



MONTHLY TECH NEWS

CX132 DECEMBER 2017
\$7.50 AU

▶ **Live Audio Revolution:**
Spatial Audio Mixing:
3 systems reviewed -
How 3D live sound will
change EVERYTHING!

▶ **Brisbane's**
Aisle6 Productions

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- Safety Guide goes live
- Western Sydney Performing Arts Centre
- QSC for Jands
- Malcolm Young
- ENTECH shapes up

ROADSKILLS:

- Drake
- RNB Fridays Live
- Stevie Nicks

REGULARS:

- New Gear
- Listen Here
- Biz Talk
- History
- Tech Tools
- Duncan Fry

GEARBOX:

- Acme 400Z IP
- PreSonus StudioLive 3
- HK Audio Linear 3
- Luminex Gigacore 26i



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**REGISTRATION
OPENS
DEC 1**

ENTECH AUSTRALIA

Touring February - March 2018

FREE TRADESHOW,
OPEN AT 11AM

BIG PA DEMO!
1PM AND 3PM

BRIGHT LIGHTING DEMO!
12PM AND 2PM

PRIZE DRAWS HOURLY
FROM 1.50PM

CHAMELEON HAPPY HOUR!
4.30PM UNTIL 6PM

RESCHEDULED

RESCHEDULED

BRISBANE
TUESDAY 20 FEBRUARY
ROYAL INTERNATIONAL
CONVENTION CENTRE

MELBOURNE
THURSDAY 22 FEBRUARY
NEW VENUE: CROWN
CONFERENCE CENTRE

SYDNEY
TUESDAY 27 FEBRUARY
ROYAL RANDWICK
GRANDSTAND

ADELAIDE
THURSDAY 1 MARCH
ADELAIDE CONVENTION
CENTRE

PERTH
WEDNESDAY 7 MARCH
NEW VENUE: PERTH
CONVENTION CENTRE

EXHIBITORS



ENTECH ON TOUR

EXHIBITION SPACE FULLY ALLOCATED!

WWW.CXEVENTS.COM.AU

\$93,240 WORTH OF PRIZES TO WIN AT ENTECH!*

You have TWO CHANCES to win if you register to attend BEFORE the end of January! Entry to ENTECH is free, subject to terms and conditions.

Register at www.cxevents.com.au

BRISBANE
TUESDAY 20 FEBRUARY
ROYAL INTERNATIONAL
CONVENTION CENTRE

MELBOURNE
THURSDAY 22 FEBRUARY
NEW VENUE: CROWN
CONFERENCE CENTRE

SYDNEY
TUESDAY 27 FEBRUARY
ROYAL RANDWICK
GRANDSTAND

ADELAIDE
THURSDAY 1 MARCH
ADELAIDE CONVENTION
CENTRE

PERTH
WEDNESDAY 7 MAR
NEW VENUE: PERTH
CONVENTION CENTRE

EXHIBITORS

ENTECH
ON TOUR



* CONDITIONS 1. \$18,648 prize pool at each city 2. 10 prizes to be won in each city 3. Maximum value prize is \$2,750 4. If your name is called during a prize draw you have 90 seconds to claim a prize. 5. You can choose from any prize not yet claimed on the day. 6. You must remove your prize by 6pm on show day or it will be forfeited. 7. There is no cash equivalent. 8. We cannot ship or store prize. 9. If you register before January 31, 2018 your name will be entered twice. 10. If entered twice, you can potentially win twice if name drawn a second time. 011. Prize draw times are: 1.50PM, 2.50PM, 3.50PM, 4.50PM, 5.50PM.

YOUR CHANCE TO
WIN!!!



AUDIO BRANDS AUSTRALIA

The Earthworks M30 is a precision engineered 30kHz omnidirectional measurement microphone ideally suited for acoustical measurements including sound system setup and analysis. The M30's audio performance is unparalleled. It has a flat frequency response that extends from 5Hz to 30kHz, an exceptionally consistent omnidirectional polar response, 138dB SPL rating without distortion and no handling noise. With temperature compensated electronics, the M30 was built to deliver repeatable results no matter what the environment. 15 year warranty.

