS ins for stereo sources, XLR talkback input, and headphone out. In short, everything you'd need to do a decent sized 'pro' gig.

New features that are not available on the smaller TouchMix-16 and TouchMix-8 include DAW control (for Mac only, sadly) and stereo MP3 playback via its two USB ports. You can record and playback a whopping 32 channels directly to/from a USB hard drive, which the smaller models can do, but only with 22 or 14 channels respectively. The 30 also now boasts a 10" multi-touch screen, versus single touch on the others. Processing capabilities are much the same, but the 30 has 6 effects engines versus 4.

There's a big emphasis on presets and wizards in the TouchMix paradigm, and the 30 continues the tradition. Again, its humbly named 'Help' function is actually more like a complete course in how to mix; the TouchMix is incredibly good at holding your hand. The new screen interface allows you to colour-code everything, and the TouchMix Control apps for iOS and Android are exactly the same as the desk interface, which keeps things straightforward for everyone. You can even mount an optional iPad/device holder.

I initially found the decision to have no

Brand: QSC
Model: TouchMix-30 Pro
RRP: $3,999 inc GST
Product Info: www.qsc.com
Distributor: tag.com.au

> There's a big **emphasis** on **presets and wizards** in the TouchMix **paradigm**

digital connection to a stagebox and non-recallable preamps odd. But then I realised that 99% of the time, the TouchMix 30 is going to end up side-of-stage, or installed somewhere other than at a logical FOH position for convenience. And that's because it's not the kind of device that's designed to be constantly touched, adjusted and played with during a show – it's about set and, to the extent that you can, forget. Any changes during the show are best made with an iPad in the crowd.

I think QSC have gone out of their way to make the non-technical user comfortable. The biggest thing that screams that to me is the incredibly prominent 'zero' button, right above the large rotary controller.

It's labelled with the 'phase' symbol, which has a very specific meaning to most of us. When pressed, it puts whatever value you're editing back to its default (flat, unity etc). It's a security blanket for those who have some trepidation.

Of course, a pro could certainly use and excel with the TouchMix-30 Pro in hand. It can do everything and a little more than required on most live gigs. But it would to a certain extent be wasted. This is an ideal product for an install case where a pro sets up most of the system, and musicians or volunteers use it on a regular basis, like a house of worship or an event space staffed with techs who aren't audio specialists per se, but all do a bit of everything.

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UNCONSCIONABLE CONDUCT

Biz Talk
April 2017

By Julius Grafton

TWO MAGNIFICENT EXAMPLES

Imagine you have a science research lab doing essential work leased from Monash Uni until 2030, but they decide to chuck you out to gain a 'free building'?

Or you are a poor person renting a washing machine on a 'Rent, Try, and $1 Buy' deal from Radio Rentals but discover the deal is not as you imagined?

These are my entries this month as magnificent examples of 'Unconscionable Conduct.'

Unconscionable Conduct is generally understood to mean conduct which is so harsh that it goes against good conscience. Under the Australian Consumer Law, businesses must not engage in Unconscionable Conduct, when dealing with other businesses or their customers. That's what the Australian Competition and Consumer Commission defines it as.

Which gives legs to a class action against Radio Rentals, part of Thorn Group Limited, a listed Australian company led by chair Joycelyn Morton (paid $187,000 last year), and CEO James Marshall (paid $655,000 last year). From their boardroom they are well insulated from the depressing daily grind at one of their stores.

Here's an example of their gouging of the poor and dispossessed, usually people with bad or no credit rating. That's who they pitch their advertising at. Exhibit A: One Simpson 7kg front load washing machine, new. Price at Good Guys: $548. Likely wholesale price to Radio Rentals: 60% of the retail, which makes $328.80.

You can rent this today with no deposit, free delivery and setup, and all you pay is the first month's rental. At $9.63 per week for a new machine over 48 months, you'll pay $2,003.04 - before you are entitled to buy the thing for $1.

