

# Lighting & Sound Design

Strictly Ballroom  
The Musical

# CX

MONTHLY TECH NEWS  
AUDIO · LIGHTS · VIDEO · STAGING · INTEGRATION

CX93 JUNE 2014 ONLINE EDITION \$5.50

## Eurovision Copenhagen

### GEARBOX REVIEWS:

- d&b audiotechnik MAX
- Allen & Heath XB10
- dbx DriveRack PA2
- Sennheiser HD8 DJ
- High End Systems Solaspot Pro CMY LED

### CX NEWS:

- VIVID Steps Up!
- Hills New Strategy
- Lighting Suicides - lets talk!
- Industry Accreditation Push
- Meyer, Mega Vision & more!

## Digital Mixers

The latest round-up

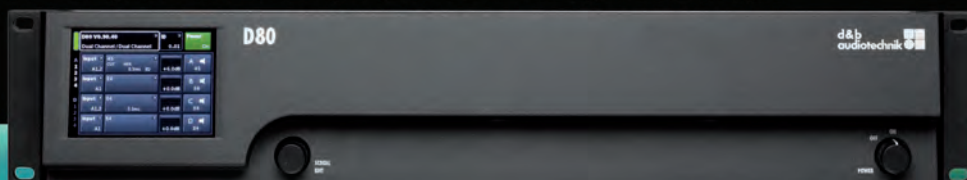
## NOVATECH

Taking on the world  
from Adelaide

## Roadskills

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Groovin' The Moo,  
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# INSIDE ISSUE CX93

DIGITAL NEWS tra TV HOW magblog ezine gearbox network iPad

## EDITORIAL

8 Industry Competition, Legal Issues, Industry Anger

## NEWS

- 10 Vivid Steps Up!
- 11 Hills CEO - Confirms strategy, Knock-offs, Suicide
- 12 Strand Archive, Meyer Seminars
- 13 Mega Vision, Meri Took honoured, News shorts

## NEW GEAR

14 Barco, Chroma Q, Dynacord, Gefen, HK Audio & more!

## FEATURES

- 20 Strictly Ballroom The Musical - Sound & Lighting Design
- 30 Digital Mixers - the latest round-up
- 36 Novatech - from Adelaide to the world
- 42 Eurovision Song Contest 2014 - Copenhagen

## GEARBOX

- 44 d&b audiotechnik MAX
- 46 Allen & Heath XB10
- 48 dbx DriveRack PA2
- 50 Sennheiser HD8 DJ
- 52 High End Systems Solaspot Pro CMY LED

## REGULARS

- 26 Listen Here - 10 Mixing Tips...with Andy Stewart
- 34 The Mill Report - with Andy Stewart
- 40 What-If? - with Andrew Mathieson
- 56 RoadSkills - with Cat Strom
- 66 Brainy Types - with Jimmy Den-Ouden
- 67 CXWORD - Puzzle Time
- 68 BIZTALK - with Julius Grafton
- 70 ACETA - with Frank Hinton
- 73 The Rolex Bandit Revisited - Duncan Fry

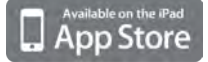
# DIGITAL NETWORK

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**CX93 2014. ISSUE 93. ONLINE EDITION**

EDITORIAL BY JULIUS GRAFTON

**COMPETITION IS WITHIN**

There are two industries now – mainstream and underbelly. Distributors and production suppliers compete on unfair ground, with legitimate (mainstream) and legal operators fighting illegitimate and illegal (underbelly) firms. Sounds harsh? Consider the differences.

A legitimate firm pays taxes: group tax, payroll tax, GST and company tax should they eke a profit against the illegitimate firms. Those underbelly operators avoid super, don't employ staff, rely on contractors, underpay wherever possible (despite the lousy award rates and penalties) and generally do not carry insurance. Parallel or knock-off gear importers fake compliance with counterfeit engineering certification and missing or illegal RCM.

Anyone can import and sell or hire equipment. Done without legal compliance they have a considerable cost advantage and compete unfairly.

The legitimate suppliers have declared war via their peak industry body ACETA and will apply force against the enemy firms, using law and workplace safety concerns.

**LEGAL ISSUES**

Underbelly firms relying on contractors are currently enduring tax office focus. The ATO wrote to some last month, directing them to use the ATO contractor test tool online to validate whether they can legally claim their crew or staff are contractors, and: 'print and keep the report to avoid fines under audit'.

Faked or missing Regulatory Compliance Marks render the importer liable for prosecution. Legitimate importers invest time and money to ensure all devices meet Australian standards. Some knock-off manufacturers apply and supply false RCM, ACETA is collecting data on this. It is illegal to parallel import legitimately made brand equipment where the RCM is made by someone else, specifically where an Australian importer has the RCM, and the grey underbelly importer is attempting to piggy back on that RCM.

But the big hammer is due to fall on importers and hirers of false engineered gear, especially anything designed to be flown – like Line Arrays, trusses and stage roofs. Ground support, chain motors and moving lights are all supposed to be signed off as fit for purpose.

Another big legal issue awaiting underbelly firms is fake public liability insurance, readily available online.

**HOW ANGRY?**

Red hot angry. That's the state of the Legitimate industry, against the underbelly mob. ACETA is building a big head of steam on this and will use a range of techniques to identify and marginalise underbelly importers and equipment hirers.

**CX** applaud the move. The industry must maintain and improve high production values and avoid a catastrophic accident involving equipment failure over an audience. This is only a matter of time, it is happening elsewhere in the world as fake and poorly engineered gear fails under load.

ACETA is the one big chance the industry has to shore up legitimate operators who pay properly and don't exploit the system. It really is 'us' against 'them', and if the peer pressure we've seen on social media is any guide, I'd rather be on the 'us' team any day.

**-Julius****PUBLISHERS PANEL**

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NSW 1710 Australia**MELBOURNE OFFICE****Email:** jason@juliusmedia.com**Phone:** +61 407-735-920**PEOPLE****Publisher:** Julius Grafton**Business manager:** Steve James**Technical editor:** Jimmy Den Ouden**Melbourne:** Jason Allen**Creative director:** Lee Murray**Codger at large:** Duncan Fry**Printer:** Printed in Australia**Distribution:** Apple Newsstand**CX-TV hosts:** Meg MacIntosh,  
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# NEWS

## CX INDUSTRY NEWS



### Sydney's Vivid Steps Up Harbour Lights now a big draw

**As Sydney's Vivid Winter Festival cranked up late May, its opening night again created gridlock. Previous to the festival, Sydney's waterfront could be deserted in cooler months. Now it buzzes and tourism is booming.**

Aside from the projections onto the Sydney Opera House, the other really big statement is the Sydney Harbour Bridge going interactive. Now the company behind the Sydney Harbour Bridge lights has taken the project to a new level.

32 Hundred Lighting's managing director Iain Reed told the Australian Financial Review the firm has gridded up the harbour.

"We've gridded up the harbour into a series of colours and as ferries, water taxis and other boats sail through the zones they'll all change to the same colour of the zone.

"It's a slow moving, beautifully choreographed disco of light and we've used around three kilometres of LED tape on all the vessels passing through the zones", he said in the AFR.

32 Hundred Lighting have applied LED tape to ferry and commercial boats on the harbour, with GPS kit so they change colour according to what part of the harbour they are traversing.

Once again the Harbour Bridge has 8.5 kilometres of network cabling as well as 3.5 kilometres of power cable; two kilometres of LED tube and over a kilometre of military grade fibre-optic network cabling.

"We're running our own NBN up onto the bridge that's running just under a quarter of a million controlled channels that run back to custom software we've written," Reed says.





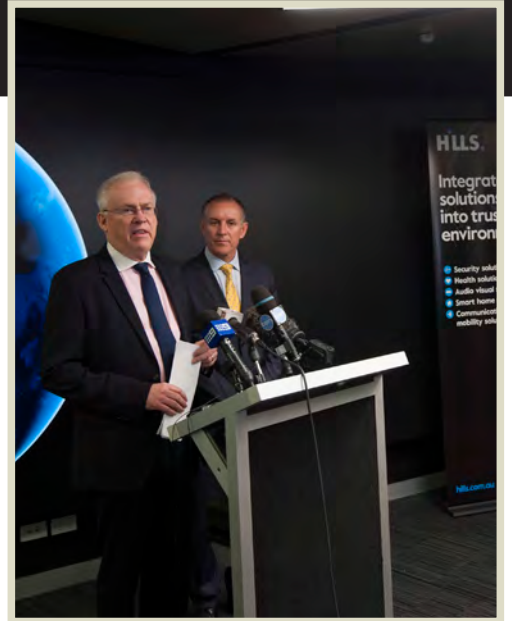
## Hills CEO Confirms Strategy Media Briefed on Progress

**Hills Limited boss Ted Pretty has rolled out two new innovation centres in Adelaide – the Lance Hill Design Centre and Hills D-Shop, and has called for a better approach to research and development in Australia. Speaking at a media briefing in May, Mr. Pretty asserted the firm is on track after a comprehensive overhaul.**

Now focussed on technology and communications, Hills have brought satellite businesses such as Hills SVL – formerly Audio Telex Communications – under one brand and in many cases under one roof.

Recently Hills brought SVL, A&TV and its Lan1 businesses together, centralising management and maximising synergies to accelerate the firm's push to become Australia's leader in integrated technology solutions.

The reorganisation has been welcomed by the sharemarket, with Hills more than doubling capitalisation since 2012, currently at \$426 million. The firm currently employs 815 staff across 48 offices. It is on track to abolish net debt, and has a war chest of over \$300 million for acquisitions.



HILLS LIMITED BOSS-TED PRETTY



## Harman Buy AMX Purchase Begs Question: What Next?

**Harman International Industries just acquired AMX LLC for US\$365 million. This is very interesting – AMX now join AKG Acoustics, BSS Audio, Crown amplifiers, dbx, JBL Professional, Lexicon, Soundcraft, Studer and Martin lighting.**

The purchase brings Harman into sharp focus, and shows the logical next step is to buy either of the top two projector firms: Barco (up for sale) or Christie (American, maybe for sale) to complete the picture.

Harman have the money in the bank to fund such an acquisition. They are the only multinational firm that has positioned itself this way, across the

sound, lighting and now possibly the vision industry. AMX is the bridge across all, where the control happens.

Until now AMX and Crestron slugged it out as leaders in the control market, with Crestron apparently slightly the larger of the two, depending on who you believe. With AMX turnover believed to be around US\$400m, the purchase price probably reflects seven or eight times earnings.

Founded in 1982 and headquartered Texas, AMX's solutions are implemented worldwide throughout a variety of enterprises and venues such as conference rooms, hotels, classrooms, network operation / command centers, entertainment venues and broadcast facilities.

*“As a mother to receive a phone call at 3am to tell you that your beloved son has committed suicide is the most horrendous thing that can happen. I am the mother of Jeffrey Merryweather and he was very special.”*

**The debate about Lighting Suicides continues, on [cxmagblog.com](http://cxmagblog.com)**



## Lighting Directors - Rest in Peace

**• Concert touring lighting and production designer John LaBriola died April 24; he was 40.**

CX May (last month) featured a story on Bruno Mars in Australia with John. He returned to the states and suddenly is deceased. He leaves behind a family.

**• At almost the same time, designer and programmer Demfis Fysicopoulos, 41, died while surfing near his home in Los Angeles.**

Demfis had a chequered history, notably he was the designer and production manager for the last Prince tour of Australia. CX reported on various aspects of that tour, which resulted in Demfis attempting to bring some pressure on us. He is survived by a daughter.



## Strand Archive Lives On

**Stephen Devine of Devine Lights is pleased to announce a partnership with Jon Primrose, owner of The Strand Archive.**

[www.strandarchive.co.uk](http://www.strandarchive.co.uk)

The Strand Archive was built by Jon over a number of years and it is now one of the very few resources where information on vintage Strand Lighting equipment can be accessed. The archive is now regarded as the definitive website for information.

Like all things that evolve like this, Jon has a lot of information to put up and very little time to do it. He felt the only way forward was to get another person involved in the venture.

The plan is to get all the information Jon has, along with all the information Steve has, & use a professional web developer and build a new site that is far more comprehensive and reflects the importance of the resource.

Consideration is being given to establishing other archives for other brands of equipment once this one is established.

The joint venture will expand the archive and provide data on all of Strand Lighting's discontinued and vintage equipment.

Discussions are underway with a number of vendors in UK, Europe, Australia and the USA so that users will be able to hire or buy some of the vintage equipment via the website.



## Meyer Sound hosts seminars with Bob McCarthy

**May 2014 saw Meyer Sound Australia host free seminars on "Sound System Design & Optimization" in Melbourne, Sydney and Brisbane. The two-day courses were designed and delivered by 25 year industry veteran Bob McCarthy, who quite literally wrote the book on the topic!**

CX attended the seminar in Sydney, held at Staging Connections HQ in Rozelle. After some introductory content, the course moved on to cover interactions, both coupled and uncoupled variations of point source, line source, and point destination speaker arrays. Part of this included measurement techniques for single and multiple speaker systems, using the Meyer Sound SIM system. Also covered were techniques to achieve correct positioning and aim of speakers, as well as phase, EQ and level alignment of multiple units. Finally Bob explained his system tuning process in a straightforward and easy to digest manner, and used MAPP Online to demonstrate several key system design principles.

CX congratulates Bob McCarthy on delivery of an excellent piece of industry education, and thanks Chris D'bais, and Steve Devine of Meyer Sound Australia for facilitating the seminars.



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## Perth Wildcats Add Lights

It's a good trend for entertainment tech, as sporting matches get more entertaining. The Perth Wildcats matches were jazzed up by Mega Vision Sound and Lighting with every single match they played at their home Perth Arena called 'The Jungle'. The lighting rig consisted of 12 Robe Pointes, 8 Robin MMX Spots and 8 Robin 800 LEDWashes, all controlled by ChamSys MQ 100 Pro control desk.

The 14,846 seat Perth Arena is a very large venue for the NBL, so Robe Pointes and MMX Spots were used for effects during pre game entertainment, the team run ons, line up and break times and also lighting up the audience. The eight Robin 800 LED Washes washed the



MEGA VISION - PERTH WILDCATS

whole court into deep saturated colours creating the great atmosphere of the matches.



## Meri Took Honoured in Malaysia

**Meri Took, events industry stalwart and supporter, and Staging Rentals & Construction Services Founder and Director has been honoured with the Outstanding Contribution to Industry Award at the recent Meetings and Events Australia (MEA) Annual Gala Awards in Malaysia.**

The accolade, presented to Mr Took in Kuala Lumpur on 17 May, is richly deserved. Mr Took was a founding member of the International Special Events Society (ISES), a regular supporter of various industry initiatives and a devotee and advocate of MEA.

He has produced the MEA Annual Awards Gala evening for the past five years and managed one of the longest running companies in the Australian events industry – Staging Rentals & Construction Services which he started in 1990.

Mr Took's passion to see this industry thrive has been his pet project for more than 30 years.

"When I began Staging Rentals, we were the only company in Australia that could provide enough rental drapes for a convention centre hall. Since then,

I have seen this industry grow, evolve and mature to become the highly competitive, exceptional sector that it is today – one that employs thousands of people and makes an enormous contribution to the national economy.

"I've always believed that you should contribute to the world in which you live; and give back where you can. I am truly honoured to accept this award and I am grateful for the recognition of my peers in the industry. In a small way I hope I have helped to carve out a wonderful industry that works hard – day and night – to deliver incomparable results for our clients," said Mr Took.



MERI TOOK -  
ANNUAL GALA AWARDS IN MALAYSIA



## News Shorts

• Network Audio Visual has hired Aldo Alibrandi in the role of National Business Development Manager. Claver Harper, Director of NAV said "Aldo has that rare combination of being technical, yet being able to clearly communicate and share that knowledge".

• Audio visual service provider AVPartners has appointed Richard Oborn as Partner, based in Queensland working with clients in the Whitsundays. The role will see him and his team providing first-class audiovisual and styling solutions in the region. He previously worked as the director for audiovisual services at several resort properties in North America.

• The latest in projection technology was unveiled in Sydney last month at an exclusive VIP event hosted by Hitachi and Hills Ltd. As part of the launch, Hitachi and Hills Ltd launched the Hitachi Clubhouse, a new online portal which will give dealers access to detailed information on products, technical documents, media assets and demonstration stock for projects.

# New Gear

EDITED BY JASON ALLEN

This month  
New Gear includes:

- BARCO
- CHROMA Q
- DYNACORD
- GEFEN
- HK AUDIO
- JBL
- MEYER
- RØDE
- SOUNDCRAFT
- TRIAD-ORBIT
- VARI\*LITE

## Vari\*Lite VL4000 Spot Luminaire

The new 4000 Series Spot Luminaire from Vari\*Lite is available in either a 1200w or 1500w model. The 1200w VL4000 Spot boasts 25,000 lumens while the 1500w VL4000GT Spot outputs 35,000 lumens. Both versions are similarly sized and offer an identical feature set. With the VL4000 Spot and VL4000GT Spot, Vari\*Lite have packed in all the features you expect from a modern profile luminaire range in a single fitting.



High resolution optics ensure remarkable centre-to-edge focusing delivering an extremely flat and even field as well as an unprecedented contrast ratio. The 5:1 zoom ratio covers an amazing 9 to 44 degrees without sacrificing output or clarity. The VL4000 Spot Luminaires feature dual rotating gobo wheels, each with seven patterns plus open. The new collection of optimised gobo patterns for both aerial and projected imagery provides unlimited options to the designer. Dual Animation wheels provide dynamic motion effects as well as a chromatically tuned Dichro\*Fusion effect.

## Dynacord PM 502 Powered Mixer

Dynacord presents the latest member of its powered mixer family, the PM 502. The PM 502 includes five Mic/Line and three Stereo inputs, with channel processing including functions such as compressor/limiter and ducking. One USB Type A interface supports 48 kHz recording and playback and a second USB slot at the front links to an onboard MP3 media player allowing playback of MP3 or WAV files from a USB stick or external hard drive.

The master section features three master outputs, each with an individual 7-band EQ. Up to three different rooms or zones can be controlled individually. The PM 502 can also be switched to 100V Direct Drive mode for direct connection to 100V or 70V loudspeaker lines without the need of an output transformer.

An installation kit for 19" racks or surface mounting is available for the PM 502 as an option.



**Barco  
Infitec  
Excellence**



Barco have announced the incorporation of Infitec Excellence technology on its stereoscopic projectors. This partnership with Infitec GmbH, specifically for the VR market, delivers a 40% increase in brightness and superior colour performance for Barco's range of stereoscopic VR projectors.

Infitec stereo is a high-quality 3D stereo technology, using channel separation based on interference filters. The 3D stereo effects are created by projecting the primary colours at slightly different wavelengths for the left and right eyes. Infitec uses a pair of glasses with no batteries or other electronic components (so they can easily be cleaned), requires only one projector, and does not need to project on glossy metallic screens – making it a high-quality and cost-effective 3D technology suited for large audiences.

**Gefen  
HDMI Switchers**

China's Gefen have introduced two new switchers for 108p HD content using HDMI with full HDCP compliance. With precision timing and the elimination of lost frames, both switchers are designed for use in demanding commercial applications.

The 4x1 Multiview Seamless Switcher for HDMI provides switching between four HD sources. One source can be delivered to one display or all four sources can be viewed as windows on the same display. The 4x4 Seamless matrix for HDMI routes and scales four high definition sources to one or all four displays. Each source may be routed to one display or multiple displays at the same time.

Both units can be accessed via the on-screen display from their front panels, IP control or IR remote control.



# HIRE & SALES

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- RØDE
- SOUNDCRAFT
- TRIAD-ORBIT
- VARI\*LITE



## Triad-Orbit Microphone Stands

National Audio Systems (NAS) are proud to announce that they are now distributing Triad-Orbit Advanced Microphone Stand Systems in Australia. Triad-Orbit represents a quantum leap in the evolution of the microphone stand. Every industry-standard component, from stand bases to mic clips, was analysed and reinvented to realise a singular objective: precise mic placement without compromise.