RRP: \$1149.00 inc GST



AUDIO LOGISTICS

Audio Logistics has put together the ultimate cable pack for audio engineers. The pack has been put together with the most popular products from the PROCAB Prime Series which have been specifically designed to withstand the harshest use and abuse that any rental or road application can throw at them. All cables are constructed from PROCAB's premium Ultraflex™ and Duraflex™ cable and are fitted with Neutrik connectors and factory-installed shrink sleeves.

RRP: \$1720



LSC

The Mantra is simple – making control of dimmers, LEDs and moving lights quick and intuitive. Designed and manufactured in Melbourne Australia, the Mantra Lite has become the fastest selling console in LSC's history. The latest software update adds great new features including IPCB filtering, Move In Black and a new expanded fixture library. Perfect for schools, churches, town halls and rental departments. LSC: Australian Innovation | Global Audience
RRP: \$2,750.00 ex GST



NAS

12-Input Digital Mixer for iPad/Android Tablets with 4 MIDAS PRO Preamps, 8 Line Inputs, Integrated Wifi Module and USB Stereo Recorder. The Midas M32 completely redefined what is possible from a digital mixer – and thousands of users are enjoying the results. Now that technology has been incorporated into the small but powerful MR12 rack-mountable mixer, which will forever change the way you record and the way you play live music.

RRP: \$749.00



EPSON

Epson's powerful new EB-990U projector offers high quality images with a low cost of ownership. Enjoy clear and sharp image quality of full high definition contents without any distortion with WUXGA (1920 x 1200) resolution, which is suitable for presentations, videos and more. With a high brightness of 3,800 lumens and superior 15,000:1 contrast ratio, the EB-990U is the ideal choice for use in a wide variety of Corporate and Education environments.

RRP: \$1,299



LEXAIR

1) The High End Systems USB DMX Widget provides a single universe of DMX-512 output from any Hog 4 console or Hog 4 PC. Up to eight USB DMX Widgets may be connected at once to provide eight full universes of DMX-512 to the Hog 4, Full Boar 4 and Hog 4 PC. Up to four DMX Widgets can be connected to the Road Hog 4 or Hedgehog 4.

2) The world's first video converters truly designed for the road. They are often the weakest link in the signal chain. Theatrixx wanted to change that, so they designed the xVision Video Converters with integrated power supply with locking PowerCON True 1, plug-n-play operation, locking HDMI port and relocked and amplified SDI loop thru.

RRP: \$2625 inc GST



BOSCH

EVOLVE50 delivers an uncompromising combination of light weight, low-profile looks, and superior Electro-Voice audio quality, setting a new performance standard for powered column systems. The perfect choice for DJs, mobile entertainers, bands, singer/songwriters, corporate functions and any venue where high-output portable sound is needed, EVOLVE50 features:

- Lightweight column speaker array with 2-click cable-free connection between sub and column
- Real PA performance via eight 3.5-inch full-range drivers, a 12-inch wood subwoofer and 1000W Amplifier delivering 127 dB peak SPL
- Custom waveguides for ultra-wide 120° horizontal coverage and array-formed 40° asymmetrical vertical pattern control
- High-quality Bluetooth audio streaming.
- Wireless control and monitoring via QuickSmart Mobile app to configure and monitor up to six EVOLVE50 systems simultaneously
- QuickSmart DSP provides best-in-class processing via EV's signature single-knob user interface with LCD.