There is a slightly cheaper option, for a 'near new' machine, and there are 24 and 36 month terms – at higher rentals – as well.

The class action alleges Radio Rentals (in at least one case) kept hoovering the rental charges from their Centrelink payment after the term ended. The very nature of a class action relies on a large pool of complainants.

The case was brought by Maurice Blackburn who said that customers do not automatically get to buy their rented items outright for $1. "The contract fine print stated that instead the impetus is on customers to negotiate to buy rented appliances or furniture for a price agreed by Radio Rentals. If customers fail to secure a purchase, their contracts automatically roll over into another 24, 36 or 48 month term", they said in The Australian.

Sure people need to take responsibility for their own actions, but if you knew a single mum on Centrelink welfare support payments with a broken washing machine, then you'd know raw desperation.

As an aside, I spoke to a Radio Rentals driver, they are a very unhappy mob as they are routinely required to go and repossess stuff from people who really are at the end of the line.

If the class action, showcased at $50 million, succeeds, then the 'legality' of what Thorn Group do on a daily basis will be determined. I hope those directors sleep well at night. By the way, the Thorn Group annual report is littered with glib little info graphics about how 97.3% of all Radio Rental customers think the firm treats them with respect and suchlike. I'd love to see the veracity of those surveys, perhaps Maurice Blackburn could add them onto the subpoena pile?

Across town we move to the magnificent case of legal bastardry which to our eyes looks like classic Unconscionable Conduct. Sadly the courts do not agree, so one of the country's leading cancer and vaccine research firms are getting booted off campus because of a legal technicality.

Despite having a lease until 2030, they were required to exercise an option each 7 years which someone forgot to do. The Uni pounced, and not only will they be forced to go but they have to pay $1.8 million (plus legal costs) to remediate the premises – a cost not required should they continue to use the place.

They lost a case against the Uni (note that Unconscionable Conduct was not tested, the case was more based on the lease terms), in which an email between the Uni Property Manager and a Business Support Co-ordinator was unearthed where it was suggested that the Uni could use 'a free building'.

They sure did get that.

Magnificent.

CANBERRA THEATRE CENTRE
Upgrade

by Simon Byrne

The ACT Government has invested $9 million into the Canberra Theatre Centre's technical and patron amenity over the last 5 years. The program included a new outdoor LED screen on the front of the building, new seating for 1245 audience guests, full replacement of the theatrical lighting, dimmers, infrastructure and fixtures, building improvements and modernisation as well as a new, sorely needed PA system.

The theatre had been served well by 18, Meyer UPA 1C's for 25 years. A testament to the quality of those boxes. However it was clear that they were at the end of their life and no longer the right type of box for the contemporary shows that are now coming through the theatre.

As well as a venue for local productions, the theatre regularly hosts national and international A and B level artists. Also, many contemporary acts now only tour front of house mixer, microphones and foldback with the expectation that the venue will supply a high quality front of house speaker system. Consequently, Gordon Woods, head of the Audio and Video department, had been forced to hire various systems over the last 2 years to support the acts at a level they quite rightly expected.

It was clearly time to install a new house system capable of supporting all acts coming through the theatre. As part of the upgrade, Gordon also wanted to take advantage of the advances in digital technology that had been made in the last 25 years whilst ensuring that the systems would remains as flexible as possible.

As the theatre centre is an ACT Government owned facility, ACT Procurement issued a tender and managed the procurement process. The theatre engaged

Gordon Woods

Peter Holmes from Parsons Brinckerhoff to assist with system specification and tender documentation as well as be an independent technical expert when assessing the tender responses. The contract was subsequently awarded in late last year to Eighth Day Sound Australia Pty Ltd. The Canberra Theatre is their first major permanent installation in this country.