The TRIAD proprietary articulating base provides the weight and stability of large diameter cast iron bases and a fully adjustable attitude and footprint, thanks to its patent-pending ratcheting mechanism. Each leg of a TRIAD base has four ratcheted positions that provide up to 65 degrees of pitch to accommodate 'boom-less' front lines, uneven surfaces and stacking for storage.

ORBIT Orbital Booms utilise a stainless steel ball swivel mechanism to deliver an unparalleled range of motion (360° x 220°) that's extremely smooth, quiet and stable. ORBIT Booms incorporate IO Quick-Change Couplers for rapid hardware changes without the hassle and delay of threaded connections. Combining O1 and O2 Booms with M1 or M2 Mic Adaptors creates an advanced mic placement system with unequalled accuracy and adjustability.



## Chroma-Q Color Block 2 Plus Nano

The Chroma-Q Color Block 2 Plus Nano is an ultra-compact, low-profile and versatile single cell version of the Color Block 2 Plus fixture, which shares the unit's single colour RGBA optics, high light output and theatrical grade dimming.

Based on the same LED engine technology in the popular Color Block 2 Plus, the Color Block 2 Plus Nano is a non-obtrusive, lightweight LED fixture, perfect for discreet placements such as set piece, architectural and stage lighting. Providing an output of 100 lumens, the Color Block 2 Plus Nano has a very small footprint, packing an incredibly powerful punch for its size and weight.



## JBL VTX F Series

VTX F is a high quality, high output system powered loudspeaker system designed to be flexible in configuration. Designed for both installation and production tour work, all models include M10 fly mounts and are made from 11 Ply Baltic Birch. VTX F is powered via Crown I Tech HD amps with BSS OmniDrive processing for different system configurations & floor monitor applications. The range includes bi-amped 12"s and 15"s, plus an 18" subwoofer.

VTX F delivers studio monitor sound quality in a premium two-way multipurpose enclosure featuring point-and-shoot flexibility along with patented D2 Dual Diaphragm Dual Voice Coil compression driver and Differential Drive LF technologies employed in the VTX V25 and the M2 Studio Reference Monitor. Ideal for sound reinforcement rental companies, live performance venues, theatrical sound design, performing arts centres, high-impact A/V presentations, houses of worship and themed entertainment venues, VTX F is a highly versatile sound design tool.



# X8

## AMPLIFICATION EVOLVED.

Never before has the amplifier reached such a high level of integration. Processing, routing, measurement, control and power distribution are now included into a single platform. The new X Series by Powersoft: the evolution of the species.

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**Armonía**  
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**SRM**

CHANNEL  
ROUTING



- BARCO
- CHROMA Q
- DYNACORD
- GEFEN
- HK AUDIO
- JBL
- MEYER
- RØDE
- SOUNDCRAFT
- TRIAD-ORBIT
- VARI\*LITE



**Meyer Sound  
HMS-15 Cinema Surround  
Loudspeaker**

Meyer Sound's HMS-15 is designed for high-power, longer-throw applications in cinema exhibition auditoriums as well as in post-production and screening rooms. While it offers exemplary performance in 5.1 and 7.1 formats, the HMS-15 is ideally suited for the extreme demands of immersive formats such as Dolby Atmos and Barco Auro.

Inside the cabinet, the HMS-15 houses a 15-inch long-excursion LF driver; a three-inch diaphragm HF compression driver coupled to a consistent 80° H x 50° V horn; and two-channel amplification with active crossover, driver protection, and correction for phase and frequency response. With a resultant frequency range of 50 Hz to 18 kHz and a maximum peak SPL of 133 dB (@ 1 m) with very low distortion, the HMS-15 far exceeds the performance level of conventional, passive cinema surround loudspeakers.



**Soundcraft  
Realtime Rack**

The Realtime Rack is a collaboration between Soundcraft and renowned plug-in manufacturer Universal Audio which provides users with industry-standard UAD studio plug-ins for use with the Soundcraft digital audio mixer platform. The 1U Rack unit features 4 Shark DSPs, providing 16 channels of low latency (sub 2ms) processing for all Soundcraft digital consoles featuring an optical MADI card or port.

Up to four units can be connected together on the same MADI stream to provide up to 64 channels of plug-ins. The Realtime Rack also provides dual redundant PSUs for peace of mind where power issues are a concern. Thunderbolt connections allow host control connectivity. On the Vi platform, the Realtime Rack integrates to provide full cue/snapshot store and recall providing users with the ability to setup shows prior to the production and have full recall of all plug-ins required.



**RØDE  
Stereo Bar**

RØDE Microphones has commenced shipping its new Stereo Bar for precision microphone mounting in stereo arrays. Spacing between the microphones is clearly indicated on both sides at 10cm, 15cm and 20cm, as well as the critical 17cm distance for ORTF stereo technique. In the middle of the Stereo Bar is an angle indicator displaying both 90 degrees for X-Y stereo arrays and 110 degrees for ORTF placement, removing the need for guesswork and allowing the recording engineer to set up precision stereo arrays every time.

Constructed from durable PC-ABS plastic the bar can easily support the weight of two large diaphragm microphones at a capsule distance of up to 20 centimetres (7¾"). Microphones are mounted via two removable 3/8" threads that slide along the bar, with spacers mounted below the bar that can easily be relocated to the top of the bar to configure stacked microphone pairs.



**HK Audio  
PL 110 FA**

The HK Audio PULSAR speaker series has been extended with a compact variant called PL 110 FA. With a 10" woofer, this enclosure houses a 1,000-watt, bi-amped power system that delivers 650 watts to the woofer and 350 watts to the tweeter. An intelligent multi-band limiter tames spiking bass signals to ensure the audio image remains stable even at high volumes. This unit also features four combinable filter settings that voice the speaker array's frequency response to suit the given application.

Deployed as a stand-alone solution, the PL 110 FA is an excellent choice for all live situations where the natural sound of the human voice and acoustic instruments are to be rendered in high-definition audio. Various 2.1, half-stack and full-stack systems may be configured in combination with the PL 118 Sub A, a bass bin loaded with an 18" subwoofer, to cover events with audiences of up to around 500 people.



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GLOBAL CREATURES PRESENTS

# STRICTLY *the* MUSICAL Ballroom

DIRECTED BY BAZ LUHRMANN



EDITORIAL BY CAT STROM  
PHOTOGRAPHY BY JAMES MORGAN

LIGHTING  
DESIGNER-  
HUGH VANSTONE



SOUND  
DESIGNER -  
PETER GRUBB

*Strictly Ballroom the Musical, presented by Global Creatures, has premiered at Sydney's Lyric Theatre thanks to the original creative team behind the classic 1992 film, including director and co-writer Baz Luhrmann, set and costume designer Catherine Martin, choreographer John "Cha Cha" O'Connell and co-writer Craig Pearce.*

With a flourish of sequins, this brand new all-singing, all-dancing theatrical production, brings this iconic story to life.

Lighting designer Hugh Vanstone's West End and Broadway career spans more than 20 years and more than 160 productions worldwide. His many awards for lighting include the 2013 Tony for Matilda in New York and three Olivier Awards in London - in fact Hugh scored the job through Baz seeing Matilda in London.

When it came to lighting *Strictly Ballroom the Musical*, Hugh received no brief from Baz other than just to make it fabulous and so that is what he set out to do. Fortunately Hugh was involved in the design process quite early in the planning.

"I was involved when they were still working out what to do scenically and I could suggest what lighting could bring to the party rather than relying too heavily on a scenic environment," commented Hugh. "I was able to



SOUND  
OPERATOR -  
BRENDON GARDNER

contribute ideas for translating this well-known story onto the stage with the aid of lighting."

As the show comprises three distinct settings - the world of competitive ballroom dancing, Kendall's dance studio and Fran's home environment - Hugh's lighting is used strongly to differentiate between those three worlds resulting in distinctive looks.

"I want the lighting to be a lot of fun and colourful because the story is comedic as well as being a love story and dance spectacular," he said. "People often ask 'what is comedy lighting?' and I really don't have an answer to that. However there are tricks you can do with lighting to enhance humorous aspects of a scene." When choosing the lighting fixtures for the show Hugh's priority was flexibility in order to cover any unexpected requirements.

"The rig I've designed certainly has flexibility in mind, as does the entire scenic design, in fact I would describe it as a box of tricks," he remarked. "Noise is also a very high consideration as it's a large moving light rig and you have to keep it as quiet as you can. I'm also enjoying using more LED fixtures but I insist on using RGBW as a good white on a LED fixture is very important to me."

The overhead rig is made up entirely of moving lights including Vari-lite VL3500Q Spot, Vari-lite VL3000Q Wash, Vari-lite VL500 and Clay Paky Sharpy Washes. These are often grouped in same model fixtures together to create good air looks. For example, there's a tightly spaced bar of Clay Paky Sharpy Washes for air looks (and to ignite

the massive auditorium mirrorball) and behind them a similar grouping of Vari-lite VL500 fixtures for tungsten air looks.

"For noise reasons and because I am still a fan of tungsten, I use a lot of VL500's - which I prefer for lighting faces," added Hugh. "Some people think that's a bit weird but I get on with that sort of light! Clay Paky Sharpy Washes I find great as they are small, quiet and punchy." Side lighting is again a mixture of tungsten and arc as well as LED, in the form of GLP impression X4's which can either point upward to dress flown scenery or cross light actors.

"The GLP impression X4's are tremendously useful and I am a big fan of them," began Hugh. "However what I didn't like about them is that - in a theatrical setting where they are used as a side light - they glare too much and look very hi-tech. I decided to add spill rings to disguise them so to the average punter they look like a VL5 rather than an LED fixture. It's something I did first with Matilda but in that case we actually used VL5 spill rings. Fortunately City Theatrical have now made a custom unit for the X4."

A handful of Martin MAC Vipers are in a low side light position where they are used as 'shin lights' with two in a fixed position on the floor stage and the rest of them situated on wheeled side light towers. Hugh has added some Sunstrips to the side towers saying that they add a nice bit of eye candy whilst also being brilliant as a soft, warm side light which is often in need in this show.

Out front Hugh kept the number of moving lights down for noise

reasons with only a few Vari-lite VL3500's in action with over 350 ETC Source IV's of varying models. For the first time, Hugh is using the ETC LED Lustr+ Source IV profiles.

"I like the colours they produce and they dim very nicely," he said. "I have them in a low front side and also a slightly higher front side position."

A couple of Martin MACIII's, chosen as Hugh loves their animation wheel, are out front on the circle rail to do big colour washes and movement effects onto scenery and drapes.

There are two large sets of trucks that make up the two main interior / exterior locations and they are full of radio controlled practical lighting, all battery driven due the stage revolve.

"One of Baz's key requests is that he didn't want anything to look too mechanical so the cast literally dance all of the scenic elements onto the stage," explained Hugh. "To allow that to happen we had to make everything radio controlled and battery driven. We also have two battery-powered Ovation LED fixtures on wheeled stands that can be pushed around the stage and feature in the choreography."

MA Lighting control is Hugh's usual choice when it comes to musicals as he finds their consoles do everything he needs quite easily.

"The MA2 is flexible and easy which is what you need with a new musical," he said. "It's particularly good for doing effects."

Chameleon Touring Systems supplied the lighting equipment, working closely with Hugh who enjoyed working with 'Tony and the gang' to get the show within budget!

"It's all part of the fun and we literally went to their amazing warehouse to see what they'd got to save money," added Hugh. "Consequently some of the equipment choices on the show are purely because Chameleon already owned it, but there are other bits I was very specific about and Chameleon had to purchase, for example, the Thomas Pixeline battens to light the sparkly black drapes that are a key design feature. Pixelines are fabulous for that as they are extremely bright and very compact."

## AUDIO

Peter Grubb, of System Sound Melbourne, was appointed Sound Designer for the production. A director of System, Peter has been with the company for some 33 years, through many theatre productions and was awarded a Helpmann award for his sound design for the recent tour of Mary Poppins.

Current productions System is engineering include the tours of Phantom of the Opera, Wicked and the return of Les Miserables, which they first engineered in 1987, and now the new production beginning a tour in June in Melbourne.

System had worked with Global Creatures before on King Kong and Warhorse, and they asked them to also do Strictly Ballroom, on the provision that Baz

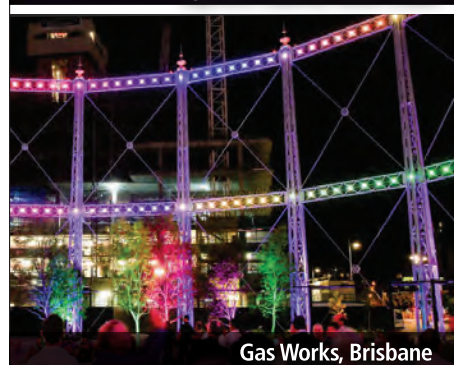
Luhmann agreed. Peter Grubb flew to Sydney to meet Baz and passed the test!

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Peter worked closely with System's David Tonion as his Associate through the planning and design phase, with many trips to Sydney for creative meetings with Baz as well as the composing and music production teams. Peter and David then managed the intensive five week production and rehearsal period in Sydney through to opening. The production is staffed by a team of three System Sound technicians all contracted by System for the tour, and headed up by Brendon Gardner, from Melbourne, who is the number-one mix-engineer on the show.

"Baz wanted the sound to draw the audience into the show and he liked the idea, as do I, of locating the vocal image onstage instead of from the speakers at the edge of the proscenium," remarked Peter. "It's always been my thing to try and focus the aural image on stage."

The speaker system is predominantly Meyer, with 28 M'elodies, arrayed left and right, upper and lower, and UPA-2P's for outfill, and UPM1P's for rear delay on two levels, and some d&b audiotechnik E3's for rear delay in the top balcony. In addition, there are eighty surround speakers - all audiotechnik E0's. Sub-bass is provided by two pairs of Meyer HP600's, a pair of HP700's, and two pairs of Meyer M1D subs to enhance the surround.

The system is equalized with Meyer Galileo processors with the entire design and matrixing running through Yamaha DME64 digital engines.

Peter decided not to use a line array loudspeaker system for centre, partly due to sight-line issues that might clash with Catherine Martin's scenic design, but also because he can achieve better onstage imaging

through use of left-centre-right speakers, which, together with flown sub-bass elements, are neatly arrayed in a custom built truss above the stage.

The over-proscenium image speakers are d&b audiotechnik Q7's, together with some of the Meyer 600HP flown subs.

"The system needed to be full range considering the musical styles, and there's considerable use of surround-sound in the show, with a lot of reverb, sound effects and orchestra mix coming through the surround system," added Peter. "We also use what we call 'reverse-radio' sound effects playback, such as when Doug does his dance it sounds like it's coming from a speaker onstage - and it is, thanks to a wireless audio link!"

For front of house mix there's a DiGiCo SD7T with TC Electronics S6000 and M4000 for reverb whilst a DiGiCo SD8 is used to control foldback and monitoring via EAW JF-80's and Aviom A-116 mixers for the onstage located band. The multitude of sound effects run from dual redundant computers running Qlab software.

"The trickiest element in the sound design was headroom," said Peter. "Finding enough gain in the system whilst keeping speakers close to the performers as possible to enhance a natural image. Yet, the show has a wide dynamic range, from the quiet theatrical moments, to quite loud production numbers with just miniature microphones in the hairline."

Nearly all of the forty-one microphones are Sennheiser as Peter believes that they are much more transparent acoustically than other brands. Some of the microphones have even been inserted down trouser legs to amplify and enhance Flamenco dancing routines!



# CREATIVE TEAM

BAZ LUHRMANN - DIRECTOR & CO-WRITER

CATHERINE MARTIN - SET & COSTUME DESIGNER

JOHN O'CONNELL - CHOREOGRAPHER

CRAIG PEARCE - CO-WRITER

DAVID FOSTER - COMPOSER

DIANE WARREN - COMPOSER

SIA FURLER - COMPOSER

EDDIE PERFECT - COMPOSER

ELLIOTT WHEELER - COMPOSER, ORIGINAL SCORE AND ARRANGEMENTS

HUGH VANSTONE - LIGHTING DESIGNER

PETER GRUBB - SOUND DESIGNER

MAX LAMBERT - MUSICAL SUPERVISOR

ANTON MONSTED - MUSIC PRODUCER



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# LISTEN HERE 10 MIXING TIPS THAT RARELY RATE A MENTION

Mixing seems harder than unscrambling an egg at times, but it's not quite so impossible once you know how. This issue I thought we'd look at a few more helpful, practical tips to get you on the road to "Mixed Success". This list is designed, in no particular order, to inform and reaffirm in equal measure... with balance you might say, just like your engineering.

## 1: Simplicity cuts through.

Don't be tricked into thinking your track always needs 100+ channels of audio before it can be taken seriously. Many of the world's best hit songs are relatively simple. Sure, some go through periods of complexity during tracking and mixing, where their channel counts blow out while lots of sounds are thrown at them, but good editing typically refines this back to the best, most compelling ingredients.

One of the greatest pitfalls of modern DAWs is their seemingly endless capacity to accommodate more, and their gross inability to help you determine what's crap or gold. Ultimately it's up to you to do the editing and refining, not a computer. And sure, sometimes the delete key is the hardest key to press, but if you can get into the habit of cutting back the recording dross rather than growing attached to it, your songs will be better for it.

## 2: Turn the screen off.

It may seem trivial, but to me, one of the most important tricks to be in the habit of when you're tracking or mixing is turning off the screen regularly, particularly if you're sitting down for a listen-through. Being pulverised by a luminous rectangle 16 hours a day is enough to do anyone's head in.

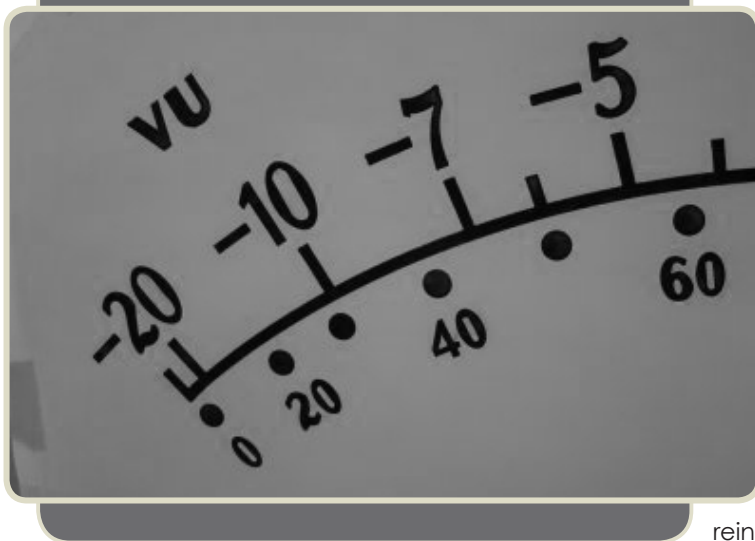
Of course, you may be amongst the rare few still working with an analogue multitrack, and like the good old days, tracking or mixing in the dark! If you are, good for you, meanwhile most of us, even some of the most die-hard two-inch stalwarts of yore, have switched to some form of computer-based recording setup by now. Staring at the screen undoubtedly draws your attention away from how things sound. It discourages you from listening deeply into the blackness of the mix, and provides endless visual cues that can distort your perception of a sound's volume, tone, panning position and so on. Try it! You'll be amazed how differently a mix sounds when there's nothing to look at.

It's great for client perception too. In my experience, most clients stare mesmerised at the screen whenever they're listening to their own track, invariably pointing at the screen the moment they 'see' something untoward rather than hear it. Ditch the screen and they may just point at where the sound's coming from instead!

Remember, no-one sees a session file later, indeed, virtually no-one outside the studio realm even knows they exist, so get into the habit of listening deeply without it.

## 3: Ditch the main vocal once in a while.

It's a common mistake to always leave the main vocal in the mix once it's established. Because the lead vocal is invariably so pivotal to a mix, it's brilliant at concealing small editing issues, poorly EQ'd backing tracks, misaligned overdubs, rough gate settings and the like. Listening to a song without the main vocal once in a while gives you a different perspective on things and allows you to fix the faults that seem obvious without it. When you reinstate the vocal, things will seem clearer with all those semi-conscious disturbances resolved.