RRP: \$2499 inc GST



EVENTEC

The Eventec Lighting Package contains 2x LM60S, 2x LM7x12W, and 1x Kontrol 192. Offering 1 DMX controller, 2 LM60S moving light spots, and 2 LM7x12W moving washlights, these beauties are not only bright, but they are fast and quiet. The spot has a 60W white LED with the choice of 5 or 15 DMX control Channels. It has a 10 degree beam angle, 5 rotating gobos that are interchangeable, a 3 facet prism and 7 colours to choose from. The wash consists of 7, 12W RGBW LED's, uses 16 DMX Channels and has a zoom of 6 to 40 degrees. Each unit weighs only 4kg, has a 20,000 hour LED lifespan and have DMX mode, Auto Program, Sound activation, and master/slave modes. The wash and spot consume less than 1Kw of power, come with a 1 inch OLED Control Panel, and have a 1-20Hz Strobe. The Kontrol 192 has the ability to control 192 DMX channels and store 240 scenes. It has dedicated faders for fade time and speed and separate fog and strobe control. It also has 6 built in chase programs which can be programmed to step through scenes or operate via sound activation with its inbuilt microphone. This is a fully compact controller.

RRP: \$2,559



TLC GLOBAL

Lite Focus 8 Way DMX Splitter – a 1U 19 Inch Optically Isolated DMX Splitter equipped with 2 x DMX Inputs and 8 x independently configured outputs. The latest splitter features a graphical overview of channel values and refresh rates and can be used as a DMX decelerator, Regenerate/Clean DMX Signals and used to prevent reflection issues also. Lite Focus single compact universe DMX recorder supporting DMX-512 Protocol in a slim ergonomic design. The LITE FOCUS DMX Recorder allows multiple sequences and scheduling that can be stored and transferred via a SD Card.

RRP: \$1,160 inc GST



ULA

The Chamsys MagicQ Mini Wing is an extremely powerful USB control wing for connecting to your PC or Mac to control lighting, video and LED with the MagicQ PC software. The Mini Wing is physically very small and light, making it a very attractive solution for Lighting Designers to take with them when they travel. There is no other product available that gives the power of the MagicQ software combined with real faders and buttons, and a DMX output. MagicQ software runs under Windows, OSX or Linux. MagicQ software is free and uniquely the outputs are fully enabled, allowing you to run shows of up to 64 Universes. The MagicQ Mini Wing is targeted at installations, which are generally programmed only once and changed infrequently. It also provides a cost-effective solution for individuals with small budgets, and as a useful back-up for MagicQ consoles.

RRP: \$1,160 inc GST

GREAT PRIZES!

Safety Guide Goes Live

AESRG brings industry together

The rational world will standardize on entertainment rigging with the release of the International Code of Practice for Entertainment Rigging – ICOPER. Now Australia has a unified guide to Entertainment Safety with the launch of the Australian Entertainment Safety Resource Guide – AESRG.

The Guide is a subscription website containing 21 Chapters at launch, including Rigging, Heights, Risk, Noise, First Aid, Fire, Crowds and much more. Each chapter is loaded with legislation, standards, lists and links.

It is designed to be the 'Go To' place for industry professionals. Each subscriber receives a Certificate of Currency, and all page views are logged in a Reading Log in the Accounts area. This goes towards validating your continual improvement requirements under the legislation.

A growing collection of Articles are online, many outside the subscription paywall. The Guide has been peer reviewed by its supporter group, and is continually updated.

Authored by Roderick van Gelder, a working professional in the entertainment safety field, the AESRG was funded by an impressive group of industry people. Primary funding came from Ian Wood's Design Quintessence,



Roderick van Gelder

Col West's Framelock Barriers and Iain Reed's 32 Hundred Lighting.

Corporate supporters are Technical Direction Company, NW Group, Pollard Productions and Novatech Creative Event Technology.

Corporate contributors are The Australian Shakespeare Company, Crisis Transport and Logistics, and The Look. Contributors were Staging Rentals and Construction, and Madzin Productions. A further 26 individual contributors assisted in funding the AESRG.

CX Network is a Corporate Partner of the AESRG.