Installation was carried out over February with the installation of a new D&B rig as well as an upgrade of some the existing equipment. As Eighth Day is an international company with international resources, they got their US Director of Installations, Thomas George in from Cleveland to oversee the project. The Australian installation team was Tristan Johnson, Christian Walsh and Damien Pryor was the project head.

The D&B system incorporates two main hangs containing six V subs, six V8's and two V12's per side. The main hangs are supplemented below with two further V subs, a B22 sub and a Y10. Across the front edge are six E8's. The front of house is completed with a centre hang of four Y12's.

The system is capable of delivering sound for high level music acts but it has the flexibility to adapt to any show. For example, the centre hang can be moved and reconfigured for a centre dialogue

1 Full Left hang with floor boxes.

2 Centre hang behind screens.

3 Tristan Johnson and Christian Walsh.

4 32 channels amplification

5 Thomas George flew in from Cleveland to oversee the project.

5

channel in musical theatre.

Foldback is taken care of with sixteen M4 wedges. The FOH line array is processed using D&B's proprietary Array Calc simulation software which is comparatively new technology. It is optional and whilst it improves the tonal balance throughout the seating area, using Array Calc does add greatly to the cost of a system as more amps are required. Twice as many in fact! Therefore the FOH drive has eight, D&B D80 4 channel amplifiers. That is 32 channels driving the front and another four D80's for the foldback (16 channels). The signal comes into the system by way of a DS10 network bridge which means the input can be AES or Dante.

The theatre already has 3 Digico boards. An SD8, SD9 and SD11. The SD8, being their large format console, was upgraded with Digico's Stealth Core 2 technology. This software upgrade provides processing for twice as many channels as well as radically more Aux/Group Busses, Multiband compressors and Dynamic EQ's. As well as this a Soundgrid Server One was added thereby greatly expanding the amount of plugins that can be run on the system. Three Lake LM44's compliment the system processing as well as provide flexible options in terms of signal routing over either the Dante or AES.

> D&B **V8's,** V subs and **V12's, B22, Y10** & **E8's**

Visually, the speakers are lost in the dark (IE black) decor of the theatre and the centre hang is cleverly hidden by custom screens designed by theatre tech staff. It is effective to the point that I had great difficulty taking photos for this article which was important to the theatre. They did not want offensive looking big black boxes overbearing the view to the stage and that has been achieved. You simply do not see them.

In it's first month of operation, the rig has been used with Bernard Fanning, Casey Chambers, Suzi Quatro, the Waifs and Dami Im. All the band engineers agree that it is a long overdue and a successful upgrade. This investment strengthens the Canberra Theatre Centre's capacity to present high quality entertainment in the ACT.

aceta

Australian Commercial & Entertainment Technologies Association

A Changing Industry **Landscape Reveals the Stakes** are High for our **Manufacturers**

Worldwide millions of individuals are employed in the creation, production and presentation of music in all its forms and roles, supported by management, administration, associated trades and professions. The sum total of their output contributes massively to the international economy as well as remaining vital to the well-being of humanity. On a nation by nation basis, economic input varies markedly, subject to the degree of entertainment consumption and manufacturing activity of a specific country.

With a population of 24.4 million, Australia represents a mere .325% of the world population of 7.5 billion individuals (as at March 2017). ACETA is the peak body addressing the Australian music and entertainment technology industry where its membership is derived. There are no audited figures, however analysis of the known, along with considered opinion, indicate the sectors are worth at least AUD 7 billion in current commercial activity per annum. This figure reflects around ½% of Australia's GDP and in consideration of GDP components, including defence, education, health, tourism, mining, agriculture, food, medical and

the motor industry to name a few, ½% is indeed significant. Accurate employment figures are hard to locate; however, estimates indicate at least 50,000 are engaged in the local music and entertainment technology industries, some place this figure considerably higher. Whilst Australia represents .325% of the current world population, as an early adopter of technology and a significant consumer of entertainment program, we are considered to be around 1.7% of the world music and entertainment technology market, a figure that parallels our percentage of the world GDP.