BY ANDY STEWART

#### 4: Don't over-compress your mix bus.

For years I didn't use a mix bus at all, and never felt concerned about it. Then I began to realise how many people were using 1, 2, 3 or sometimes 8dB of mix bus gain reduction across their track! A crisis of confidence ensued and I felt compelled to always work with one.

Now I use them sparingly once again, relying more on channel compression, side-chains and grouped compression to do the bulk of any gain reduction work a track may require.

In my experience, layers of compression beat slamming the mix bus with a single unit every time. Don't think you're tough by hitting a two-channel compressor hard every time you put a mix together. Most of the time very little should be required of the mix bus insert to control the final output – perhaps one or two dB of control at most. A bus compressor can certainly help glue a track together by controlling its peaks but it can also very easily damage your track if left unattended for too long. So do your mix a huge favour by always keeping a close eye on your mix bus compressor. Many a time have I wondered why my mix was sounding lifeless and confused, only to discover that the stereo compressor strapped across it was doing far more than I had originally intended.

#### 5: Don't feel compelled to use every recorded track.

If you're mixing in the digital domain you will often be confronted with 40, 80, 100... sometimes even 150+ channels of audio. If this is a regular occurrence in

your world and you're typically diving straight in and trying to make them all co-exist, don't! Stop and think about editing and/or ditching some of them early on in proceedings, particularly if individual parts are stereo or comprised of multiple mic setups. Chances are the person who recorded it didn't envisage you using every track anyway... they were probably just covering their backside by recording every amp, drum-kit and vocal every which way... to give you options (ha!), and a massive headache into the bargain.

Making decisive decisions about extraneous audio files helps you cut to the chase, and leaves you more time to work on the channels that matter most. Mute any that you deem non-starters: make them inactive, hide them or delete them altogether. It doesn't matter how you do it. What matters is that you listen objectively without being sucked into a vortex of negative thought that would have you believe something is going to waste every time a channel is muted. In a massive session file, the mute button is your best friend.

#### 6: Make sure your speakers are in phase and properly positioned!

There's not much point mixing something through a pair of speakers that are too close together, too far apart or out of phase, yet people do it every day. Too many engineers I know, many of them pros who should know better, have badly positioned and occasionally out-of-phase speakers. This is just amateur hour stuff and shameful in my book.



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We won't go into room acoustics here, there's simply no space, but there is time to address simple phase coherence and the basic equilateral triangle law.

When people ask how far apart should my speakers be they're really asking the wrong question. Distance between speakers is mostly irrelevant for the simple fact that it's entirely dependent upon *how far away they are from the listening position*. Speakers placed six feet apart on a console will only be 'the right distance from one another' if they're also six feet from the listening position. If they're six feet apart and 40 feet from the listening position they will effectively be mono. The basic rule is to form an equilateral triangle symmetrically between you and the speakers. (If that's physically impossible due to circumstance, get somewhere close to this configuration.) This means the speakers are the same distance from one another as they are from you. More crucially, if they are different distances from the listening position all bets are off.

**7: Don't clip your mix files.**

I don't know who's been spreading this rubbish, but if you're printing digital mix masters – i.e., unmastered mixes destined for the mastering engineer – it's *not* okay to clip the output bus. Please don't print your mixes with 'overs' all over them. It's bad engineering practise. For the mastering engineer it's like receiving a brand new car with scratches all over it – unacceptable.

I had a client recently deliver very hi-res (32-bit/48kHz) files to me for mastering with peaks at 0+dBFS scattered throughout them. This is bad engineering practise, indicating a fundamental misunderstanding of how a hi-res file works. Frankly, there is so much detail and dynamic range in a file of this size that printing it at -40dBFS would have been a far better approach than clipping it. 'Overs' are bad for the track, bad for the mastering engineer, and bad for the final outcome – as it leaves the mastering engineer with no headroom to play with, no way of repairing the damaged waveforms, and a firm disquiet

about how those overs got there in the first place. They could possibly indicate a faulty transfer, or some sort of insidious 'normalising' that the mix engineer may have been unaware of.

In the case of my recent client, I eventually quizzed him about the problem, only to be told straight up that, "yeah I printed them like that because I read somewhere that it was okay to clip the output as long as I can't hear it."

It's not okay to clip the output.

**8: Listen to other people's released work regularly.**

Whether you're in Ocean Way, Sing Sing or Granny Flat Studios, it's very important to listen to other people's music to keep your ears calibrated. It's a free service available any time, day or night. Have a pile of CDs you're currently into on hand at all times, or import some of your favourite songs into the session file you're working from. Either way, listening to the outside world inside your working environment helps you understand how your work will translate back into it. Why more people don't do this every day is quite beyond me. Consider it fibre for your ears.

**9: Take short breaks regularly.**

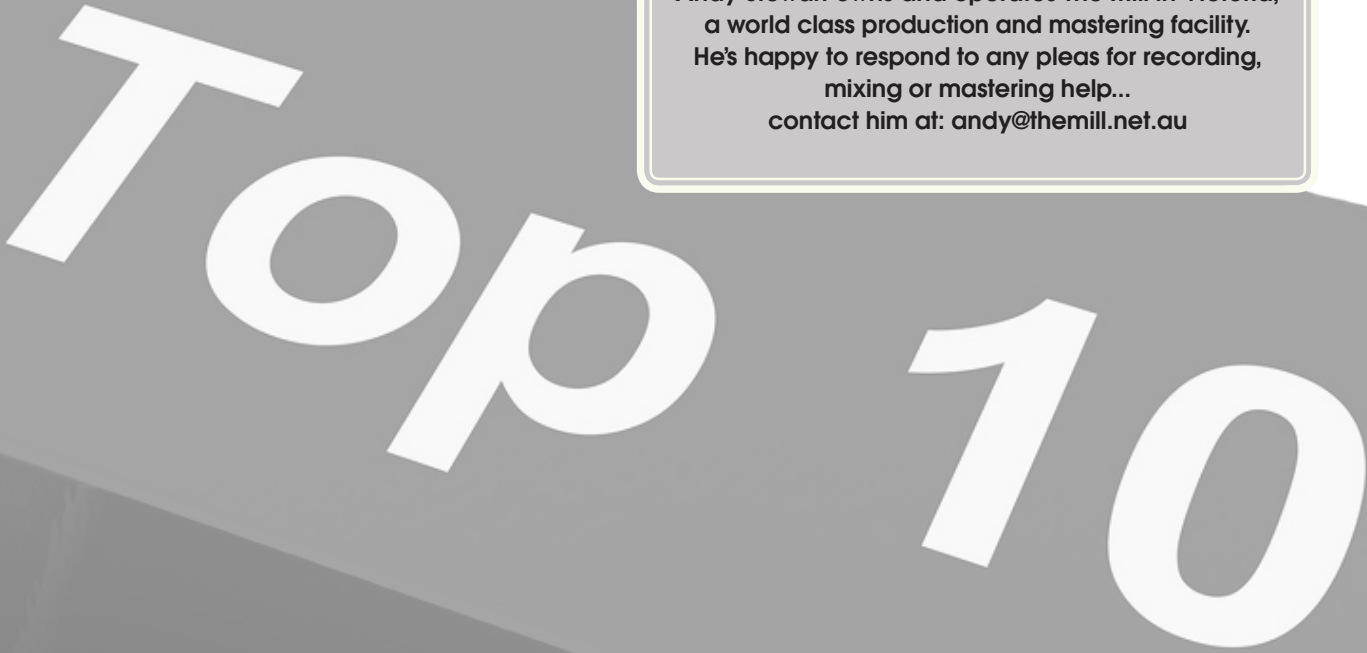
Even when you feel like you're all over a mix, a short break will always sharpen your perception. Make a cuppa, kick the footy, walk around the block... whatever it takes to get you out of the room and into another environment, even if it's only for five minutes. A fresh engineer is like a fresh loaf of bread – better than a stale one.

**10: The best engineer is the one who thinks independent thoughts.**

Given that, I'd like to leave this last tip blank so that you can think up one for yourself. What do you think would help your mix that's not on this list? Better still, email the tip to me... I'd like to know.

Onward and upward... but not over, please.

**Andy Stewart owns and operates The Mill in Victoria; a world class production and mastering facility. He's happy to respond to any pleas for recording, mixing or mastering help... contact him at: [andy@themill.net.au](mailto:andy@themill.net.au)**



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News from NAB

# DIGITAL MIXER REPORT

At the end of the 1990's, Yamaha were the only serious player in Live Digital Audio Mixing Consoles. These days we tend to call these 'Systems' since you can now network work surfaces and remote boxes with increasing flexibility and complexity.

## THE LATEST ROUND-UP

Our round-up here is not the definitive absolute list, it's a snap shot of the currently available technologies from Australian distributors.

**Allen & Heath** have steadily expanded their product range after first showing the i-Live almost ten years ago. This line is represented by Technical Audio Group.

**AVID** is the name for what was Digidesign, whose Profile and Venue consoles are everywhere, thanks to the Plug-In library and interoperability with Pro-Tools. Recent new addition S3L shows a different direction for the USA firm, which does its own distribution in Australia.

**Behringer** shocked the audio world by acquiring Midas around four years ago, and last year released the X-32 at a very low price point. It has gone on to become the top selling console in its category. Galactic Music distribute the line here.

**Cadac** is a long established brand of theatre mixing consoles, and having undergone a sale and re-establishment in the past decade, it now offers two significant digital consoles. They are now represented by new distributor, Entertainment Technology Australia.

**Digico** were the second player in the large live pro audio console market after Yamaha. Formed with the IP of Soundtracs, the firm sell well across the market, and have more models available from distributor Group Technology.

**Midas** is distributed by National Audio Systems and are on a roll – with the new Pro X (Not listed but pictured) offering a staggering set of features for under 50k, and the M32 threatens to become a top seller as well.

**Soundcraft** have been at it for a long time, and now have a very wide range – starting with the Si Expression 1 at 4 grand and ranging way, way higher. New entry Vi3000 is turning heads. Distributed by Jands.

**Solid State Logic** Live is the new player on the block, offering a very versatile top end solution that is capturing a lot of attention. This is distributed by Amber Technology.

**Studer** are also distributed by Jands, and share some DNA with stable mate Soundcraft. Vista 1 is a serious tool

**Yamaha** were the first to market with the PM1D around the turn of century, a top-end console still used in Australia. Recently the CL range arrived, emulating what many loved in last decade's top selling M7CL but more up market. Now they have released the smaller but compatible QL series. Watch for more from them. They handle their own distribution in Australia.

**Also out there:** Mackie, QSC, Presonus and Phonic all offer smaller solutions, while Roland have a range topping out with the M-480 V-Mixer system with remote snakes.

BRAND	Allen & Heath
MODEL	AH-Qu16
SURFACE FADERS	17
BUSSES	12 output busses
INPUT MIXING CHANNELS	19
MULTICORE TYPE	Cat 5 or analogue
Pricing inc gst	\$3,999
MODEL	AH-Qu24
SURFACE FADERS	25
BUSSES	20 output busses
INPUT MIXING CHANNELS	27
MULTICORE TYPE	Cat 5 or analogue
Pricing inc gst	\$4,999
MODEL	AH-GLD-80
SURFACE FADERS	20
BUSSES	Up to 48in/24 out
INPUT MIXING CHANNELS	Up to 48
MULTICORE TYPE	Cat 5
Pricing inc gst	From \$12,995
MODEL	AH-GLD-112
SURFACE FADERS	28
BUSSES	Up to 48in/24 out
INPUT MIXING CHANNELS	Up to 48
MULTICORE TYPE	Cat 5
Pricing inc gst	From \$15,495
MODEL	AH-iLive-R72/IDR-64
SURFACE FADERS	12
BUSSES	Up to 64in/32 out
INPUT MIXING CHANNELS	Up to 64
MULTICORE TYPE	Cat 5
Pricing inc gst	\$21,990
MODEL	AH-iLive-T80/IDR-64
SURFACE FADERS	20
BUSSES	Up to 64in/32 out
INPUT MIXING CHANNELS	Up to 64
MULTICORE TYPE	Cat 5
Pricing inc gst	\$25,990
MODEL	AH-iLive-T112/IDR-6
SURFACE FADERS	28
BUSSES	Up to 64in/32 out
INPUT MIXING CHANNELS	Up to 64
MULTICORE TYPE	Cat 5
Pricing inc gst	\$29,990
MODEL	AH-iLive80
SURFACE FADERS	20
BUSSES	Up to 64in/32 out
INPUT MIXING CHANNELS	Up to 64
MULTICORE TYPE	Cat 5
Pricing inc gst	System POA



BY JULIUS GRAFTON

BRAND	Allen & Heath
MODEL	AH-Live112
SURFACE FADERS	28
BUSSES	Up to 64in/32 out
INPUT MIXING CHANNELS	Up to 64
MULTICORE TYPE	Cat 5
Pricing inc gst	System POA
MODEL	AH-Live144
SURFACE FADERS	36
BUSSES	Up to 64in/32 out
INPUT MIXING CHANNELS	Up to 64
MULTICORE TYPE	Cat 5
Pricing inc gst	System POA
MODEL	AH-Live176
SURFACE FADERS	44
BUSSES	Up to 64in/32 out
INPUT MIXING CHANNELS	Up to 64
MULTICORE TYPE	Cat 5
Pricing inc gst	System POA

BRAND	AVID
MODEL	S3L
SURFACE FADERS	16
BUSSES	24 busses (16 aux, 8 variable group), 8 mono matrixes (linkable as up to 4 stereo matrixes), LCR or LR Mono
INPUT MIXING CHANNELS	64
MULTICORE TYPE	Cat SE
Pricing inc gst	S3L 32 - \$26,400 S3L 48 - \$31,200
MODEL	VENUE SC48
SURFACE FADERS	26
BUSSES	24 busses (16 aux, 8 variable group), 8 mono matrixes (linkable as up to 4 stereo matrixes), LCR or LR+Mono
INPUT MIXING CHANNELS	80 (64 input plus 8 stereo)
MULTICORE TYPE	Cat 6 (With remote stage rack option)
Pricing inc gst	SC48 Dual PSU - \$34,200 SC48 Remote with stage box - \$39,000

BRAND	AVID
MODEL	VENUE Mix Rack
SURFACE FADERS	33
BUSSES	24 busses (16 aux, 8 variable group), 8 mono matrixes (linkable as up to 4 stereo matrixes), LCR or LR+ Mono
INPUT MIXING CHANNELS	112 (80 input plus 16 stereo)
MULTICORE TYPE	Cat 6 (With remote stage rack option)
Pricing inc gst	Mix Rack 48 input - \$48,900
MODEL	VENUE Profile
SURFACE FADERS	33
BUSSES	24 busses (16 aux, 8 variable group), 8 mono matrixes, 8 stereo matrixes, LCR or LR+Mono
INPUT MIXING CHANNELS	75 ohm BNC
MULTICORE TYPE	Cat 6 (With remote stage rack option)
Pricing inc gst	Profile 48 input \$75,500
MODEL	VENUE D-Show
SURFACE FADERS	34 expandable to 66
BUSSES	24 busses (16 aux, 8 variable group), 8 mono matrixes, 8 stereo matrixes, LCR or LR+Mono
INPUT MIXING CHANNELS	128 (96 input plus 16 stereo)
MULTICORE TYPE	75 ohm BNC
Pricing inc gst	D-Show 48 input - \$94,400

BRAND	BEHRINGER
MODEL	X32
SURFACE FADERS	25
BUSSES	25 mix busses, (16 Aux/Sub, 6 matrix, 2 main, 1 Mono) 168 inputs, 170 Outputs
INPUT MIXING CHANNELS	40
MULTICORE TYPE	AES50 (CAT5e), Ultratnet (CAT5e), AES50, Analogue, ADAT, DANTE, FIRWIRE, MADI, USB
Pricing inc gst	\$3,999
MODEL	X32 Compact
SURFACE FADERS	17
BUSSES	25 mix busses, (16 Aux/Sub, 6 matrix, 2 main, 1 Mono), 152 inputs, 162 Output
INPUT MIXING CHANNELS	40
MULTICORE TYPE	AES50 (CAT5e), Ultratnet (CAT5e), AES50, Analogue, ADAT, DANTE, FIRWIRE, MADI, USB
Pricing inc gst	\$2,999
MODEL	X32 Producer
SURFACE FADERS	17
BUSSES	25 mix busses, (16 Aux/Sub, 6 matrix, 2 main, 1 Mono), 152 inputs, 160 Output
INPUT MIXING CHANNELS	19
MULTICORE TYPE	AES50 (CAT5e), Ultratnet (CAT5e), Analogue, ADAT, DANTE, FIRWIRE, MADI, USB
Pricing inc gst	\$2,399

BRAND	CADAC
MODEL	CDC Four
SURFACE FADERS	16
BUSSES	8 aux, 2 FX, 4 subs, 8 VCA
INPUT MIXING CHANNELS	Up to 56
MULTICORE TYPE	MegaCOMMS digital network
Pricing inc gst	\$7,995 or \$13,995 with stage box
MODEL	CDC Eight
SURFACE FADERS	16 or 32
BUSSES	48 assignable
INPUT MIXING CHANNELS	Up to 128
MULTICORE TYPE	MegaCOMMS digital network
Pricing inc gst	\$60k for 60 in, 48 out



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BRAND	DIGICO
MODEL	SD11
SURFACE FADERS	12
BUSSES	12 M or ST, 8x8 Matrix, ST or LCR, 2 ST solo
INPUT MIXING CHANNELS	24 mono, 8 ST or Mono
MULTICORE TYPE	Cat5 to D-Rack or 75 ohm BNC to MaDiRack
Pricing inc gst	With no rack \$19,985
Options / Remote stage box	With 1x 32x16 D-Rack \$27,830
MODEL	SD9
SURFACE FADERS	24
BUSSES	24 M or ST, 12x8 Matrix, ST or LCR, 2 ST solo
INPUT MIXING CHANNELS	48, mono or stereo
MULTICORE TYPE	Cat5 to D-Rack or 75 ohm BNC to MaDiRack
Pricing inc gst	With 1x 32x8 D-rack \$37,320
Options / Remote stage box	With 2x 32x16 D-rack \$45,565
MODEL	SD8
SURFACE FADERS	37
BUSSES	24 M or ST, 16x12 Matrix, ST or LCR, 2 ST solo
INPUT MIXING CHANNELS	60, mono or stereo
MULTICORE TYPE	MADI(75 ohm BNC)
Pricing inc gst	With 48x24 MaDiRack \$69,765
Options / Remote stage box	25 fader version SD8-24 \$62,955

BRAND	MIDAS
MODEL	PRO9
SURFACE FADERS	29
BUSSES	16, 16 Matrix (can be used as buses) LR and M
INPUT MIXING CHANNELS	88
MULTICORE TYPE	Cat 5 or fibre
Pricing inc gst	Desk only \$32,999 – \$36,999
Options / Remote stage box	Modular I/O POA
MODEL	PRO6
SURFACE FADERS	29
BUSSES	16, 16 Matrix (can be used as buses) LR and M
INPUT MIXING CHANNELS	64
MULTICORE TYPE	Cat 5 or fibre
Pricing inc gst	Desk only \$29,499 – \$33,499
Options / Remote stage box	Modular I/O POA
MODEL	PRO3
SURFACE FADERS	29
BUSSES	16, 16 Matrix (can be used as buses) LR and M
INPUT MIXING CHANNELS	48
MULTICORE TYPE	Cat 5 or fibre
Pricing inc gst	Desk only \$21,499 – \$24,999
Options / Remote stage box	Modular I/O POA
MODEL	PRO2
SURFACE FADERS	29
BUSSES	16, 16 Matrix (can be used as buses) LR and M
INPUT MIXING CHANNELS	56
MULTICORE TYPE	Cat 5 or fibre
Pricing inc gst	Desk only \$25,999 – \$26,999
Options / Remote stage box	48x16 DL251 rack \$5,499
MODEL	PRO2C
SURFACE FADERS	20
BUSSES	16, 16 Matrix (can be used as buses) LR and M
INPUT MIXING CHANNELS	56
MULTICORE TYPE	Cat 5 or fibre
Pricing inc gst	Desk only \$17,999 – \$18,999
Options / Remote stage box	48x16 DL251 rack \$5,499
MODEL	PRO1
SURFACE FADERS	16
BUSSES	16, 16 Matrix (can be used as buses) LR and M
INPUT MIXING CHANNELS	40
MULTICORE TYPE	Cat 5 or fibre
Pricing inc gst	Desk only \$12,999-\$14,599
Options / Remote stage box	24 in DL151 rack \$2,399
MODEL	M32
SURFACE FADERS	25
BUSSES	16, 16 Matrix (can be used as buses) LR and M
INPUT MIXING CHANNELS	40
MULTICORE TYPE	Analogue or Cat5
Pricing inc gst	Desk only \$7,999
Options / Remote stage box	48x16 DL251 rack \$5,499