"The intention is that the guide attracts feedback and interaction", said Roderick. "With the support of the industry, it will grow with many more chapters and other resources under development. The time is right, the support is there, and I'm delighted to deliver what the industry asks for".

www.aesrg.com.au

ENTERTAINMENT VET TEACHER AWARDED

Suzi Brandstater won a National Achievement Award at the National Training Awards in Canberra during November. She recently retired from Picton High School, where she ran the Entertainment VET course. Over the past fifteen years her graduates form the largest cohort of VET graduates working in the industry. CX suspects she has produced more successful WORKING tech crew than any of the three letter colleges that charge astronomic fees: JMC, SAE and AIM.

But woe betide the audio operator at the Awards. "There would have been 'words' if it had been my kids operating", Suzi said. "He forgot to turn the mic on for the first phrases of the national anthem. Then forgot to turn on the volume for the featured singer's backing track. She made them start again. So many missed cues. Including forgetting to turn the audio up for MY testimonial!"

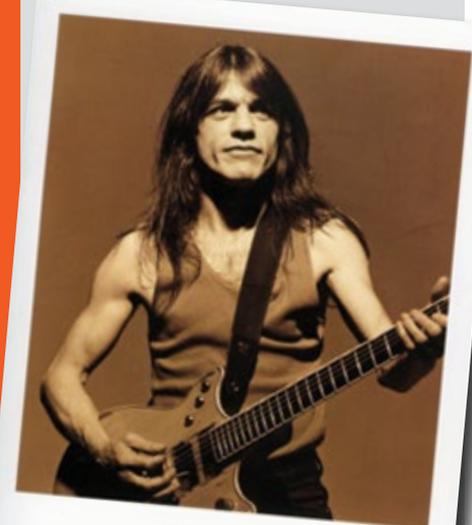
CX declines to name the guy and his company, but requests that they provision competent operators in future. Perhaps they should talk to Suzy about training?





MALCOLM YOUNG. RIP

The Australian music industry had many doors opened by the rampaging hard working Young brothers. After showing that Australia was an incubator for charting music, they just did things their own way. Many tech crew benefitted and the band brought a lot of pleasure to a lot of people. As the most successful Australian's in the rock biz, we wish farewell to Malcolm Young who died too early from the most horrible affliction. (Thanks Bob King for the photo).



In Loving Memory of
Malcolm Mitchell Young
6TH JANUARY 1953 # 18TH NOVEMBER 2017
St Mary's Cathedral, Sydney



Western Sydney Performing Arts Centre Building commences

Out at Rooty Hill – 45 minutes west of the Sydney CBD - the local club (NSW's largest) is remarkably investing 100 million to build the Western Sydney Performing Arts Centre.

With unprecedented scale, design and facilities, in close proximity to Sydney's new airport and positioned along the M7 and M4 corridors, the Performing Arts Centre will become a much-loved domestic and international tourist destination. Set to provide 150 new jobs in the hospitality

and entertainment sectors, the 2,000 seat theatre will have the capacity to host full scale theatre productions, musicals and concerts.

It has zero taxpayer funding which makes it utterly unique in Australia. And they have actually started work, so it isn't a thought bubble.

Hansen Yuncken are the builders, Marshall Day Acoustics and Haron Robson and Associates are the consultants. It is due to be completed in September 2019.

QSC M.I. for Jands Au

Jands (Australia) will distribute QSC M.I., which includes powered and passive loudspeakers, amplifiers and small mixing systems. The QSC Q-Sys platform remains with TAG, who also retain installation lines.

ENTECH Shapes Up

Despite venue double booking

Starting a little later than previously, on Tuesday 20th February at Brisbane, ENTECH then rolls direct to Melbourne. Sydney follows, as the trucks backtrack, no thanks to management at Sydney's Randwick Racecourse who announced the originally booked (and deposited) date was no longer available due to a larger event taking the space.

The Australian Turf Club have apologized for double booking their venue, but only after an acrimonious meeting at which

Events manager Jimmy Busted told organisers they could take what was on the table, or walk away. "My job is to make commercial decisions about placing the largest event in the venue", he said.