What these figures do not portray is the fact that entertainment technology is also at the core of historically unrelated industries, including Information, Media and Communication, where the technology and commercial convergence enhances all streams. Consumer electronics benefit from a natural synergy, such as the development of recreational platforms and program delivery systems along with domestic replay products. Entertainment technology is a partner to the electronic sector of the musical instrument industry. In a world of converging technologies, entertainment technology is at the core of many industries, exercising a reach and impact that is impossible to quantify, but positively impacting the entire world and the reason we refer to

entertainment technology as the Consummate Enabler.

Today the entertainment technology sector is navigating a challenging landscape with changing acquisition patterns and inevitable corrections taking place, therefore industry participants will need to understand the challenges before they can successfully address them. The emphasis on logistics, namely forcing product into the market, to achieve short term outcomes and appease investors will be difficult to maintain. What does this mean moving forward? Sustainability will most likely require a more equal balance between marketing and engineering and a more appropriate balance between convenience and performance. Future success will require collaborative client focussed partnership with improved service and support levels. One suspects we will see more defined device/system delineation between consumer and industrial/professional, a situation that has blurred in recent years. Innovation and the aspiration to high standards may assume greater meaning, led by the niche sector, who often see success in a long-term vision, rather than the quarterly report to the stock exchange.

If we view the preceding narrative as a reasonable portrayal of the current industry landscape, we suggest Australia's creative/manufacturing sector finds itself well positioned to elevate its international influence and become a significant source of entertainment technology in all its forms. The Australian creative sector is conveniently compact organisationally and usually niche by nature. They are resilient, proven in the development of high performance technology, and with very little if any baggage, a highly desirable supply partner. But most importantly it is now empowered with its own peak body, and from a position of unified strength and shared resources, can more confidently challenge international competitors in all export markets, to realise increased commercial activity and employment in our industry. ACETA is introducing programmes focussed on supporting the creative/manufacturing sector and will soon engage with the federal trade ministry to elevate the status of our industry and seek broad export assistance on behalf of the ACETA bona-fide membership.

Exciting times ahead and if you create entertainment technology, now is the time to join the growing ACETA influence. For inquiries contact info@aceta.org.au or phone (03) 9254 1033.

All the best
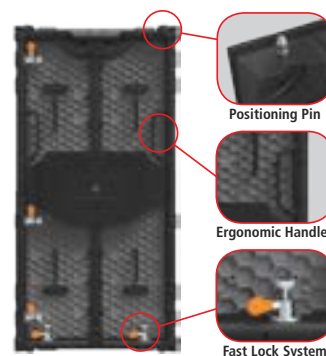**Frank Hinton**
President
ACETA

DUNCAN Fry

"Goodbye Johnny, bye bye, Johnny B Goode"

Chuck Berry has duckwalked offstage for the last time

S o Chuck Berry has gone, at the age of 90. If ever there was a real king of rock 'n' roll, then he's it. A great guitarist, a great songwriter, and sure, a bit of a flawed human being, but then nobody's perfect!

I first heard his songs when the Beatles and the Rolling Stones covered a few of his hits, and I learnt to play guitar by working out their chords and playing along with them. *Roll Over Beethoven, Rock And Roll Music, Carol, Around And Around*; they're all there on my album covers, with what key they were in handwritten next to the titles.

This is a learning process by my estimate that 99% of budding guitarists in the 60s and 70s and later followed. As Keith Richard says if you haven't learnt to play Chuck Berry guitar riffs, you haven't played rock n roll.
When he first met Mick Jagger on the Dartford train to London, what record album was Keef holding? Chuck Berry's latest, called 'One Dozen Berries'!

His songs were easy to learn to play badly (that's me alright!), but much harder to play well. More complicated than you'd first think. Just watch Chuck's fingers on some of the videos online.