BRAND	SOUNDCRAFT
MODEL	SI Expression 1
SURFACE FADERS	16
BUSSES	8 Mono+ 6 ST + 4 Matrix + 4 FX + LR +Mono + Cue
INPUT MIXING CHANNELS	66 total (56mono +6 ST)
MULTICORE TYPE	Cat 5 or fibre
Pricing inc gst	\$4,099
Options / Remote stage box	16 in 8 Out \$1689 32 in 8 Out \$3369
MODEL	SI Expression 2
SURFACE FADERS	24
BUSSES	8 Mono+ 6 ST + 4 Matrix + 4 FX + LR +Mono + Cue
INPUT MIXING CHANNELS	66 total (56mono +6 ST)
MULTICORE TYPE	Cat 5 or fibre
Pricing inc gst	\$4,799
Options / Remote stage box	1Options / Remote stage box
MODEL	SI Expression 3
SURFACE FADERS	32
BUSSES	8 Mono+ 6 ST + 4 Matrix + 4 FX + LR +Mono + Cue
INPUT MIXING CHANNELS	66 total (56mono +6 ST)
MULTICORE TYPE	Cat 5 or fibre
Pricing inc gst	\$5,799
Options / Remote stage box	16 in 8 Out \$1689 32 in 8 Out \$3369
MODEL	SI Performer 1
SURFACE FADERS	16
BUSSES	8 Mono+ 6 ST + 4 Matrix + 4 FX + LR +Mono + Cue
INPUT MIXING CHANNELS	80 total (56mono +6 ST)
MULTICORE TYPE	Cat 5 or fibre
Pricing inc gst	\$5,799
Options / Remote stage box	16 in 8 Out \$1689 32 in 8 Out \$3369
MODEL	SI Performer 2
SURFACE FADERS	24
BUSSES	8 Mono+ 6 ST + 4 Matrix + 4 FX + LR +Mono + Cue
INPUT MIXING CHANNELS	80 total (56mono +6 ST)
MULTICORE TYPE	Cat 5 or fibre
Pricing inc gst	\$7,699
Options / Remote stage box	16 in 8 Out \$1689 32 in 8 Out \$3369
MODEL	SI Performer 3
SURFACE FADERS	32
BUSSES	8 Mono+ 6 ST + 4 Matrix + 4 FX + LR +Mono + Cue
INPUT MIXING CHANNELS	80 total (56mono +6 ST)
MULTICORE TYPE	Cat 5 or fibre
Pricing inc gst	\$9,299
Options / Remote stage box	16 in 8 Out \$1689 32 in 8 Out \$3369
MODEL	Soundcraft VI 1
SURFACE FADERS	26
BUSSES	24 Mono + LR+Mono+Cue
INPUT MIXING CHANNELS	64
MULTICORE TYPE	Cat 5 or fibre
Pricing inc gst	Including 32 in 32 out Local I/O \$21,780
Options / Remote stage box	64 IN 32 OUT Pricing from \$11,750
MODEL	Soundcraft VI 3000
SURFACE FADERS	36
BUSSES	24 Mono + LR+Mono+Cue
INPUT MIXING CHANNELS	96
MULTICORE TYPE	Cat 5 or fibre
Pricing inc gst	Including 32 in 32 out Local I/O \$39,190
Options / Remote stage box	64 IN 32 OUT Pricing from \$11,750
MODEL	Soundcraft VI4
SURFACE FADERS	36
BUSSES	24 Mono + LR+Mono+Cue
INPUT MIXING CHANNELS	96
MULTICORE TYPE	Cat 5 or fibre
Pricing inc gst	Console Only \$34,260
Options / Remote stage box	64 IN 32 OUT Pricing from \$11,750
MODEL	Soundcraft VI6
SURFACE FADERS	44
BUSSES	24 Mono + LR+Mono+Cue
INPUT MIXING CHANNELS	96
MULTICORE TYPE	Cat 5 or fibre
Pricing inc gst	Including 32 in 32 out Local I/O \$44,050
Options / Remote stage box	64 IN 32 OUT Pricing from \$11,750

BRAND	SSL
MODEL	Solid State Logic Live
SURFACE FADERS	26 or 38
BUSSES	Max 96 aux, Max 24 masters + Max 32x36 matrix, Max 48 stem groups
INPUT MIXING CHANNELS	144
MULTICORE TYPE	Madi coax or Blacklight 2 on fibre
Pricing inc gst	\$90k - \$140k
BRAND	Studer
MODEL	Vista 1
SURFACE FADERS	32
BUSSES	Config dependant (lots)
INPUT MIXING CHANNELS	96 inc 5.1
MULTICORE TYPE	Cat 5 or Fibre
Pricing inc gst	Inc. 32 in x 32 out local IO \$99,750
Options / Remote stage box	64 IN 32 OUT Pricing from \$11,750
BRAND	YAMAHA
MODEL	CL1
SURFACE FADERS	18
BUSSES	24+8+ST+M+Cue
INPUT MIXING CHANNELS	48 mono 8 ST
MULTICORE TYPE	RJ45 connections on console, can be connected to standard Ethernet hardware to run Cat6 or fibre
Pricing inc gst	RRP \$18,500 (surface only)
Options / Remote stage box	Optional meter bridge RRP \$1,500 Rio3224 D remote I/O RRP \$10,000 Rio1 608D remote I/O RRP \$6,000
MODEL	CL3
SURFACE FADERS	26
BUSSES	24+8+ST+M+Cue
INPUT MIXING CHANNELS	64 mono 8 ST
MULTICORE TYPE	RJ45 connections on console, can be connected to standard Ethernet hardware to run Cat6 or fibre
Pricing inc gst	RRP \$23,500 (surface only)
Options / Remote stage box	Optional meter bridge RRP \$1,500 Rio3224 D remote I/O RRP \$10,000 Rio1 608D remote I/O RRP \$6,000
MODEL	CL5
SURFACE FADERS	34
BUSSES	24+8+ST+M+Cue
INPUT MIXING CHANNELS	72 mono 8 ST
MULTICORE TYPE	RJ45 connections on console, can be connected to standard Ethernet hardware to run Cat6 or fibre
Pricing inc gst	RRP \$30,000 (surface only)
Options / Remote stage box	Rio3224 D remote I/O RRP \$10,000 Rio1 608D remote I/O RRP \$6,000
MODEL	QL1
SURFACE FADERS	18
BUSSES	16+8+ST+M+C
INPUT MIXING CHANNELS	32 mono 8 ST
MULTICORE TYPE	16/8 analogue plus RJ45 connections on console, can be connected to standard Ethernet hardware to run Cat6 or fibre
Pricing inc gst	RRP \$10,500
MODEL	QL5
SURFACE FADERS	34
BUSSES	16+8+ST+M+C
INPUT MIXING CHANNELS	64 mono 8 ST
MULTICORE TYPE	32/16 analogue plus RJ45 connections on console, can be connected to standard Ethernet hardware to run Cat6 or fibre
Pricing inc gst	RRP \$20,000



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# THE MILL REPORT

## THE UPGRADE PATH – FROM HERE TO ETERNITY

Owning your own Upgrading software is like a trip to the dentist - it leaves you wide open to pain and suffering that you really didn't deserve. But it doesn't have to be this way. Upgrading to a world of improved features, faster and better performance shouldn't be met with a brick wall of negativity, surely? Yet for many of us, this is precisely our reaction. What the hell for?

I don't know about you but I'm always on the fence about upgrading my software. Actually, more accurately, I'm a fence jumper rather than a fence sitter. I leap back and forth, cursing upgrades one minute, embracing them the next. . . which is nuts basically. This issue I'd like to point out a few things about upgrades that might make you a little more certain about what to do the next time that new version of your favourite piece of software goes on the market. And you know it always will. . . as sure as night follows day, it will.

### BRAND NEW DAW

I'll use DAW software as an example here because a more important piece of studio software there arguably is not. For myself and many others in the studio business this, of course, means ProTools.

I use this ubiquitous program every day of my life basically, but always struggle with the idea of upgrading it for one reason above all others – reliability.

When it comes to computers and studios, reliability is king. It keeps you working day in and day out and gives you confidence that there will always be a successful outcome every time the studio is turned on. Without reliability, creative flow goes out the window, not to mention your earnings!



BY ANDY STEWART

So every time I hear about a ProTools upgrade I feel like Neo from the Matrix looking at all that code streaming by me, and the thousands of errors therein. If I organise a meeting with someone from Avid, or if I'm at a trade show looking at the new ProTools software, most of what is said to me is received as "Blah, blah, blah..." until I hear the magic word – reliability. Only then do I really start to listen.

Problem is, there's not much point talking to designers or salesmen about the anticipated reliability of their new software. What else are they likely to say besides: "Yeah Andy, this new version is rock solid..." I'd be a naïve fool to think they'd say anything different. Only time out there in the marketplace determines whether a software upgrade has proved its reliability or not.

### DO YOU WANT IT OR NOT?

So how does one ever embrace new software with confidence, particularly if they're always trotting out my age-old excuse: "I just have to finish off a few project and then I'll be free to upgrade"?

Well, first up, let's start by making a few things clear. We all want things to be better in our lives don't we? We all like newer things, better, more *reliable* things that offer more facility – things with better resolution, faster performance etc etc. And new software is no different surely? Upgrading software per se, isn't the problem then really is it? I for one would love to get a new version of ProTools practically every week if it offered fancy new features and improved my ability to do my job. But I don't, under any circumstances, want to have to risk my studio's basic ability to function in order to do it. That's it in a nutshell.

The problem all DAW users face – apart from cost, which we'll look at in a moment – is the basic concern that if installing the new, subjectively 'better' software has the potential to soak up hours (and sometimes days) of install time (depending upon how many knock-on effects there are, like upgrading the OS or plug-ins etc), then upgrading simply isn't worth the grief. And let's face it, no-one ever tells you that the upgrade process will occasionally take three days, involve 10 phone calls to your mate up the road who went through this nightmare last week, internet problems, some new RAM or possibly even a new computer!

But mostly it's not like this at all. For all my fear of upgrades, most of the time – though not every time – the process has been relatively painless and afterwards I've sat there wondering why I'd been so fearful of the change.

### THE SIMPLE SIDE-STEP

There is, however, a simple way around all of this – build a second system drive that contains the upgraded software. Most people know this trick of course, but so many – and I included myself in this category for many years – fail to take advantage of it. Why, I'm not too sure. Maybe it's fear, maybe mistrust... or a bit of both. Whatever it is, I strongly urge anyone running a studio to get over this fear now, today, and sort things out. It's only holding you back, believe me.

A second system drive takes away all the stress and risk (perceived or otherwise) that you may associate with the software switchover, and clarifies several other issues into the bargain.

You get the best of both worlds: the software you (probably) want, but none of the associated risk. Sure, there will still be some relatively small costs involved – a new drive if you don't have a spare handy (although you can also partition an existing drive), possibly some new RAM or some other unforeseen parts – and the new software itself may cost zero or many hundreds of dollars depending on the circumstances. But installing the upgraded software onto a second system drive at least means your studio won't suffer some unforeseen meltdown during a session in front of clients. As we all know, the cost to both your reputation and bank balance of this occurring is far greater than the cost of the upgrade itself, and sadly when this happens, said costs can't be passed onto your DAW manufacturer.

### IT'S ALL TOO EASY

At The Mill I run Macs. The main studio computer is a MacPro, which houses four internal drives (somewhat confusingly, if you're an audio guy, called 'Volumes'). These days I simply have a volume in there labelled 'Upgraded Drive', which has everything required to run my upgraded software: primarily the ProTools software and relevant Mac OS). I can boot from this by simply holding down the Option key while the computer is starting up. After a few seconds, the Startup Manager appears, and from there I just toggle across and select 'Upgrade Drive'. (The almost identical procedure on a PC involves simply selecting a drive from the boot options menu.) It's painless, but more importantly, frees me from my upgrade phobia and allows me to weigh up the costs and benefits of any future installations based on features and cost alone, rather than through the myopic lens of irrational bias and mistrust. Now all I have to consider is whether I like the new features on offer.

But of course, no-one wants a program that crashes every time you scratch your left ear, and let's not kid ourselves here; there are many upgrades to software of all kinds that prove unreliable when they hit the market. There are still benefits to resisting the temptation of getting the latest software every time it's released

– especially X.0 versions. Crashes are crashes in the end, particularly if you're with a client. They still waste everyone's time and disrupt sessions when they occur. Even if you do have a fall-back drive that you can revert to, crashes are never a good look.

### SO IT CRASHED. . .

To avoid this embarrassment, my process these days is to get comfortable with new software on a separate drive in *private* first. That way I can tweak things before it's out there trying to earn me money: upgrade the small patches that inevitably follow version X.0; re-build my plug-in folder if that's required; import new soft-synths; get to know the new features etc. Only once things seem fine – stable, reliable, comprehensive and trustworthy – do I start working with the upgrade in front of clients.

### ISOLATE YOUR FEARS

If you're primarily concerned about reliability when it comes to upgrading software, you'll always find a reason to avoid new versions like the plague if you don't have a method to isolate any problems it might possess.

Resisting upgrades for too long, however, not only means you're missing out on much that is new and interesting – and in this fast moving world, that can potentially be the difference between looking cutting edge or blunter than a marshmallow razor – it can make you incompatible with your clients (technically speaking), and is mostly unnecessary, unless of course you simply don't like forking out over and over for the same basic program... but hey, that's another story for another day.

'Til next issue...

ANDY STEWART RUNS THE MILL  
IN SOUTH GIPPSLAND, VICTORIA.  
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BY JASON ALLEN

Leko grew up with his brother, Milenko 'Menk' Novakovic, in the northern suburbs of Adelaide. Anyone familiar with the socio-economic map of South Australia knows that's a rough place to start. Children of proud immigrant parents, Leko and Menk have always worked hard, and together. "My first job was at Derringers Music back in 1996, working for Peter Vitek." recalled Leko. "He only wanted one guy, but mine was a two-for-one offer, so I got Menk in there. We ran Derringer's hire shop for a few years and we really enjoyed working there. At that point, Heaven Nightclub in the city was a big operation with four or five production staff. An opportunity came up for me to production manage the venue, so I took it on and got Menk in on the same two-for-one deal. We ran that for a couple of years with three other guys, and that's when we started doing other events on the side." Novatech was born.

### Gearing Up

At first, Leko and Menk were taking on small, one-off production gigs for extra income. Initially only sub-hiring, their club-trained creativity saw them getting more and more work, so they embarked on a cautious programme of gear acquisition. "When we started buying equipment, we had very limited funds" Leko reminisced. "We were buying good equipment used and Menk would restore it like it was new. He has 'Golden Hands'; if someone puts something on the pile to go to the dump, he can fix it and get it going." After six months of working out of a storage shed, an increasing inventory soon meant they had



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to get their first real premises. "We got our first place in Hindmarsh" continued Leko. "It was 300 square meters and we thought it was the biggest thing ever – we couldn't even spread out the little gear we had enough to make it look busy!"  
 Leko and Menk's healthy attitude to gear has stayed with them even as they've grown. Never a slave to

brand snobbery, Novatech's philosophy has always been built on doing things in new and creative ways. "We

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didn't do any leasing until five or six years in because we didn't want the overheads" said Leko. "Gear was always secondary and it still is. We've now got the great gear we want to have, but clients don't come for that, they come to us for service."

**Good Medicine**

So starting out with little gear and no reputation, how did Novatech get its business off the ground? "A couple of local and interstate event managers became our first clients" Leko elaborated. "One of our first major gigs was a Pfizer medical conference that we thought we would never, ever get, because who would hire these two punks with no background and no history? But we got it, and after I asked the client why they hired us. He said 'To be honest, I shat myself through the entire process, but I'd never seen a passion like yours and I knew that whatever happened, you'd make the gig right.' And that was it. We built up a great reputation as 'The people to use when coming to Adelaide' in the interstate corporate market."

The balance of corporate work with seasonal gigs such as festivals is key to Novatech's success. Planned diversification across markets keeps them busy year-round, and more capable of retaining a skilled workforce. Again, it's innovation and service that have helped them win and keep clients "When we started, every gig was a Bose 802 on a stick, a lectern and a couple of Fresnels" observed Leko. "We started challenging that with a different speaker, a better light, or a moving light. They were game changers in what were very boring corporate events in a still very simple industry. We had nightclub trickery up our sleeve! It was passion-driven and we put in everything we had, both time and money."

**One Stop Shop**

Novatech are representative of a national market shift in production away from specialised sound, lighting or video companies towards the full-service production model. It's the same trend that has seen sound company Norwest acquire all-rounder Cairellie. "From the get-go, we wanted to be an all-in-one" stated Leko. "We saw in the Adelaide market that there was no sustainability in being just a sound, video or lighting company. So from the planning stage of our gigs to the execution, it's one Project Manager and one service. We don't have to get things we don't own, we don't need to bring in people that aren't our regulars. We've got enough resources to run substantial gigs and we're confident that our edge is our service."

Novatech's one-stop-shop is now supplying some serious corporates the full AV experience on their national roadshows. Coca Cola Amatil, Kmart and Holden all chose Novatech to take them on tour, and most impressively, all from head offices outside of South Australia. Some big festivals have followed suit, including recent coup WOMADelaide, won from Sydney's Coda after 20 years. Parklife, Stereosonic and Groovin' The Moo have all gone full-service with Novatech, while Soundwave and The Big Day Out rely on them to kit out their side-stages on their Adelaide legs.

**Skilling Up**

With a healthy business and spotless premium inventory, what are the biggest challenges Novatech and other companies like them in Australia face? "There's a skills shortage" Leko has determined. "We now run an intricate internal training programme. We've had a fair few students that come from SAE. They start work and realise that their training wasn't relevant. We run an in-depth course from May to September. There's 12 lessons across each department, plus interdepartmental lessons. We do basic, intermediate and advanced. They then attend our training and say 'This cost me nothing and is way better than the course I spent 20 grand on'."

It's a problem that will be familiar to anyone recruiting staff across the nation; practical gig skills simply aren't taught in the majority of educational institutions that



JUST PART OF  
NOVATECH'S FACILITY



BACKING IN THE BIG RIG  
AT NOVATECH

position themselves as providing qualifications for the entertainment industry. "You can do a course for three years and never go into a truck!" said Leko incredulously. "You don't start here until you've been in a truck! So we're starting to work with TAFE. We can provide them with the equipment, tools and industry knowledge on what their graduates will actually be doing in the workforce."

### Taking Care of Business

Operating in an industry with some 'colourful' clients can be risky. Painful tales of promoters and events not paying or making wild demands are heard at tradeshows and in pubs around the country. How does Novatech deal with the cowboys of the industry? "In the last 12 months, we've introduced a new way of thinking – we can fire a client" asserted Leko. "We can choose not to work with them. A business shouldn't be scared of that. We'll try our best, but if it's not worth it, we'll draw the line. Our industry as a whole should do that. If every company treated some of our more problematic clients like that, maybe they'd get the message."