Compensation amounting to just 8% of the venue hire was extended, which falls far short of the extra costs associated with more trucking, changed flights, hotels and other costs associated with re-planning a tour. The date at Randwick was changed after it became possible to change the date

in Melbourne.

Protests to senior management and directors on the board fell on death ears. Industry sources say that the business of a Turf Club is not events – the events facility is rented as an adjunct to their racing activities.

Despite this annoyance, ENTECH is fully allocated and larger than ever before. Three semis will transport the roadshow, which also has an audio demo and a lighting demo. This year the Happy Hour is sponsored by Chameleon Touring.

BYTES, BITS & RUMOURS

- **Well known industry guy**, Thomas Kelly joins NAS in Sydney as of next Monday, departing Midwich. Prior that he was at Hills, enjoying some of Ted Pretty's guidance. The (former) supreme leader of Hills is currently at a listed startup called Covata – which he says 'listed too early, promised too much, delivered too little'. He cut the headcount from 46 to 21 and halved the cash burn rate.
- **As they celebrate their 30th business Anniversary**, Tiny and Robyn Good's Showtech Australia Pty Ltd has announced the appointment of Trevor Stubleby as General Manager. It's a reflection of the growth and demand both nationally and internationally of Showtech Australia, Showtech Rigging & Showtech Automation. Please welcome Trevor by email: trevor@showtechaustralia.com.au
- **Brisbane production** guy Lester "Doc" Jurott says he is a "little perplexed" that Sarah Winyard, 21, didn't have a conviction recorded after running his dad Graham off his motorbike, causing his death. CX extend condolences to Lester and the family.
- **Stuart Coupe's road crew** book will be a corker. There's a famous road crew story that a lighting guy (with a stutter) – was up a ladder sorting out a lighting issue. He yelled down to a crew guy below on the stage and asked him to get something. "Ssssure Ppppeeterrrr," the guy said. Convinced that the guy was having a go at him over his speech issues our hero climbed down his ladder and decked the guy. Only later did he realise that the crew guy also had a stutter.
- **Some of the other tales**, true as they are, we hope get a run: The band crew who drove the rental car into the motel swimming pool, then called Avis to report a problem with the electrics. And the time a couple of Sherbet crew decided to go kangaroo hunting outback somewhere in the rental car.

EMAIL US: juliusmedia@me.com or text +61 408 498 180



OVATION F-265WW

Ovation F-265WW is a high-power Fresnel-style fixture utilising a warm white LED system to project a bright, high CRI (95+) field of light ideal for theatres and television studios. A motorised zoom with a 27°-68° field angle and the light output can be controlled via DMX, on-board dials, RDM, adjustable PWM and an easy to navigate OLED full text display.



OVATION F-55FC

Ovation F-55FC is a full colour RGBAL LED (3-inch) inkie Fresnel-style fixture ideal for short throw applications in television studios and theatres. Virtual Colour Wheel and Colour Temperature presets are shared from the other full colour Ovation fixtures. A manual zoom with a 32° - 87° field angle allows you to add a soft field of light where needed.

01



OVATION F-55WW

Ovation F-55WW is an efficient warm white LED (3- inch) inkie Fresnel-style fixture ideal for short throw applications in television studios and theatres. It projects a bright, soft field of light within a 30°- 70° field angle controlled by a manual zoom.

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



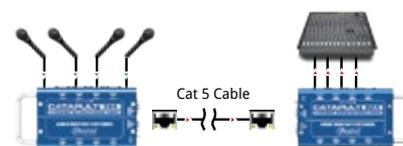
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CATAPULT

4-CHANNEL CAT 5 AUDIO SNAKE

The Radial Catapult™ is a modular snake system that drives four analog or AES audio channels over a single shielded Cat 5 cable. The Catapult enables system contractors to take advantage of pre-wired networks to connect one room to another, and allows live sound technicians to take advantage of the low cost of Cat 5 cable for return or cross-stage snakes. The Catapult is available in direct-wired or isolated splits.