But what was it like actually playing with him, on stage? The late Ross Hannaford, from the Pink Finks, Daddy Cool, Lucky Dog and more, would occasionally talk about the chaos of being in Chuck's backing band at Festival Hall in Melbourne, on the 1973 tour of Australia. Sadly he's no longer with us to give us more details.

Luckily, sometime Connections contributor and 1970's keyboard whiz-kid Sid Kidman can tell us more. His band, Rockin' Ray Gibson and the Rave'ns, backed Chuck in Brisbane on the same 1975 tour. Also at Festival Hall, but this time the one in Brisbane.

Chuck was musically notorious for three things; one: he never seemed to tune his guitar and two: he never rehearsed with any of his backing bands, expecting them to know all his songs! (the third thing we'll get to later) It was going to be a sharp learning curve for Sid and the band.

When they arrived to setup before the show, the stage curtains were pulled back and there was a solitary Gibson ES335 guitar on a stand in the centre of the stage.

Guessing it was Chuck's guitar, the band set up around it and ran through some of their own songs while they waited for him. They were also the support act and had to do two sets of their own before Chuck would come on stage and finish the night.

Suddenly Chuck walks out from backstage and puts on the guitar. He says nothing, but walks over to his two Fender Dual Showman amps, plugs into them, and runs his fingers over the strings.
"It sounded so far out of tune you couldn't believe it," said Sid, "but when he played some notes and chords, miraculously it sounded perfectly in tune!"

"Pay attention!" says Chuck, the first words he has spoken. "This is how the songs will stop… I'll put my right foot out to the side, like this (he sticks it out sideways at about 90 degrees) and when I bring it down next to my left foot (clicks heels together) then that's the signal to stop. OK?" He glares at them. "Don't mess it up!"

Sid puts up his hand. "Er, excuse me Mr Berry." Chuck turns and stares at him.
"What?"
"Umm, what songs are we going to play?"
Chuck smiles at him, like a cobra sizing up a mouse.
"What songs? I'll tell you what songs - we gonna play Chuck Berry songs, boy, that's what we gonna play!" And off he goes without another word.

The band didn't get much chance to think about the songs, the starting and stopping, or anything else for that matter, because the promoter then comes up and says "Let's go, let's go - we're opening the doors and letting everyone in - you're on in fifteen minutes!"

The Rave'ns did their two 30 minute sets, then there was an awkward wait of about half an hour, because of the third thing Chuck was notorious for: he wouldn't go onstage without getting paid in cash up front, in US dollars!

In Melbourne the show was held up for at least an hour, while they got a bank manager out of bed, persuaded him to go down to the bank, open up the vault, and bring a bag of US dollars to Festival Hall, while the audience waited!

When Chuck finally comes on, the whole place goes haywire, and Sid told me that the first few songs (Roll Over Beethoven, Maybellene, and School Days) were just a crazy blur, until Chuck wanders over to him and says "Hey Mr Piano Man, take a break (a solo)." So Sid bangs away at the keys for 12 bars, but Chuck doesn't like it, and scowls at him horribly, while making 'ding-ding' sounds.
He reaches over the front of the keyboard, spreads his great long fingers, and taps out some upside down notes for Sid to follow. Sid copies them, and it sounds a lot better, so Chuck stops scowling and making faces and wanders off to harass the guitarists.
After they have taken solos to Chuck's satisfaction, he wanders upstage and turns down all the amps - except his!
"I hate noise," he says to the audience, then proceeds to spend the next 40 minutes playing slow blues all by himself.

Then the amps get turned back up again, they rip into Sweet Little 16 and Johnny B Goode. The crowd is going crazy, dancing in the aisles, Chuck invites the crowd up onstage to dance to the last number Reelin' and Rockin'. The crowd doesn't need asking twice - they surge onto the stage and totally block Sid's view of Chuck, and the all-important feet. It's quite a long song as recorded, but played live it goes on for a lot longer, and Sid keeps leaning over trying to see where Chuck's feet are so he can get the cue to stop!