Given the seasonality and contraction of music festivals and static size of the corporate event market, where does Leko see Novatech's scope for growth? "We're looking at overseas opportunities" he declared. "Our strategy for the next three years has the Asian market as a big focus. We've had interest from Singapore, Malaysia, India, and even Dubai. The barriers to doing that these days aren't much. If the show has a budget of quarter of a million, the \$20K of shipping isn't much." It's great to see an SA company taking it to the world.

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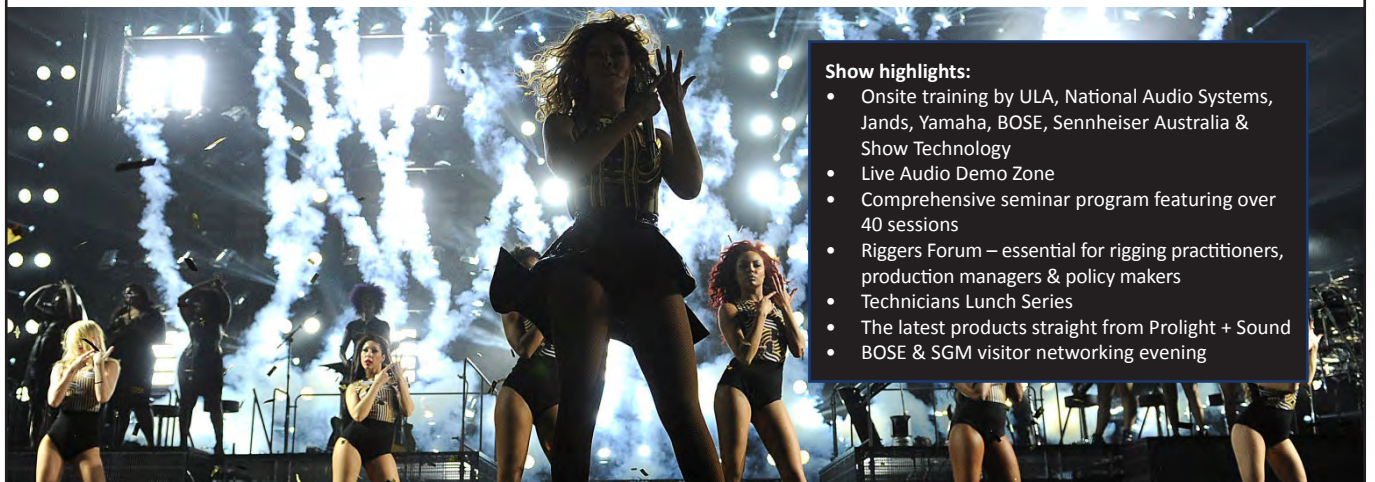
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# WHAT-IF?

## What If we cut a few corners designing our new theatre?

YOU'RE BUILDING A NEW THEATRE, EITHER IN A NEW BUILDING OR, MORE LIKELY, YOU'VE INHERITED A "SPACE" AND ARE GOING TO CONVERT IT INTO A THEATRE, OR WORSE, THE DREADED "MULTI PURPOSE VENUE".

You've seen lots of shows in theatres and have even been involved on the periphery of another theatre construction project or two and have sat in on the site meetings with the theatre consultants and theatre contractors, so you're not exactly working in new and unknown territory, right?

So when the budgets get tight, as they always do in any construction project, you have to make some tough decisions about where to spend your precious funds and where to save them for a rainy contingency plan.

The local Council Building Certifier has some very definite and specific requirements when it comes to getting your building signed off and ready for occupancy, so there is no suggestion of skimping on the fees for the Building Architect, the Structural Engineer, the Services (Air Conditioning, Fire Services, Plumbing) or Electrical Consultants, and the appearance of the building and it's surrounds will have a large bearing on the success of the venue, so the Landscape Designer is safe.

So what gives when the time comes for "budget rationalisation"?

All too often, we see the role of the Theatre Consultant or Theatre Designer axed in the first round of cuts, especially when there isn't a history or tradition of the venue being used for theatrical performance and is consequently without an incumbent group of theatrically knowledgeable users - in other words (and at the risk of sounding a little unkind), when the end user or client doesn't know what they're doing.

This was especially the case when we were all scrambling to help with Building the Education Revolution and all of those multi-purpose Basketball Court/Examination and Assembly Hall/Live Music Performance Space/Shakespearean Theatre venues were being rolled out at the rate of one a week.

Now, to be fair, the skill sets required to design and efficiently run a large public school are not insignificant, and the folks who do this successfully are to be greatly admired and respected, but having successfully staged a Year 5 pantomime every year in the school assembly hall is not quite the same as understanding, designing and commissioning a large commercial theatre.

So why would you be wise to invest your scant dollars in the services of a good theatre designer?

Experience is everything and you need someone who understands the design and operating processes that make a building work to take the "vision" and turn it into a functioning reality.


"The experience" is how the success of the venue will be judged – the experience that the audience attending a performance takes home with them, the experience of the performers on stage interacting with the audience and the experience of the staff operating and working in the venue.

To make all of this happen, you need enough experience to fully understand the complexities of a working theatre and how all the pieces and people fit together efficiently.

You need to understand the layout of the stage and the technical areas surrounding the stage. You need to understand how the box office works, how many dressing rooms you need, where to put them and what to put in them. You need to understand lighting, drapes, sight lines, scenery and the workshops to build it, rigging, sound, communications, stage management, risk management and human nature.

***If you understand all these things you don't need to hire a theatre consultant because you probably are one.***

This article forms general opinion only and must not be relied on without a detailed, professional risk assessment undertaken specific to your situation. Consult a professional staging company every time you consider anything that may involve risk with flown objects or people.



BY ANDREW MATHIESON



## The P-5

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At only 8.9 kg the P-5 can be mounted on any surface without worrying about use of special surface anchors. The 44 pcs of high power RGBW 10W LEDs will produce a large variety of saturated colors, along with a very bright white light which provides a full palette of pastel colors and the most powerful and pure white light.



**Thorsten Sattler,**  
MD of SGM Deutschland:

*"The instant success of the P-5 in Germany was based on the fact that the product is so powerful and also that the rental companies experience huge savings on tours, because they can easily fit five P-5 units in a box of the size of one comparable product".*



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# EUROVISION

## SONG CONTEST COPENHAGEN 2014



May saw Copenhagen play host (for the third time) to the 59th annual Eurovision Song Contest. Broadcast to over 180 million viewers across Europe and the world, it's fair to say that Eurovision is kind of a big deal.

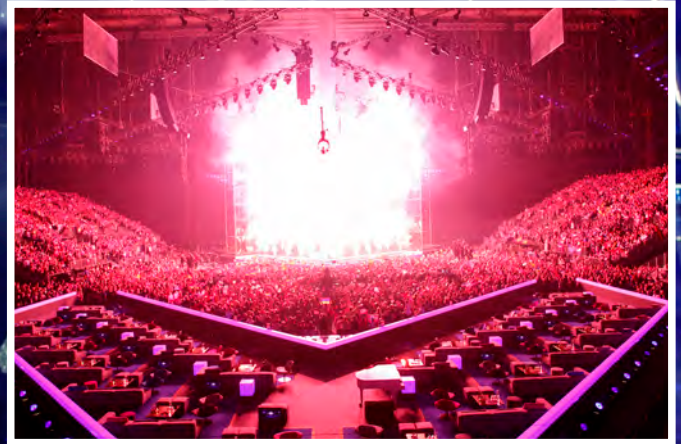
Strong entries from many countries saw finals voting running close until Conchita Wurst of Austria pulled ahead late in the count as the clear favourite. Austria was in fact announced as the winner the moment it became mathematically impossible for any other country to take the lead on points, and will host the contest in 2015.

To give some illustration of the sheer enormity of the production, here are a bunch of interesting facts:

- The steel set structure weighs 40 tonnes and stands 20m tall.
- The stage floor is an aluminium and glass LED floor rated to 1 tonne per LED plate.
- 32 projectors surround the stage.
- 10 sound mixers are in place, featuring 100 channels of wireless transmission for mics and in-ears. Sound is operated by a crew of 30 people, produced in stereo and 5.1 surround.
- Total weight of speaker systems flown from the ceiling is 11,424kg.



EDITORIAL BY - JIMMY DEN-ouden  
PHOTOGRAPHERS - THOMAS HANSES (EBU),  
ANDRES PUTTING (EBU) & THOMAS RAMSTORFER



- 22 cameras are used to shoot the coverage, including 2 cranes, 5 rails, a 3D and 2D wire system, and 2 steady-cams.

Ultimately it's nothing short of an impressive production, and with over 1600 journalists from 80 countries in attendance it's fair to say Denmark put on a great show. Perhaps the most impressive element to us here

at CX is the precision of it all. Perfectly timed lighting state changes, video and pyro triggers all just happen seemingly effortlessly. With the number of cameras running around on stage it's amazing that none of these ever seem to appear in other camera shots. Clearly practice does make perfect – hats off to Eurovision!



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# D&B AUDIOTECHNIK MAX

## FULL OF SURPRISES

BY JIMMY DEN-ouden



The MAX monitor is a marine ply cabinet weighing in at 26kg. On paper this seems a bit on the lightweight end of the scale, considering it houses a 15" woofer and 2" compression driver in a co-axial configuration. Our test cabinet had a top-hat fitted at one end to allow pole mounting. Various other mounting options are available, allowing the cabinet to be used for purposes other than a stage monitor. The drivers are protected with a punched metal grille, which has a removable layer of acoustically transparent foam (microcell?) attached with velcro. Owing to the driver configuration the nominal dispersion angle is 60 degrees with a conical pattern – quite reasonable for a wedge.

Power handling spec is 250W RMS, and frequency response is listed as 55Hz-18kHz +/-5dB with floor coupling. It doesn't exactly read in an exciting manner until you get to the SPL spec, when it gets interesting. Maximum SPL on the MAX monitor is 131dB when running from a D6 amp in passive mode. Use a bigger amp and run active mode, and this rises to 136dB. That seems rather loud.

Like all d&b, the MAX monitor requires d&b processing and amplification. Potentially pricey if you don't already own d&b amps, but it means the MAX will always work exactly the same way every time you use it. I like predictable monitors a lot. Connections are more standardized with NL4 in and loop out.

Enough looking at specs though. I had a wedge, I had a D6 amp, I had cables, and it was time to see how it worked when used in the anger that only a foldback operator can muster. I plugged it in, switched it on, and sent some signal from an SM58 – a pretty common vocal mic. With no EQ applied (or even in-line) the MAX produced vocals which were clear, present and punchy

I'M LUCKY ENOUGH TO FREELANCE FOR A BUNCH OF DIFFERENT COMPANIES, ALL OF WHOM USE DIFFERENT EQUIPMENT. THAT SAID, MY PREVIOUS INVOLVEMENT WITH D&B HAS EXTENDED ONLY SO FAR AS WALK-IN GIGS USING OTHER PEOPLES J LINE SYSTEM. GIVEN MOST OF MY WORK IS AS A MONITOR OPERATOR, I WAS UNDERSTANDABLY INTERESTED TO SEE IF THEIR WEDGES WERE AS GOOD AS THEIR BIG FOH SYSTEMS.



MAX MONITOR SHOWN WITH ACCOMPANYING D6 AMPLIFIER



as hell. Sonically it seems very different from the d&b arrays I've used, with less emphasis up top. There's definitely a bit of a push around the mid range area. I tried an e935 and a d:facto as well and achieved very similar levels as with the 58.

I turned it up, and up, and up. The MAX got louder and louder but nothing else changed. I continued the process until eventually it started to feed back, at which point I moved the box back a few metres and pushed some more level into it. Even with increased distance it didn't really sound any different. I added some track to the mix at fairly high level, and vocal still punched through this with no problems. One thing I noticed with the track running was a very obvious roll-off in the low end. The roll-off isn't high up enough in the frequency band to be a bother for anything other than playback – just enough to give you a bit of extra headroom in the frequency band which is actually useful for monitors. On the basis it reflects the way I EQ monitors, I'd say it's pretty sensible.

Really I think the MAX will be most at home on big stages and the only thing it couldn't single-handedly cover would be drum-fill. But let's be realistic – it's a single 15! Our studio has kind of a low ceiling and my suspicion is that taking the interactions with this out of play I could have got even more level out of the box. My only real gripe is the metal grille – it seems a bit weak, flexing when I pushed on it with both hands. I didn't try jumping on it, but I contend that there's a guitarist somewhere out there who will.

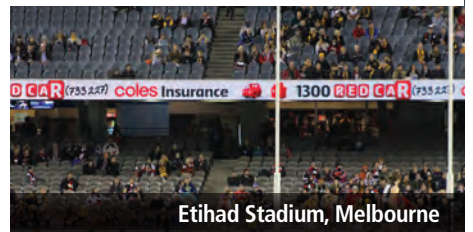
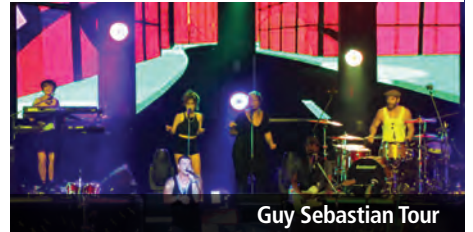
Despite my best efforts I couldn't activate any clip or limit lights on the D6 amp. While it's not the most polite wedge I've ever encountered, I really do like the MAX monitor a lot. I'm especially a fan of the way it holds up well even with a bit of distance on it. Ultimately, short of being stood upon, it certainly stands up to every test I can think of.

BRAND: D&B AUDIOTECHNIK  
 MODEL: MAX  
 RRP: MAX15 - \$4799 INC GST.  
 D6 AMPLIFIER - \$6999 INC GST.  
 PRODUCT INFO: WWW.DBAUDIO.COM  
 DISTRIBUTOR: WWW.NATIONALAUDIO.COM.AU



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# ALLEN & HEATH XB10

## COMPACT BROADCAST CONSOLE

BY JIMMY DEN-ODEN



TRUTH BE TOLD I DON'T DO A LOT OF RADIO BROADCASTING, BUT LOTS OF PEOPLE DO. EVEN MORE I SUSPECT ARE GETTING ON-BOARD WITH WEBCASTS, SINCE YOU DON'T NEED YOUR OWN RADIO TRANSMITTER TO BROADCAST YOURSELF ON THE INTERNET. THE XB10 IS A COMPACT DEVICE, AND FROM WHAT I CAN TELL IT'S BEEN DESIGNED TO PUT ALL THE ANSWERS TO SMALL FORMAT BROADCASTING IN ONE BOX. IT'S SIMPLE ENOUGH FOR NOVICE PANEL OPERATORS, BUT HAS ENOUGH GOING ON THAT MORE EXPERIENCED USERS WILL FIND IT EQUALLY SATISFYING.

While it looks pretty similar in form factor to the Zed series from A&H, closer inspection reveals a somewhat different set of features. The first three inputs are pretty standard mono mic/line channels, with optional global phantom power. There's a gain pot, HPF, 3 band EQ (mid with sweep), auxiliary send level and pre-fade button, a pan pot, level pot, plus PFL and ON keys. There's also a COMP button to activate the soft-knee compressor, which has a preset threshold of -20dBu. That's a bit interesting in itself. Three stereo inputs feature 2 band EQ, aux send and ON/PFL keys. The first two stereo channels have RCA inputs which run in parallel with the TRS inputs. The third input also has TRS but alternately takes its signal from the USB interface. So you can play content through the console directly from your computer.

The TELCO input is designed to connect to a phone hybrid or Skype caller, and it's very clever. It can source signal from the TRS input or the USB port. HPF, 2 band EQ, aux send and channel level plus ON/PFL are all available on this channel, as is a TALK facility. You can choose to send PGM (program) minus the

incoming TEL signal (a "mix-minus"), or you can send the AUX mix (again minus the incoming TEL signal). This avoids the caller hearing themselves back as an echo. The TALK facility allows you to talk to the caller on the hybrid or Skype connection. This overrides the CLF (clean feed) source normally sent back to the caller. Pressing TALK routes the preset mono channel (changed by jumper selection) to the CLF output pre-fade and pre-ON key. Note that changing the links is supposed to be done by a service centre, and hence the procedure is omitted from the user manual.

There are plenty of outputs on the XB10 – stereo PGM and record outputs (selectable routing on the record



NOTE THAT CHANNEL LEVELS ONLY GO UP TO UNITY - SAME WITH PGM OUTPUT



output), mono AUX and ALT outputs (ALT outputs all channels whose ON keys are not depressed), stereo monitor output (with level control and optional auto-mute when mic channels are turned on), plus operator and guest headphone outputs, both with individual source selection and level control. Phew, that's heaps! There's a TALK to guest function, which works in the same way as the talk to telco button, but routing the signal to the guest headphone output.

The main program level is shown on dual LED meter ramps, and above this is another LED showing when the PGM limiter is activated. The limiter is switched in and out of line via recessed pushbuttons on the back panel (per channel), with adjacent threshold pot. Also on the back panel are ground lift switches for program and record outputs, as well as a D25 connector.

The D25 is a remote interface, providing logic to indicate when mic & telco channels are on (you could use these for "on-air" lights), as well as remote muting for same (e.g. for "cough buttons"). There are also start and stop pulses sent when each of the stereo channels is turned on or off – these allow CD players to be remotely played or cued. Program metering feeds for external PPM meters, and a comms mic output are available. +10V, +/-15V DC outputs are provided too, so provided your external devices are low current you can even power them directly from the XB10.

I recently had to do a phone interview here at CX and wound up with an iPhone, some interestingly pinned cables, a PC audio interface and another mic all precariously wired together. The XB10 would have let me do the same thing simply and at better quality via Skype. Similarly, if I wanted to do a live broadcast it would let me do that too.

The XB10 really is a lovely piece of kit, and maybe one of the best devices I've ever reviewed. The design has clearly been well considered and the feature set reflects this. I can't think of a way to make it any better. It's portable and flexible enough to deal with past and future ways of interacting with callers, and the sharp pricing only adds to the appeal.



BRAND: ALLEN & HEATH  
 MODEL: XB10  
 RRP: \$1395.00 INC GST  
 PRODUCT INFO: [WWW.ALLEN-HEATH.COM](http://WWW.ALLEN-HEATH.COM)  
 DISTRIBUTOR: [WWW.TAG.COM.AU](http://WWW.TAG.COM.AU)



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# DBX DRIVERACK PA2

## DRIVERACK FOR EVERYONE.

BY JIMMY DEN-ouden



DRIVERACK HAS LONG BEEN THE DBX ANSWER TO SYSTEM CONTROL AND PROCESSING. THE DRIVERACK PRODUCT LINE COMPRISES SEVEN MODELS, AND OF THESE THE PA2 IS THE NEWEST.

The basic theory behind a system control processor is to take care of functions such as crossover, EQ, system delays and limiting all inside one box. Installed processors tend to require intense human interaction during the system commissioning process, but beyond this they're often not given too much attention. This is a good thing when the processor is buried in an amp rack somewhere inaccessible, but it leaves their touring counterparts at a distinct disadvantage.

The 1RU Driverack PA2 is designed not only to be easy to use, but also easy to control from remote locations. It's essentially a network enabled system processor with remote control available via Mac, PC, Android or iOS. Input processing includes dbx compression, AFS, GEQ, PEQ, and subharmonic synthesis. Output processing includes a number of crossover functions, PEQ, dbx limiting and driver alignment delay.

The back panel isn't too far removed from any other 2 in 6 out system controller. There are some XLR connectors, a power input socket, USB and Ethernet ports. Input sensitivity can be switched between -10dBV and +4dBu, and there's a ground lift switch too. The basic setup is the same – connect power, inputs and outputs. Then connect the Driverack PA2 to a DHCP enabled network – wireless is optional.

The front panel features a backlit LCD display with familiar large rotary encoder/button and back button adjacent. The large WIZARD button is next, followed by preset store/recall and utility keys. Beyond this are "instant access" buttons for all common features, plus input/output metering and output mute buttons. Far left is an input for an RTA mic – any decent reference mic will work, but with the dbx option being one of the most affordable it kind of makes sense to use it. Basically, it looks just like a Driverack. I don't like the look of the new round buttons much, but then who buys a system controller based on how it looks?