- Send analog audio or digital AES signals over Cat 5/6 cable
- Works within a building's existing cable infrastructure
- Choice of direct-wired or isolated splits
- Transmits four AES signals (eight audio channels)



02 PLIANT TECHNOLOGIES CREWCOM RADIO PACK

The CrewCom Radio Pack is a digital wireless belt-pack used for connecting mobile users to the CrewCom system. Along with full-duplex multi-conference communications, the Radio Pack combines flexible conference access and customisable controls for a highly functional, yet familiar user experience. They are available in two or four volume configurations, and in multiple frequency bands. The CrewCom system features excellent voice quality, the industry's smallest fully-featured professional full-duplex wireless radio packs, and multiple simultaneous frequency bands.

NEW Australian Distributor: National Audio Systems
www.nationalaudio.com.au or 1800 441 440



03 HK AUDIO LUCAS NANO



HK Audio has introduced the new generation of Lucas Nano family of portable stereo PA systems: new models include the Lucas Nano 302, Lucas Nano 305 FX and Lucas Nano 605 FX, joining the already available 608i and 602 models. The 605 FX and 305 FX have five inputs, built-in reverb effects and Bluetooth audio streaming, with the 605 FX producing 1500W peak and the 305 FX 750W peak. While the smaller Nano 302 doesn't have Bluetooth or effects, it has two inputs and runs 750W peak, all in a 10.3 kg package.

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

GREENGO DIGITAL INTERCOM 04

GreenGo is a POE digital communications system that does not require a master station. It means a simple system can be built incrementally, right up to 3,000 users, 32 channels and 250 groups. There is no central matrix or routing engine required for the system, so it scales as it is needed by just adding devices to the network. An extra advantage of having no central unit is that there is no single point of failure. The GreenGo belt-pack features a full-colour OLED high-resolution display, providing text information, cue signals, and the functions of the 4 buttons. Wired and wireless options available.



Product Info: www.greengodigital.com

PANASONIC PT-MZ670 SERIES 05

Panasonic's PT-MZ670 Series of installation projectors is designed to meet the needs of modern classroom and meeting room environments. The series is Panasonic's first 3LCD range to feature its SOLID SHINE Laser technology, and comprises four compact 3LCD lens-interchangeable models: the PT-MZ670 (6,500 lumens ANSI) and PT-MZ570 (5,500 lumens ANSI), both with WUXGA resolution, and the PT-MW630 (6,500 lumens ANSI) and PT-MW530 (5,500 lumens ANSI) with WXGA resolution.

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



ROLAND XS-62S

06

The Roland XS-62S is an integrated six-channel video switcher and audio mixer with PTZ camera control capabilities in a space-saving design, optimised for installed or portable live event, recording, broadcast and streaming productions. The Roland XS-62S supports six-channel switching between four SDI inputs, featuring de-lacer along with scaled HDMI and RGB inputs from



computer, tablet and other video sources, plus two still images stored in internal memory. Two SDI and two HDMI outputs may be assigned to program (PGM), preview (PVW) or auxiliary (AUX) buses. The multiview output displays all six video input sources, two still images and PGM and PVW outputs with audio meters. Three video switching modes are available, enabling the XS-62S to handle a wide range of applications, including presentations, performances and special events, corporate AV conferences and distance learning.

Australian Distributor: Roland Corporation Australia
www.rolandcorp.com.au or (02) 9982 8266

ATEN KE8950 AND KE8952

07

The KE8950 and KE8952 4K HDMI KVM over IP Extenders route audio, video, USB, and serial signals at unlimited distances via Cat 5e/6 over a LAN or via a SFP fibre optic transceiver module over an optical Ethernet network. The KE8952 features PoE functionality, and delivers high-definition images up to 3840x2160 @ 30Hz (KE89xx) at 36-bit colour depth / 1920x1200 @ 60Hz (KE69xx) at 24-bit colour depth.