All of a sudden the crowd parts like Moses parting the Dead Sea, and Sid sees Chuck's right leg go up, and 'Bang' it goes down on the last chord!
The show's over. Security people guide the crowd off the stage, amid calls for 'more, more'. But no encores for Chuck, ever.

Except once. As Sid tells it, a couple of days later Chuck did what we would call today a 'pop-up' show, a one-night-only at a major city club. He finished the set, the audience went wild, and he walked offstage, closely followed by the club owner.
"Chuck, Chuck, they're going crazy for you, you gotta do an encore, man."
"Nope." says Chuck, "no encores!
"Please Chuck, they really want you. Please, I'm begging you."
Chuck stands up, thinks, and says "OK then, one song."
He looks at the club owner. "500 bucks!"
The club owner looks like he's just copped an ice pick in the forehead. "WHAT?" he screams, "500 bucks for one song?" I should point out that we're talking 1975-era dollars here, a substantial amount in anyone's money.
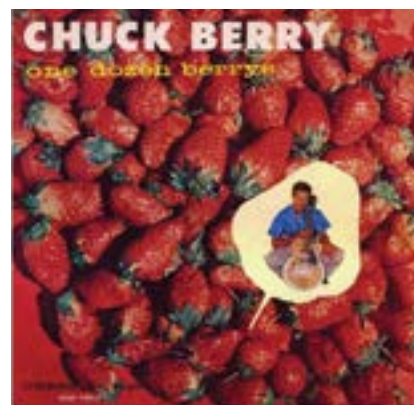"Yep, 500 bucks!"
After a lot more screaming and tearing of hair, the club owner goes to the safe, pulls out a wad of money, flicks through it then hands it to Chuck. "There it is - 500 bucks." Chuck takes it, walks out on stage to riotous applause, and does one more song, then puts his guitar over his shoulder and walks off into the night.

The set list:
I managed to put this together from the very useful website 'setlist.fm', but if anyone remembers it differently, well, you know where to find me! It was probably added to during the night; Sid remembers *My Ding A Ling* being in there somewhere!

Roll Over Beethoven
Maybellene
School Days
No Particular Place To Go
Unknown (Blues Jam?)
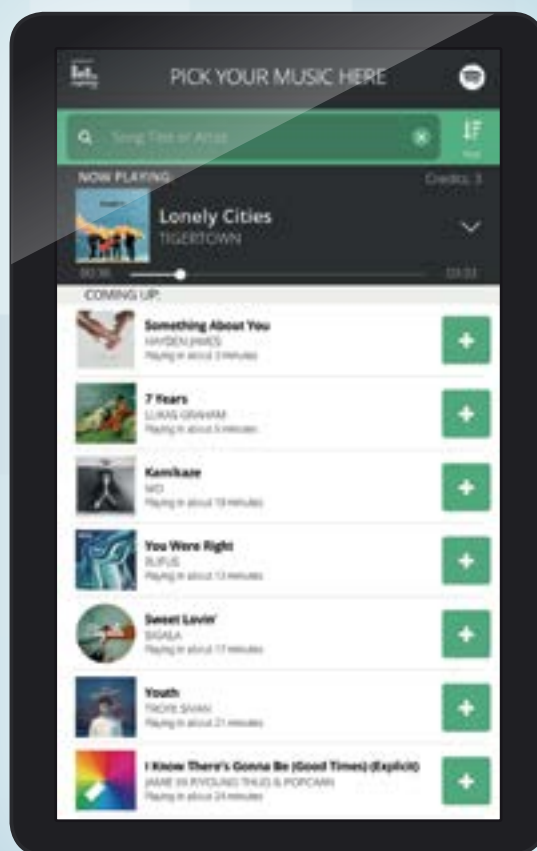*Sweet Little Sixteen*
Johnny B. Goode
Reelin' And Rockin'

Special thanks to Sid Kidman for digging deep into his personal archives for me.