Perhaps recognizing that the learning curve for a system tech is changing, dbx has included a bunch of automatic functions. There's an auto setup wizard which asks a heap of questions, tells you where to set your amp attenuators, and basically works everything out for you. An array of presets from many major manufacturers helps this process along, although to my eye it's missing a few obvious makes. Auto EQ uses the reference mic to listen to the room in multiple locations (it tells you when to move the mic), then adjusts the system levels and EQ parameters accordingly. AFS is the feedback detection and elimination system.

If you prefer to do things manually, that's totally cool too. As well as the front panel interface, you can access the device via Ethernet using the PA2 Control app (free on the App store). Driverack PA2 doesn't have a manual IP facility, so you'll need to use DHCP or assign an IP based on its MAC address. DHCP is easier, and once it's done you can look in the Utility menu to see the IP. Connect your control device (iPad, computer, tablet, whatever) to the same network, run the app and you're good to go. Just make sure your network is



secured, since there's no form of network security on the Driverack PA2 itself. You can still password lock the front panel controls.

The app is excellent and gives you complete control over all aspects of the unit. It's laid out in a logical manner with signal flow from left to right on the screen. You can manually draw filters (there are 8x PEQs on each input and output now, up from the previous 4), and adjust delay times in mS, feet and metres all simultaneously. It's a really well thought out app and makes total sense.

There were a couple of little glitches with the ALL MUTE function, and the meter response is a bit jumpy, but I really need to emphasize that the software I tested was Beta version 1.0.0. As such I think a few little glitches are easily forgiven – importantly it didn't suddenly do anything weird, unexpected or destructive.

**Conclusion?** If you're not real sure about how to setup your sound system, Driverack PA2 is a great way to get some help when there's no humans around to ask. If on the other hand you like to do everything yourself, it makes accessing the required functions very efficient. Either way it's a big winner, and keenly priced at that.

BRAND: DBX  
 MODEL: DRIVERACK PA2  
 RRP: DRIVERACK PA2 - \$899.00 INC GST.  
 REFERENCE MIC TO SUIT - \$899.00 INC GST.  
 PRODUCT INFO: WWW.DBXPRO.COM  
 DISTRIBUTOR: WWW.JANDS.COM.AU

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# SENNHEISER HD8 DJ

## HEAVY DUTY

BY JIMMY DEN-OUDEM

SENNHEISER HAS ALWAYS MADE PRETTY SOLID PRODUCTS, SO IT'S PERHAPS IN RESPONSE TO THE MARKET THAT THEIR LATEST RELEASE SEEMS TO HAVE HAD A BIT MORE MARKETING HYPE THAN WE'RE USED TO SEEING FROM THE COMPANY. THE NEW HD RANGE OF HEADPHONES COMPRISES THREE MODELS – THE HD6 MIX, THE HD 7 DJ, AND THE HD8 DJ WHICH WE LOOK AT IN THIS REVIEW.



All three models are differently voiced, with the HD6 being geared to studio work, while the HD7 and HD8 being intended specifically for DJ use. How a set of headphones actually sounds isn't necessarily something everyone considers, and such tonal differences are often hard to verbalise when heard in isolation.

So let's come back to sound a little later and first discuss the marketing blurb for these headphones. The HD8 DJ is touted as being very robust, which if you're as clumsy as myself is a good thing. I have a bad habit of putting headphones down on a console, then stepping on the cable and watching as the cans go crashing to the floor. While the ear cups on these are made of plastic, the frames which hold them and the headband have a more metallic quality. They feel good and solid, and while I didn't drop them on the ground to check I'm sure they'd survive such treatment repeatedly. At 284g they're not exactly lightweight, but considering the build quality they could be a lot heavier.

Two Kevlar coated cables (one straight and one curly) are included in the box, and they use a bayonet locking fitting to connect into the earcups. It's a single connection point, but you can plug it into either earcup – a nice touch.

Let's talk comfort. The ear cups pivot through up to 210 degrees, so you can wear the headphones with one ear on and one off comfortably. They don't jump off your head when you're doing this, which is very useful. Two sets of pads are included – the fitted leatherette ones and a velour set. I auditioned the HD8 DJ over a period of several hour-long blocks, and the only discomfort I experienced was the eventual unsettling feeling of isolation from the sounds of the world around me. The headphones are designed for use in noisy environments so they provide a lot of external noise rejection. So as to comfort, just go ahead and tick that box.

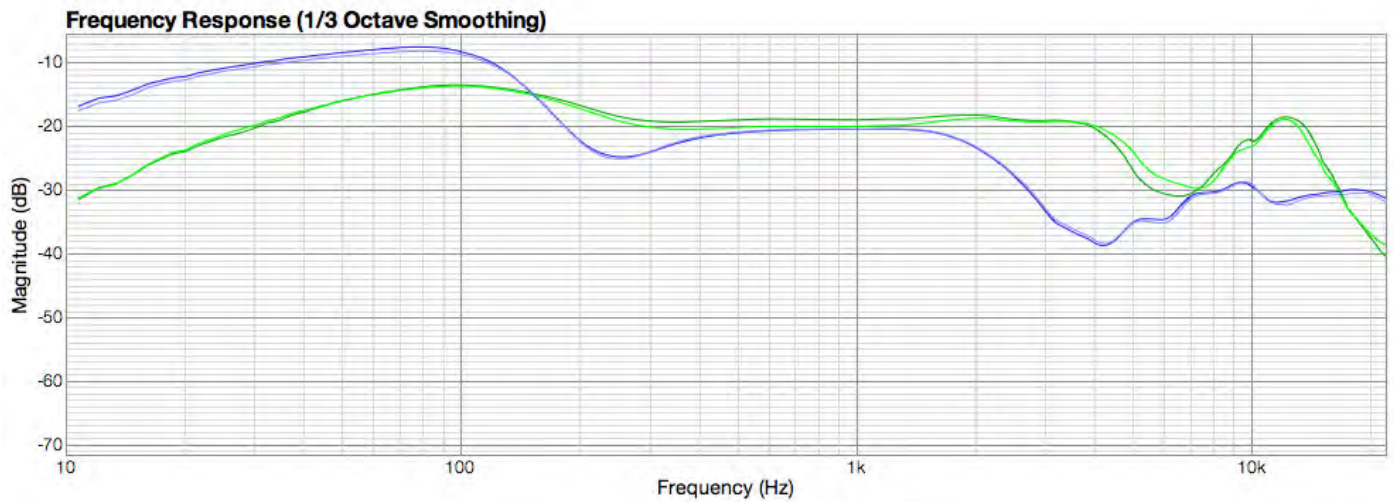
Presentation is excellent, with the HD8 DJ being supplied in a nice zippered hard case with space for the cable. The case is really nice, and even has a little carry handle.

Sennheiser says on its website that the new range is "inspired by the sound signature of the HD-25", so I figured comparing the two would be a pretty fair thing. Upon first listening to the HD8 DJ there was something different I couldn't quite put my finger on – I was at home and didn't have my HD-25s at hand for comparison. Monday morning rolled around and I headed into the office for a bit of AB comparison. The HD-25s felt warmer in the low-mid region, and smoother in the upper mids. The bottom end on the HD8 DJ simply blows the HD-25 out of the water. Does it provide the claimed "clear and more detailed sound experience with excellent bass"? Absolutely. Does it sound anything like an HD25? No.

### Science time

Being the sciencey guy I am, I wanted to validate what I'd heard with some empirical data. So I built an ear – or more accurately a block of wood with a reference mic shoved through it. This enabled me to run frequency sweeps through both sets of headphones (with the earcups sealed as they would be on a human head), and measure the response. While I fully admit it's not a perfect testing methodology, the imperfections apply universally – so it's better than no science at all.

Looking at the frequency plot, the HD8 DJ is shown in blue and the HD-25 in green. The dark traces are 1 second sweeps, and the lighter traces 10 second sweeps – 1/3 octave smoothing is applied. Importantly the graph validates what I'd heard – the HD8 DJ is far more emphatic in the low end and takes a noticeable dive in the mid-high region around 4kHz. It could be



argued that this is bad, and if you were aiming for a linear response it would be. But linear isn't what these headphones are about – they're designed for beat matching in loud places. They emphasise frequencies which need to be emphasised for this purpose. I'll have to stop blaming the headphones for lousy DJ work.

Finally, Sennheiser claim the HD8 DJ produces seriously high SPL – 115dB at 1kHz. That's not a very useful spec in my book since most tracks tend to include more than one frequency. Regardless of the spec, when they're driven with a good PFL circuit this headset goes scary loud, and does so without falling to pieces sonically.

I don't think the HD8 DJ makes for great recreational listening, but that's hardly surprising. It's built for a very specific purpose in life, and for DJ work (especially electronic music), I reckon it's a 100% perfect fit.

BRAND: SENNHEISER  
 MODEL: HD8 DJ  
 RRP: \$499.95 INC GST  
 PRODUCT INFO: [WWW.SENNHEISER.COM.AU](http://WWW.SENNHEISER.COM.AU)  
 DISTRIBUTOR: [WWW.SENNHEISER.COM.AU](http://WWW.SENNHEISER.COM.AU)



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# HIGH END SYSTEMS SOLASPOT PRO CMY LED

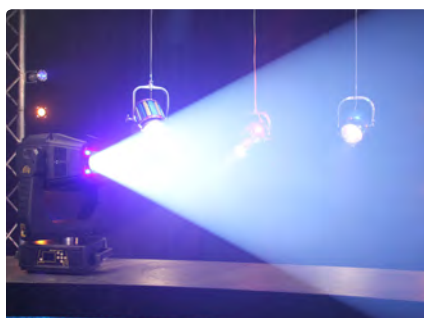
## NEW KID ON THE BLOCK

BY JIMMY DEN-ouden



HIGH END SYSTEMS FIXTURES HAVE ALWAYS KIND OF HAD A BIT OF A DISTINCTIVE LOOK TO THEM. WHETHER YOU THINK BACK TO THE TECHNOBEAM OR THE MORE RECENT SOLAWASH, THEY JUST LOOK A BIT DIFFERENT TO EVERYTHING ELSE ON THE MARKET. WHICH IS COOL. FUNCTIONALLY THEY OFTEN WORK A BIT DIFFERENTLY TOO...

SolaSpot Pro CMY LED is a really long product name, perhaps because there was already a fixture simply called SolaSpot LED. Both units use a white LED source, but where the original SolaSpot used a 7+1 fixed colour wheel, the CMY uses colour flags to provide mixing capability. That much is evident from the title, but what's not so obvious is the difference in output. The original SolaSpot is good for 6000 Lumens LED output, while the CMY model we're reviewing here is considerably brighter at >13,000 Lumens LED output. That's rather bright. So much so that the SolaSpot Pro CMY LED is touted as a viable replacement for 700W discharge fixtures. With a native colour temperature of 6500K, it even takes steps to blend in with them.



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## HIGH END SYSTEMS SOLASPOT PRO CMY LED CONTINUED

Going on weight alone it certainly fits the bill – at 29.5kg it's not exactly featherweight. I put this down to a decent amount of glass, which you kind of need to make the most of your lightsource. Not only that, but the optical path is kind of, well, complicated. In addition to the CMY mixing, SolaSpot Pro CMY LED has the same 7+1 colour wheel as on its smaller sibling, which introduces scope for split colour beams. Nice. At 12-40 degrees the zoom range isn't huge, but it's certainly fast and fairly quiet. The CMY mixing system isn't especially quiet when you're doing fast colour cycles, so maybe leave those to the dedicated wheel. 6+1 rotating and 7+1 fixed gobo wheels provide plenty of scope for nice beam effects, and I especially like the several dichroic gobos. A rotating three facet prism, frost, iris, CTO wheel, and focus assembly complete the optical path.

The CTO is interesting in so much as the default DMX value for its control channel is 255 – the closer to 0 you go the more orange correction is introduced into the beam. Pan and tilt are relatively fast and quiet, with 540 and 265 degree range respectively. It's pretty standard on that front, but what's less common is the indigo highlighter function. Four LEDs surround the main lens, and these provide an additional "eye candy" effect. They're actually surprisingly bright for tiny little LEDs, but there aren't quite enough of them to actually light stuff up with real intensity.

On the base you'll find the expected XLR and PowerCon connectors, plus a very good backlit display screen and associated navigation buttons. The menu is generally easy to use with a "cheat sheet" printed on the top of the base, though the standalone options are confusing. It's not really a fixture you'd buy to run in sound activated mode anyway, but that's an option too. An internal battery allows you to access the menu with no power applied to the fixture. Rated power consumption is 480W, so based on the spec exactly 5 fixtures would run off one 10A circuit.

For the most part the SolaSpot Pro CMY LED could be considered unremarkable since it works just like any most 700W discharge heads. What's remarkable is that it does so without actually being one. I really like the flat, consistent beam as well as the clean white output. Gobo edges are clean and well defined too – something we don't see on every fixture. Sure, it's a little on the heavy side, but no more so than the things it can replace. Better yet, it's pretty good value and the indigo highlighter function gives it that little bit of extra functionality.



BRAND: HIGH END SYSTEMS  
 MODEL: SOLASPOT PRO CMY LED  
 RRP: \$9625.00 INC GST  
 PRODUCT INFO: WWW.HIGHEND.COM  
 DISTRIBUTOR: ALEXM@LEXAIR.COM.AU

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JUNE  
2014

# ROAD SKILLS

The  
**JOHN BUTLER  
Trio**

**Groovin' The Moo**

**Bliss N Eso**

By **Cat Strom**

The John Butler Trio: Photography - Troy Constable

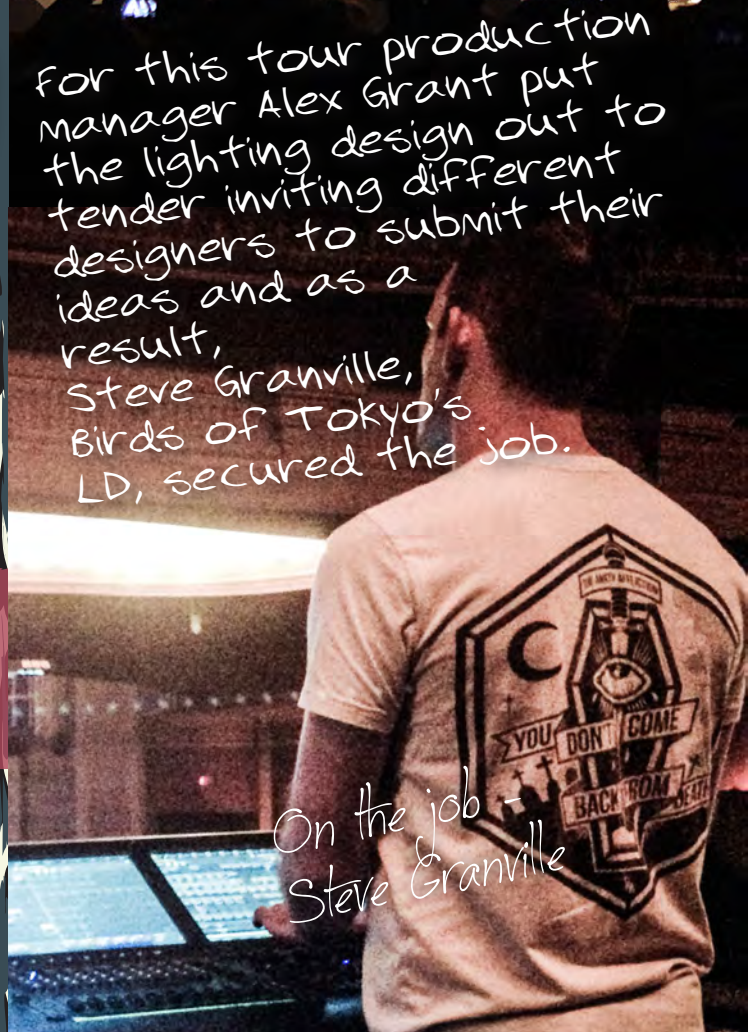
Groovin' The Moo: Photography - Tao Jones

Bliss N Eso: Photography - David Youdell

The John Butler Trio's *Flesh & Blood* tour is their first extensive Australian tour in four years and is now in Europe before a tour of the US and then back to Europe for a festival run.




For this tour production manager Alex Grant put the lighting design out to tender inviting different designers to submit their ideas and as a result, Steve Granville, Birds of Tokyo's LD, secured the job.



On the job -  
Steve Granville



# The John Butler Trio

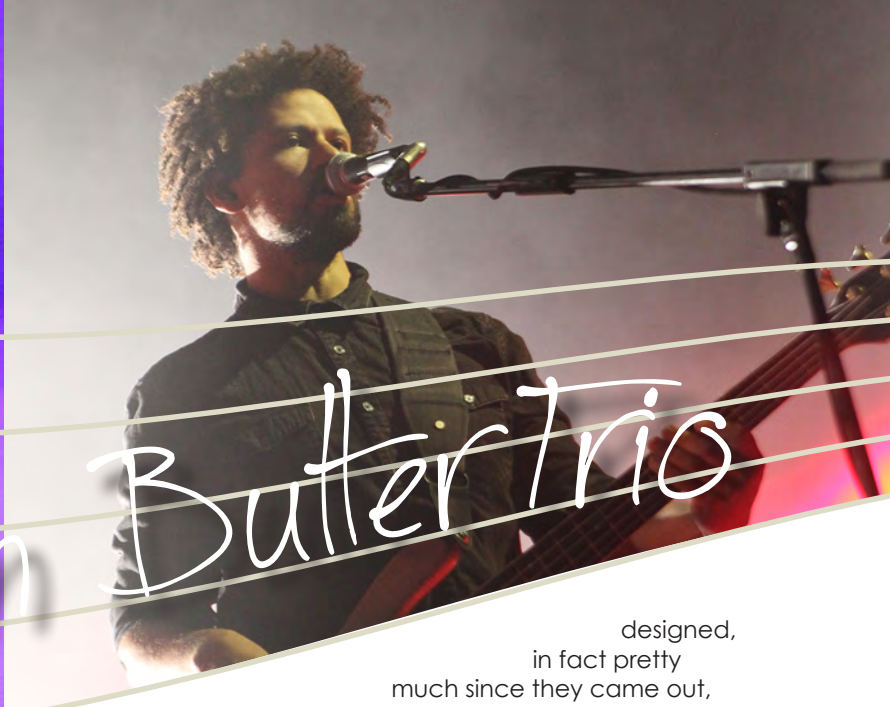


"They just wanted something different and the only real brief was that they wanted triangles so we ended up with triangular screens," said Steve. "The rig has three lighting trusses plus a drape truss and the fixtures are nearly all Martin products which are easy to pick up anywhere and that's very important on a tour like this." The lighting states for the show are generally built around the content for the screens so there is a lot of stark and moody content with silhouettes and back light. On stage there are seven triangular projection screens with a Barco R20 for front projection. The screens also act as a projection surface for gobos.

The key instrument in Steve's rig is the MAC Viper, of which he has seventeen, which he has used on the last three tours he has



# The John Butler Trio



Neale Mace

designed, in fact pretty much since they came out, and he describes them as sensational.

"The zoom, iris and gobos are amazing," he said. "I never liked the MAC700 and went to Robe products for quite a while, but you can't beat the MAC Viper at the moment. You can get the Clay Paky Sharpy beam look out of a MAC Viper if you want it, however I got over the putting beam lights on everything phase really quickly. The MAC Vipers are the look for every song, everything else is just colour wash and fill. There's a lot of wash from the front and side for the band to see what they're doing but the Vipers do the main look for every song."

Providing the wash are ten MAC301's on side booms and fourteen MAC101's on the floor for uplighting. Martin StageBars54's are also used for uplighting the cyc behind the screens whilst seven Sunstrips are used for 'flash and trash'. Further effects are added by eight Atomics with scrollers.

Having used Hogs for control his entire touring career, Steve specified a Roadhog Fullboar 4 + Wing for the tour and whilst one was supplied by Entertainment Installations, Steve owns his own and that is traveling in Europe with him.

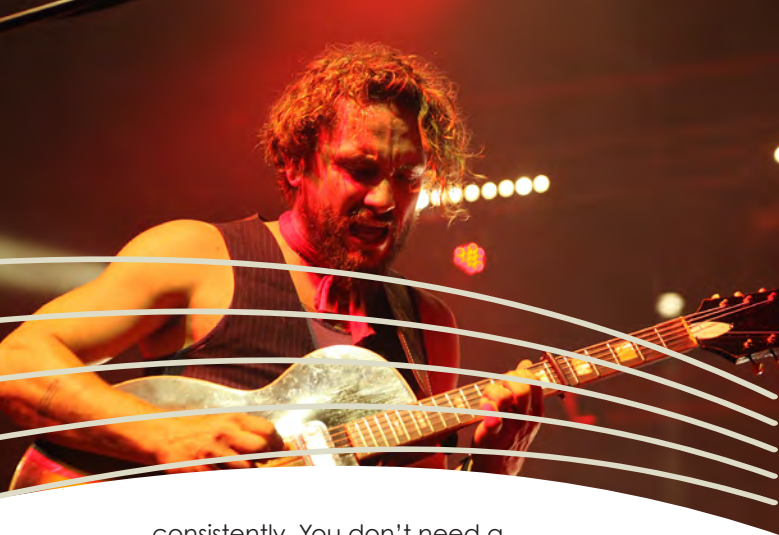
"I use a lot of effects out of the effects engine and I find that the Roadhog is the best for this," added Steve. "I find it a lot faster than anything else especially now it is running Linux. Plus you can pick them up anywhere."

Colin Ellis has done John Butler Trio's FOH mix for many years and although most of the gigs on this tour used inhouse PA's, when one needed to be supplied it was Entertainment Installations' Martin Audio W8LXC Line Array (flown) with Martin Audio WS218X subs (stacked).

"I have to admit we were more interested in the control package that Entertainment Installations could provide as we carry that everywhere," began Colin. "The PA was more a case of just what they had as we only had three shows where we had to use it. However, I have to say that Martin system is damn good – really musical sounding, easy to use and it's easy to pull a good sound out of it. In fact, I think the three best shows of the tour where the three where we used the Martin Audio W8LXC Line Array."

For control Colin opted for an Avid Profile 48 channel console with 5 x engines and HDx card (Waves 9, McDSP, iLok) with Ben Shapiro on monitors using the same set up.

"I always use an Avid Profile as it is still the best suited console to what we do," explained Colin. "I'm not saying it's the greatest, it's just perfectly suited to what we do. It's small, you can easily wheel it in and everything works



consistently. You don't need a technician or a backup console with you all the time."

Through the US, both Profiles and associated racks will travel in a trailer behind the tour bus whereas in Europe the exact same gear will be sourced locally. John always tours with his two d&b M2 monitor wedges.

Colin reveals that John Butler Trio are trickier to mix than it may appear on the surface. Rather than a sedate trio as the name may imply, JBT are an acoustic-based band that play at a big, loud rock volume!

"People think they're just a three-piece band so how difficult can it be," he added. "But they really are quite complicated. John has an acoustic 12-string guitar that runs through the Marshall amp which is very loud. There's a lot of frequency tuning to do, with graphics and parametrics over everything, and everything is tweaked to the max. The Marshall amp can push through the acoustic and make it feedback all over the place. Then he plays the double bass and it's the same sort of thing. "As I said, I use a lot of parametrics - every subgroup has parametrics so I can filter out frequencies on every instrument. I also use Smart on my laptop to help filter out the bad stuff."

*Pictured -  
Collin Ellis*



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#### How long is the trial?

The trial is scheduled to take place over several months – Monday to Friday between 9am and 5pm. In Perth the trial will also take place in the evenings between 9pm and 2am. Occasional testing will then run until the end of 2014.

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# 20 Questions with Amy Watts Production Manager

## Groovin' The Moo



Amy Watts has been working tirelessly in the Live Music & Event Industry since 1998 to make a living.

**1. What are the three best things about your job?**

Working with The Local Community – GTM is a regional tour and our Local Communities are without doubt the beating heart of the National Tour. The local staff, stakeholders, and creative community come on-board each year to make every show a great show, as do the residents, and the 'GTM Famooly' are always very grateful for the local support.

The Team – as a National Production Manager I get to build my own Production A-team on all legs and I love my Local and National Production Crew as well as suppliers to bits (there's 70 crew on the road between West and East Coast and another 40 or so local production that come on-board in each city).

I get to work with the best Event and Site crew in the country and also a great program of Australian and International artists, so to find the time for after work beers with any of the crew along the way is the icing on the cake.

Logistics – the more complicated the better. We had an extra airfreight leg this year, so along with the production and event freight, and the new sixth show in Oakbank, SA this year, the regional tour itinerary is sure to prove challenging from year to year.

**2. And the three worst things?**

The Travel Time – it always takes that little bit longer than expected to get to any GTM city. We err on the side of caution in pre-planning for travel and freight and advise anyone else on the tour to do the same but there's always going to be on the day variables that you can't plan for – there are some things money can't buy, travel time is one of them!

The Stress – I'm getting better at it, but I still succumb to pre-onsite jitter from time to time (see above Travel Time). I think I always will.

Finding Time To Do Your Hair On The Road – these simple 20 minutes





each morning are low priority and ultimately never happen. I tend to rock up at my Sunday shows looking somewhat unkempt and have to wear a hat, even though I feel great inside. See above Best Things.

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

Gig bag – this year's 20" suitcase weighed in at 20.3kg on the first weekend (always the heaviest) and includes – hi-vis, rain coat, hoodie, gumboots, second pair of waterproof shoes, spare pairs of socks (one woollen, one welly), toothbrush/ toothpaste, a couple of ratchet straps, some gaff and PVC tape, cable ties, USB sticks and PM5D card reader, Notebook, Pens & Sharpies, basic medical supplies including Hydralyte, a few garbage bags, Gerber multi-tool, 8m measuring tape, torch, spare iPhone, back up hard drive... and a handheld wind meter.

**4. What do you do when not working on Groovin' The Moo?**

For the last few years I've also been working as Production Manager for Fuzzy Events.

Fuzzy promotes a number of touring festivals such as Listen Out and Parklife, and local festivals such as Field Day, Shore Thing and Beachlife, all of which have kept me pretty busy outside of GTM since 2007.

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I've also been known to take the occasional admin role onsite for other events, Event Office Admin at Splendour being one of my favourites, and I'm enjoying picking up some CAD work, because I love learning how to draw things in Vectorworks.

**What was the worst nightmare you encountered with Groovin' The Moo?**

Last year, at 4am in the morning, our bus broke down on the Calder Freeway 7kms North of Melbourne Airport. We were heading from Bendigo Show to the airport for a 7am flight to Townsville Show Day. The cab companies weren't picking up our calls, our hotel couldn't send a driver, nor was there any suitable traffic on the freeway for which to hitch a ride. After 20 quiet minutes it dawned on me that we might all be walking with our luggage to Tullamarine, fortunately not long afterwards we were able to hail down a cab.

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

The Artist Liaison team will have a much stranger and more exciting story than me! It doesn't really get that strange in production, at least not during working hours.

**7. Who was hell to work with (probably best not to actually mention name but elude to it)?**

The GTM program doesn't lend itself to any hellish headliners and as Production Manager I'm pretty well looked after in that respect.

Occasionally we'll have an artist that might miss the GTM Famooly vibe in pre-pro, for whatever reason, but it only takes the first weekend of playing to a really awesome GTM crowd for them to work out that we're all here together having fun.

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

The stupidest request is always "Can I come backstage to meet my friend".

The answer is: Yes, of course, but only if you are wearing the right accreditation.

**9. In your opinion, who performed the best set ever at Groovin' The Moo and why?**

I get to see more of the bands on the third weekend, in Bunbury. I'm very excited to see Karnivoool and The Presets this year. In past years I've loved the Hilltop Hoods and Flume but also enjoyed many more.

**10. What is the most bizarre sight you have ever seen at Groovin' The Moo?**

Classified.

**11. Who has delivered the best audio mix at Groovin' The Moo?**

Craig Gordon has mixed a couple of headliners over the past years, both on the outdoor stage and inside the tent. Dizzee Rascal sounded really good this year.

**12. Who has delivered the best lighting at Groovin' The Moo?**

The Moolin Rouge is where it's at for GTM production. I have the luxury of touring our designers Anthony Lee (LX) and Ken Weston (Visual) as festival ops, with Rachael Johnston on GTM content development in pre-pro, the Moolin Rouge is always spectacular.

**13. Which Groovin' The Moo venue is your favourite and why?**

Oakbank this year, because it's our new one and it's an overwhelmingly beautiful site and neighbourhood.

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

The LED lights have made everything easier – from power requirements, rigging weights, truck space and installation labour, the LED fixture makes the rig affordable and tour efficient.

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

Cried. Once or twice. In private (or at least, with a very good friend).

**16. What was the worst weather event at Groovin' The Moo?**

To date I have not experienced show-stopping or impenetrable weather on GTM. May is a pretty stable weather pattern across the states and has always been ok. Needless to say, the ground crew work bloody hard when it rains and gets muddy, but they always get the show up on time and the punters always make the best of it.

**17. What invention would make your job easier?**

Time travel or direct Brain-to-Dropbox file transfer.

**18. Who would play on your ideal Groovin' The Moo set list?**

I would love to see Sebadoh and QOTSA come over for a tour of regional Australia with us.

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

Nothing's a problem. Our General Manager passed that one on when I started this job.

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

An airline mechanic.



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# BLISS N ESQ

JUST AS THE WEATHER TURNED CHILLY, AUSSIE HIP HOP TRIO BLISS N ESQ EMBARKED ON A 15-DATE OUTDOOR TOUR IN SUPPORT OF THEIR #1 ARIA ALBUM 'CIRCUS IN THE SKY'.



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Greg Butt, managing director of GRB, has had a close working relationship with the band since their early days, and who have remained loyal to him on this tour. Band manager, Adam Jankie, contracted Colourblind Production Lighting for the design, Lynden Gare, and programming, Nick Beachen, with Nick on the road operating each show. Bliss n Eso have always emphasised lighting as an integral component of their shows, with this tour as no exception.

The show was pre-programmed to SMPTE timecode at Colourblind's office in Melbourne using VectorWorks 2014 for CAD and ESP Vision to visualise. Lynden says 'the frequency and repetition of very specific blinder

and atomic hits in Bliss n Eso's show meant SMPTE was the only obvious choice.

The start of the live show sees the band drive a heavily pimped out VW Kombi straight onto stage. The roof opens hydraulically and emerging from inside the van, DJ IZM starts the show, which becomes the DJ booth. All backing tracks and samples, including the SMPTE timecode originate from DJ IZM's custom built Kombi van which doubles as DJ booth and is triggered from within Scratch Live.

The lighting design deploys minimal use of floor fixtures (twelve Martin MAC101, Duets and 2K Fresnel) as the Kombi drive on intro to the show kills a good proportion of the stage between the mid and back truss.

Screens are hung as two squares on a far upstage truss to allow for the Kombi Roof which stands up straight behind DJ IZM. Mounted in the roof is an RGBW LED fixture in the shape of BNE's logo which proves to be a very effective unit. There is DMX into the patch panel of the Kombi for control.





NICHOLAS BEACHEN -  
LIGHTING DIRECTOR



BNE TOURING CREW  
 ADAM JANKIE -  
 MANAGER / PROMOTER  
 NICK PALIN - VJ  
 ALLAN HARDY -  
 CREATIVE DIRECTOR  
 DENNIS VOLLMER -  
 CAMERA OPERATOR  
 NICHOLAS BRUNNEY -  
 PM / AUDIO MONITORS  
 TIM MILLIKAN - FOH  
 NICHOLAS BEACHEN -  
 LIGHTING DIRECTOR  
 CAM BATTEN -  
 STAGE MANAGER  
 CHRIS LEARY -  
 STAGE MANAGER

Up in the air there are more MAC101's plus MAC Vipers, MAC Auras, and MAC700 profiles for band specials along with Atomic strobes, Duets and Sunstrips.

For control Nick uses a Road Hog Full Boar3 w/Full Boar Wing along with two Rosendahl Mif 4 Timecode Interfaces, one FOH and one at stage right dimmers. The PA is a d&b audiotechnik V-Series; a combination of V8 and V12's, ten per side, with sixteen V-sub and four J-Infras.

"The V-Series is such an amazing sounding system and yet is so compact," commented Greg. "As it is a long tour with a lot of kilometres to cover, the production had to totally fit in a single 48ft pan. We managed to put into that pan truss, motors, risers, barrier, the PA, vision panels and the lighting. With the V-Series being so compact we actually have some room to spare!"

Front of house engineer Tim Millikan used an Avid Profile console and for the first time, the d&b V-Series.

"I've mixed a lot of artists using d&b J-Series and Q-Series PA's over the years, but I'd never even seen the d&b V-Series System before this Bliss n Eso tour started," remarked Tim. "Apart from the obvious hesitations about touring with a system I'd never heard before, I was concerned that the V-Series cabinets wouldn't throw far enough or give the coverage required in an outdoor situation without adequate delay towers etc."

"I have to say, the V series has done everything I have asked of it and more, it has plenty of power and throws way beyond what I would have expected from a system of this size. So much so, that I haven't needed delays at all this tour."

"Overall, I'm extremely happy with the result, even though this is the mid-sized system on offer from d&b, it's voiced the same as its big brother and delivers more than enough output".

**grb**  
STAGE LIGHTING

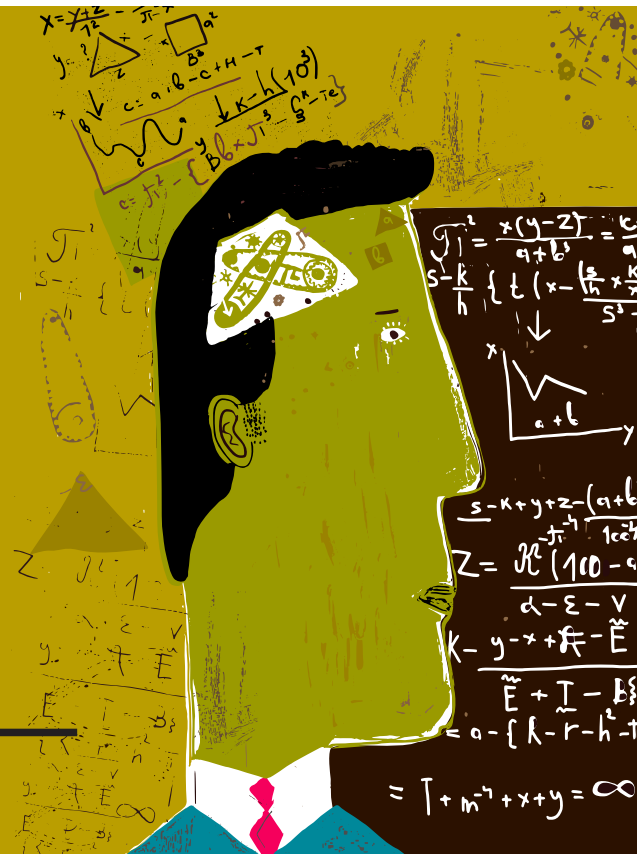
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STUFF FOR THE BRAINY TYPES

WORD-UP ON WORD CLOCK

BY JIMMY DEN-ouden



IF YOU ONLY EVER DEAL WITH ANALOGUE AUDIO THEN WORD CLOCK ISN'T OF MUCH CONSEQUENCE TO YOU. DIGITAL AUDIO AFTER ALL IS NOT REALLY AUDIO. IT'S A SET OF INSTRUCTIONS ON HOW TO ASSEMBLE AN AUDIO SIGNAL. CONVERTING ANALOGUE AUDIO TO DIGITAL IS DONE BY AN AD CONVERTER, AND HOW GOOD THE CONVERSION IS DEPENDS ON A NUMBER OF DIFFERENT FACTORS.

When a signal is converted to digital, the AD essentially takes a picture of the audio signal known as a sample. The process then repeats. It's kind of like taking many still images to make a video. How often we sample the signal is controlled by the sample rate. Common sample rates include 44.1kHz (CD audio), 48kHz, 96kHz, and even 192kHz. The level of detail in each sample is defined by bit depth, which also effects noise floor. A 192kHz 24 bit conversion will yield a more detailed representation of a signal than an 8kHz 16 bit conversion. The thing that controls when a device takes its samples is its clock.

On many devices, clocking is an internal function and you don't even see it happening. Changing the sample rate on a device changes what the clock is

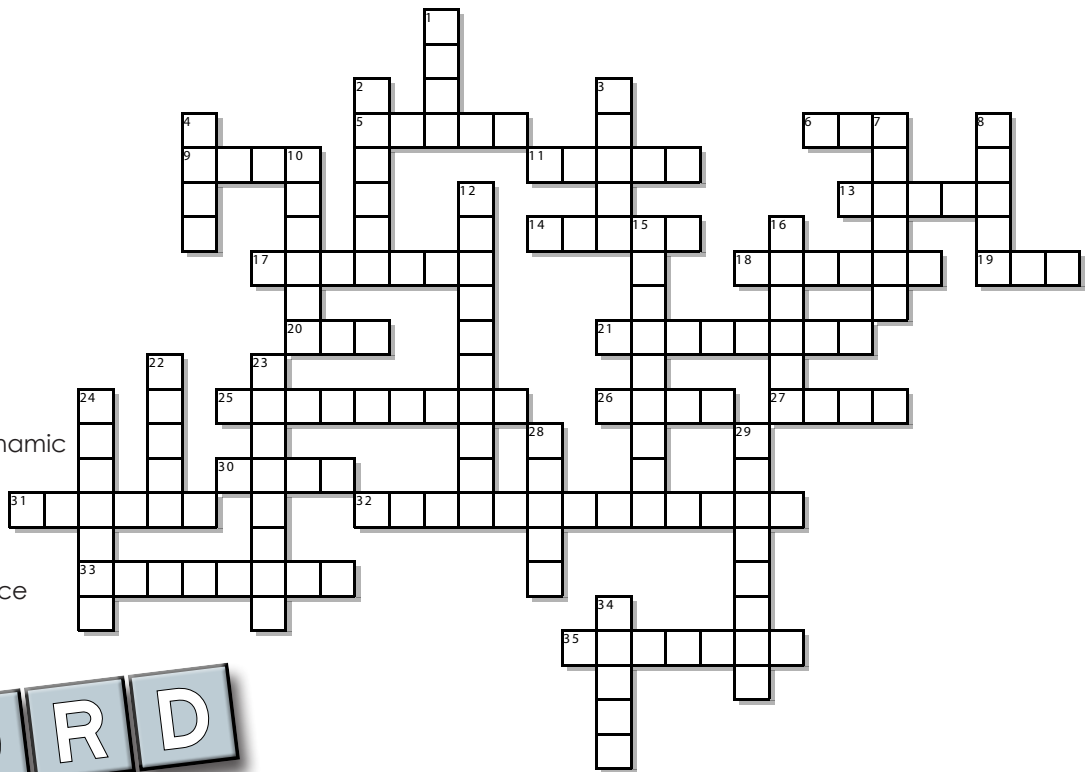
doing. When digital devices are interfaced with each other, they need a common clock. Without a common clock you'll have problems. Popping, blipping, clicking noises will happen as the samples occasionally line up with each other and the devices try to make sense of the garbled information. Kind of the audio equivalent of a military operation where the operatives skipped the "synchronise watches" bit. Digital audio transport formats like AES/EBU and ADAT Lightpipe all carry clocking info, so it's possible to tell a device to clock to its input source.

If you have a lot of devices to interface with each other, sometimes clocking to input sources is impractical. In these (and some other) situations it's preferable to have an external master clock source. In digital audio we use a word clock – a device whose sole purpose in life is to tick over at regular intervals and generate a corresponding pulsed output to which all your digital gear can be synchronised. Typically just plugging the word clock in isn't enough – you'll need to go into the device setup and tell it to clock to its word clock input. Note the term regular intervals – this is important. If your clock source drifts then so do the intervals at which samples are taken in or spat back out of the system. Unless you can exactly replicate this drift, the resultant reproduction will contain inaccuracies. This drift is referred to as Jitter and it's bad.

The bottom line is this: a digital audio device is only as stable as its clock source. If you have a device with a jittery internal clock, using an external word clock can be a good way to achieve better performance from it. If on the other hand the internal clock is good, then relying on an external word clock is really just building another point of failure (and a potentially catastrophic one at that) into your system.

**ACROSS**

- 5 From the ACT
- 6 Lee 106
- 9 A law
- 11 Vibrations
- 13 Visible
- 14 Microphone brothers
- 17 70's guitar amps
- 18 Backbone of showbiz
- 19 Woofer
- 20 512
- 21 Not negative
- 25 Was a synth
- 26 Clay but not of earth
- 27 Classic handheld dynamic
- 30 10kHz is what?
- 31 Hendrix fav
- 32 Walk on part
- 33 Before DAW
- 35 Legendary Aussie Bruce



**C  
X-W O R D**

**DOWN**

Send feedback & input to [julius@juliusmedia.com](mailto:julius@juliusmedia.com)

Answers - page 72

- 1 Present but in a mic
- 2 Not a chipmonk
- 3 Diesel truck
- 4 Sydney audio firm
- 7 Not in charge of a vehicle
- 8 Elementary my dear...
- 10 Braid
- 12 Person enthusiastic about high-fi sound
- 15 Oscillate
- 16 First audio magazine
- 22 Opposites
- 23 Texan mover
- 24 Not nanna but LX
- 28 Come said the boy
- 29 A form of Diety
- 34 Small signal lamp



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# BIZ TALK

## HOW MARKET POWER IS ABUSED

### COLES FACE FINES OF \$200 MILLION



with Julius Grafton

IN 2011 COLES SUPERMARKET CHAIN MERCHANDISE DIRECTOR JOHN DURKAN HAD A BRILLIANT IDEA. HE APPROVED A PLAN TO HIT ON 200 SUPPLIERS AND DEMAND MONEY.

The way retail has worked for the past thousand years or so is that suppliers sell goods to retailers, who then mark up and sell to the public. Coles decided they wanted some action from the other direction, to boost profits.

The massive Perth based conglomerate hired guys like Durkan, who is so revered he is now the incoming boss of the supermarket chain – clearly in part because of his brilliance in standing over the suppliers.

Here's how it happened: Durkan hired Boston Consulting Group, the global business consultants who know how to force-fit analysis and who typically study enterprise with only one objective: to lift profits as soon as possible. Any MBA student will become very familiar with the BCG model.

The recommendation (according to reports of the legal action taken by the Australian Competition and Consumer Commission) was to ask 200 'tier-3' suppliers for money, in exchange for Coles continuing to stock their brands. One such demand was placed on Rosella Foods, which subsequently went broke.

An example was detailed in court documents. Red Bull drink firm were told that Coles valued improvements it had made to their supply chain at \$400,000 so Red Bull were required to pay \$200,000. The assertion was Red Bull were ahead because of something Coles did, so Coles wanted half the dosh.

But the ACCC claims Durkin had no reasonable basis for the claim, and didn't supply the drink company with evidence to back up his demand. Suppliers that resisted the demands were placed on an 'escalation' list and some claim they were then told Coles would delay discussions on new products, or would not promote products. This was apparently part of the BCG master strategy.

The BCG plan aimed at boosting profits by \$30 million. The ACCC can ask for fines of up to \$200 million. Whether BCG will in turn face a damages claim from Coles remains to be seen, but one would imagine when they gave their 'advice' they had a rock solid indemnity agreement in place.

For its part Coles owner Wesfarmers said they fully support their guy, but if they get slugged part of a \$200 million fine that will change overnight.

What's the lesson for us in the backwaters of showbiz? Don't abuse market power.

Imagine if one of the audio or lighting distributors wrote to retailers demanding money in exchange for access to its goods. Or imagine if a concert promoter / theatre producer demanded rebates AFTER work was done, on the basis they calculated that you made xx profit and so by now 'knowing' this (after the work was done) they require you give some of it back?

*By the way, ACCC haven't taken legal action against the other huge supermarket chain Woolworths. But there are signs there may be trouble brewing there as well.*

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# aceta

Australian Commercial & Entertainment  
Technologies Association

**Very early in life I determined there were usually two opposing options to consider in addressing the challenges confronted on the journey through life, and by established societal measurement, one positive the other negative. In terms of ethical behaviour, attitude and well-being, this has been my guiding barometer.**

Do you wake up in the morning and curse the miserable weather winter has delivered or do you wake up in the morning and give thanks you are alive and well. Do you view the glass half full or half empty? It's easy to do nothing, hard to do something but we all know what facilitates reward. Are you generous or mean, optimistic or pessimistic, you get the drift, some are not in complete control of their disposition but most of us are. Quite often life's challenges don't accord us the opportunity to reflect, analyse and take into account the outcome of our actions; however we are judged by our legacy.

Associate is an extremely positive word; it implies belonging, relating, unity, connection and common purpose. To associate is clearly a positive position; it empowers and provides a resource that enhances the potential of both individuals and organisations. To disassociate infers the opposite and indicates isolation.

When individual artisan and craft people unify, they join guilds and societies to fortify their well-being. When industry and the professions unify they join associations, and in many instances it is the enabler and the bedrock of their industry. Where would the medical profession be without the Australian Medical Association (AMA), look at the importance many retailers place on the Retail Traders Association (RTA) and the security of accreditation offered by the Master Builders Association (MBA)? There are hundreds, probably thousands of industry associations in Australia and those that are active and well managed offer practitioners and their customers a value that cannot be quantified. In fact it is reasonable to suggest, some industries and professions could not function without their association, and the rest would be the poorer without them.

Your peak body the Australian Commercial Entertainment Technology Association (ACETA) enters its 4th year of operation better equipped, armed with an impressive array of intellectual property and with numerous programs in progress or due activation. By necessity and considered management, our first three years have been formative. They have been spent understanding industry sentiment and the challenges

## To Associate or Disassociate

it confronts, then prioritising and developing initiatives that will fortify our industry and provide the platform of well-being for our members. The next three years will be dedicated to action and there is a lot for members to be excited about.

So, what can you expect moving forward?

### A NEW CONSTITUTION - ASSOCIATE MEMBERSHIP AND INDUSTRY GUIDELINES

At the recent ACETA Annual General Meeting, members approved a new constitution that we are now governed by. The new constitution facilitates Associate Membership of ACETA, enabling inclusion of all relevant entertainment technology industry participants on an appropriate cost benefit ratio.

The other addition to the new constitution is the all important institution of 'Industry Guidelines' and this initiative will form the basis and enable an accreditation process, but first, an explanation. During the formative years we gained considerable insight into the magnitude of questionable activity in our industry, the degree of which would surprise, even alarm, the most seasoned industry participants. This questionable activity includes knock-off product, the theft and misuse of intellectual property, non-compliant and unsafe product and non-compliant and unsafe work practises. All of these activities compromise and undermine our industry, its participants, clients, and in some instances the population at large.

### ACCREDITATION

Many industry stakeholders insist the time is right to address accreditation as a means of combating questionable activity and the most effective means is through the industry peak body. Membership and Associate Membership of ACETA will now require adherence to the Industry Guidelines, facilitating the opportunity for an accreditation process, which the board of management will now consider. It is proposed that if you are an ACETA Member or Associate Member you agree to comply with the Industry Guidelines therefore committing to ethical and lawful practises. This will send a clear message to acquirers of products and services on matters of probity and will also assist those seeking desirable commercial partners.

### TRADE EVENT SCHEDULE

Industry sentiment concerning the current trade event schedule is well known. ACETA will continue to seek a sustainable and relevant outcome. No doubt the debate will be challenging but necessary.

### INDUSTRY STATISTICS

For the first time in the history of our industry we are about to launch a statistics program that will be available on subscription to the broad industry but with subsidised cost to ACETA members. This extremely important and much requested initiative will provide subscribers with statistical data, that will assist in identifying trends and enable better informed commercial decision making.

BY FRANK HINTON

## THE AUSTRALIAN MANUFACTURERS MANIFESTO

The Australian Manufacturers Manifesto has been authored and recently commenced circulation. No relevant party who has offered comment denies its potential to unify members of the manufacturing sector, a platform to increase export activity and employment. The next step will see ACETA convene meetings in Melbourne, Sydney and Brisbane for the sector to gather, discuss the document and progress a unified action plan. Informal discussions with technology universities have begun with the potential for the development of supportive industry relationships in many streams including research assistance. The Manufacturers Manifesto accords the industry the basis to engage with government, in particular the ministry of trade and small business providing we can exhibit substantial and unified membership.

## THE INDUSTRY SKILLS SHORTAGE

The industry skills shortage is being addressed in two streams, careers and education. ACETA is in dialogue with public and private sector educators and in the coming year, relationships and programs shall be formalised. ACETA will continue to develop careers guide initiatives.

## ACETA AND THE DIGITAL DIVIDEND

ACETA continues to represent the industry through the AWAG sub committee and robustly tenders the sectors needs and suggestions to the federal government and the regulator. The outcome is clearly in the

hands of the politicians and public servants; however we will maintain our lobby right up to the passage of legislation and beyond. Regardless of outcomes the AWAG team supported by ACETA, have served the industry remarkably well throughout the challenging process.

## ASSOCIATE: THE BEDROCK OF PROSPERITY

The benefits of joining ACETA and associating with your peers, does deliver financial savings and other measurable advantages. However the most compelling and valuable just can't be quantified. What value do you place on industry acceptance, endorsement and accreditation? What price do you place on personal and corporate development opportunity? How can you measure new networking potential? What is it worth to actually have a voice in the governance of your industry? Many see their peak body as an insurance policy against any action, from any quarter that may compromise or even undermine its well-being. On a more altruistic note, and call me Pollyanna; I believe it is reasonable to expect all able participants to assist in protecting the industry that sustains them, leaving it in a better place for future generations to experience the rewards we have enjoyed in a unique industry.

To the industry we invite your response, if you could contact [ian.harvey@aceta.org.au](mailto:ian.harvey@aceta.org.au) with your comment.



Frank Hinton  
President ACETA

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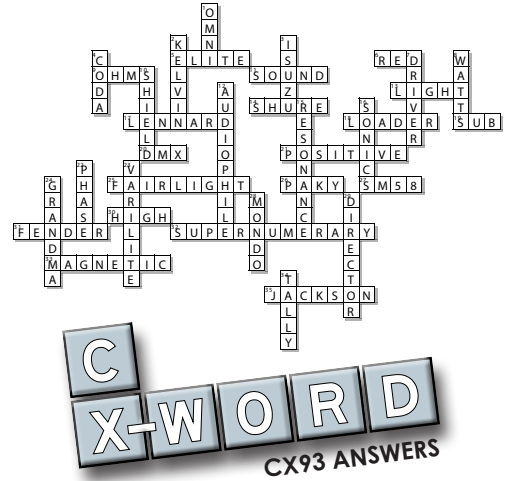
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**CX ADVERTISER INDEX ISSUE 93 JUNE 2014**

- Advitech..... 49
- Amber Technology..... 4,5
- BS Sound..... 72
- Chameleon Touring Systems..... 31
- Clay Paky Australia..... 19
- Concert Lighting Systems Australia. 15
- CX Newsstand..... 47
- CX-TV..... 72
- Entech Connect..... 39
- Entertainment Assist..... 72
- ETA..... 41
- FEG Entertainment..... 49
- Framelock Structures..... 55
- GRB Stage Lighting..... 65
- Jands..... IFC,3,67,71
- Juliusmedia Classifieds..... 12
- Lightware..... 33

- Meyer Sound Australia..... 7
- NAS..... FC,53
- Nightlife Music..... IBC
- Optus..... 59
- PAVT..... 17
- Penn Elcom..... 37
- Philips Entertainment..... 51
- Rentalpoint..... 72
- Riedel..... 29
- Rosco..... 59
- Sennheiser Australia..... 9,27
- Subscriptions..... 69
- Technical Audio Group..... 25,63
- The Look..... 43
- The P.A. People..... 35
- ULA..... BC,23,45,61

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## The Rolex Bandit Revisited

BACK IN 1992 I WROTE A SHORT LITTLE PIECE ABOUT ROLEX WATCHES AND A CHARACTER DUBBED "THE ROLEX BANDIT", A STREET ROBBER WHO SPECIALISED IN STEALING ROLEX WRISTWATCHES FROM THE RICH AND FATUOUS OF BEVERLY HILLS.

AFTER ONE OF THE NMM SHOWS IN ANAHEIM I HAD BEEN IDLING AWAY THE TIME READING A NEWSPAPER WHILE WAITING FOR THE AIRPORT SHUTTLE, AND THE STORY HAD CAUGHT MY EYE.

WHEN I RETURNED TO AUSTRALIA I THOUGHT I WOULD TRY TO FIND OUT MORE.

AT THAT TIME THE INTERNET WAS IN ITS INFANCY, AND THE ONLY WAY OF GETTING MORE INFORMATION WAS BY LOGGING INTO THE VERY BASIC LA TIMES WEBSITE, ORGANISING AN ACCOUNT, AND PAYING IN US DOLLARS (NO PAYPAL!) FOR ANY FOLLOW-UP STORIES. ALL OF WHICH PROVED TO BE IMPOSSIBLE ON A DIAL-UP MODEM FROM AUSTRALIA!

NOW, 22 YEARS LATER, WE HAVE THE GOOGLEVERSE AT OUR MOUSETIPS, SO I THOUGHT I MIGHT REVISIT THE STORY AND SEE IF HE WAS EVER CAUGHT.

HERE'S THE ORIGINAL STORY, FOLLOWED BY A CATCH-UP USING TODAY'S SEARCH ENGINE CAPABILITIES.



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**"The Rolex Bandit - Buddy Can You Spare The Time?"**

DESPITE THE EFFORTS OF OTHER WATCH MANUFACTURERS, NOTHING COMES CLOSE TO ROLEX IN TERMS OF PRESTIGE. OF COURSE, HAVING NEVER BEEN WEALTHY ENOUGH TO OWN ONE I CAN'T SAY WHETHER THIS PRESTIGE IS JUSTIFIED BY THEIR QUALITY, BUT I GUESS IF THEY WEREN'T ANY GOOD THEN EVEN THE RICH WOULD STOP BUYING THEM SOONER OR LATER.

However, I have owned a couple of fakes. At one stage the discerning traveller could pick them up on every street stall in every market throughout South East Asia, but a crackdown by police and international trademark lawyers resulted in them being available 'by appointment only!' The Singapore and Hong Kong newspapers were full of pictures of fake Rolex's being run over by policemen driving McDonald road rollers.

This belated action only served to make them more popular and gave the sellers an opportunity to jack the prices up!

Like most tourists in Hong Kong I was approached by a furtive chap who offered to sell me a genuine Rolex copy at an unbeatable price.

He took us into his seedy upstairs office where a staggering amount of stuff was on display, counterfeits of all shapes and sizes. Not just Rolex but Patek Phillippe, Piaget, Tag Heuer and any other brand you could think of. Plus a shipload of Louis Vuitton, of varying levels of quality.

So, I bought a fake Rolex, a copy of a watch worn by all good submarine captains in WW II, and guaranteed waterproof to 200 fathoms. And, yes, you've guessed it - as soon as I got it wet in the shower it stopped, never to go again!

Of course, as soon as I became aware of the counterfeit culture, I began to see them everywhere. On the streets of New York people with suitcases on street corners would offer you 'Rolet' watches from their huge amount on display. If you asked nicely, they would also offer you ones with a Rolex brand for a few dollars more.

In Tijuana, they even had different grades of counterfeit watches on display. \$25 would buy you a Taiwanese Rolex fake, but \$50 would buy you a genuine

## α DUNCAN FRY... CONTINUED

Hong Kong fake! These had 'Made in Switzerland' on the front, and a 'Made in Hong Kong' sticker on the back!

But not everyone buys fakes. A lot of people buy the real thing, and they are frequently encrusted with diamonds or in a solid 24 carat gold or platinum case.

Amongst the beautiful people in Beverly Hills a Rolex was a sign that you had truly arrived. Suntanned people with the best bodies that money and surgery could buy always had a Rolex nestling in there amongst all the gold bracelets.

So it really came as no surprise to me when I was sitting reading the Los Angeles Times while waiting for the airport shuttle that there was a thief the media had dubbed 'the Rolex Bandit' who had been terrorizing Rodeo Drive and stealing Rolex's all over town.

His method of operation was stunning in its simplicity. He would just walk up to people in the street and ask them the time. If they were wearing a Rolex when they lifted their arm up to have a look, then he would pull out a gun, hold it to their head, steal the watch and then run off!

Ten out of ten for simplicity and originality!

The Los Angeles and Beverly Hills Police departments (without the help of Axel Foley this time!) had launched a massive manhunt for this guy, but couldn't seem to catch him.

Still, he wasn't stupid. He could sense that the net was closing in gradually, and it was only a matter of time before he would be nabbed in some type of sting operation.

So he apparently rang up a couple of high powered lawyers to arrange a meeting with them to discuss the most advantageous way to turn himself in, and probably organise a book deal on the side.

Since he had become quite famous as the Rolex bandit, the lawyers were falling over themselves to get the publicity of defending him.

However, when the two of them turned up for the meeting, he calmly pulled out his gun, stole their Rolex's, locked them in a room and disappeared!

To the best of my knowledge, he's still out there! End of original story.

Well, that's as far as I got back in 1992, and it turns out that not only is he still out there, to quote The Life of Brian's mum, "He's been a very naughty boy!"

In 2002 the Orlando Sun Sentinel newspaper in Florida reported that an unnamed 32 year-old prisoner had confessed to being the Rolex Bandit. He was already

in jail, after having been arrested in 2000 (and jailed in 2001) for robbing a Brinks armoured truck in 1995; perhaps he thought that also confessing to robbing watches and jewellery from dozens of women in Palm Beach from 1998 to 2000 would somehow help to lessen his sentence! Interestingly, he had also lived in Hollywood earlier before moving to South Florida.

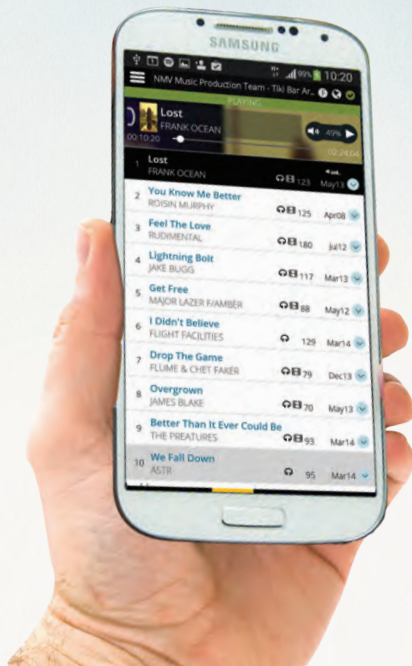
The Florida Rolex Bandit robberies had suddenly ended in 2000, which, as luck would have it, neatly coincided with the man's arrest and subsequent jailing for 11 years. The story said that he was expected to be released in 2013, but could very likely be tried for the Rolex robberies before this sentence was completed. Since there is no information on his release at that time, and it's 2014 now, we can only assume that he's still being detained at the governor's pleasure.

This looks like being the Rolex Bandit that I originally read about, as the dates match up pretty well. But he's either been extremely busy on a worldwide basis, or the same modus operandi has been used by robbers all over the world, some quite violently. Copycat robbers have been active in the USA, UK, South America and more.

From being unable to find any link to them back in 1992, the internet in 2014 is simply awash with reports on them – even a novel on Amazon, presumably based on fact, about a team of female bandits, who pick up lonely guys at airports and rob them of anything valuable. Type in The Rolex Bandit into Google, or any search engine for that matter, and the list of links to stories is massive – 358,000 when I looked.

***Looks like the original bandit is still getting good media value from his 15 minutes of fame back in the late 80's!***





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