Australian
Distributor:
Aten ANZ
www.aten.com
or (02) 9114 9933



HDI PCAP 360

09

HDI PCAP 360 touch screens feature a plug-and-play driverless setup, and have no special software requirements. They utilise Projected Capacitive Touch Technology (PCAP), allowing for quick response time and high levels of accuracy. They are housed in an aluminium bezel, and include a side speaker bar, two integrated cameras, and a microphone. The HDi Connect Kit and HDi Connect Plus Kit can transmit video, audio and application data from a laptop or smart device to a presentation screen, and come with a receiver that can support up to 254 transmitters.

NEW Australian Distributor:
Madison Technologies
www.madisontech.com.au
or 1800 78 88 89

SENNHEISER AMBEO

08

Sennheiser's Ambeo is a compact, mobile 3D recording headset. The binaural audio recordings created with the Ambeo Smart Headset place the listener inside the soundscape, playing back the direction of sounds and natural spatial characteristics of a location. The recording is achieved via two omni-directional microphones integrated in the ear pieces that work alongside a premium A/D converter, mic preamp and SoftLimit from Apogee. The Ambeo records directly to iOS via the Lightning connector. The RRP in Australia is AU\$469.95.



Australian Distributor:
Sennheiser Australia
en-au.sennheiser.com
or (02) 9910 6700

The Revolution has arrived

Spatial audio mixing

3D

sound for the stage



In October Julius Grafton visited L-Acoustics in France and d&b audiotechnik in Germany. He heard a demonstration of each Spatial Audio System. Last month he heard the Barco Iosono demonstration in Sydney. This month we explore all the systems, and look at what is known and what is likely to happen next. After publishing a version of this introduction, reaction varied. Some of the 'other' loudspeaker manufacturers told CX that this technology has been around 'a while, without breaking through' and some reported demonstrations and some implementations that had also not resulted in further business. One thing is certain: the marketing push by the big two European audio manufacturers will bring a major change to the way we implement, mix and listen to live audio systems.



In 1999 Adelaide Festival Theatre installed a Lares system. It was the first local implantation of an acoustic enhancement system, where 156 loudspeakers were installed to bring concert hall reproduction of an orchestra. Each speaker was fed by an amplifier, and the whole thing controlled from a processor. Microphones sent sound in, the processor did the rest.

The Adelaide system garnered this kind of review: "Thankfully, the disagreeable old acoustic has at last been banished. In its place on this occasion there was considerably increased volume and resonance coupled with freshness and even some edginess to the sound" said Rodney Smith in the Adelaide Advertiser.

Since then Meyer's Constellation and Müller-BBM Acoustic Solutions Vivace system have battled it out, both scoring many installations in many venues, some in Australia. The price ticket for these systems is around A\$1 million, plus.

These acoustic enhancement systems are a great way to electronically change the acoustics of a venue, at the press of a button.

But the A.E. system is really a bespoke solution where architects and acousticians strike agreement, and typically where an orchestra is involved or where a dead conference hall looks to shift acoustic character for various different kinds of events.

ENTER SPATIAL AUDIO MIXING- OR '3D' FOR LIVE SOUND

Around 2010 the Fraunhofer Institute for Digital Media Technology in Germany started demonstrating their SpatialSound Wave technology. Audio designers recognized straight away that if implemented properly, this had the potential to revolutionise live sound.

While A.E. passively changed a venue's acoustic, S.A. (as I'll now call it) put the sound where the performer was. Instead of mono, or stereo, or even left-centre-right, a stage show

could suddenly 'come alive' with voices seeming to come from each actor's mouth, wherever they were.

Orchestral mixes suddenly expanded so that the various sections and instruments were separated in space.

Stunningly, a sound source could 'follow' a performer as they moved across a stage. Creatives and producers realized they could send sound anywhere, and are now dreaming up new material that embraces this technology.

IT TOOK UNTIL NOW

Behind the scenes a lot was done by many. Fraunhofer met some loudspeaker manufacturers who reasoned that instead of installing a left / right loudspeaker system, they would now get a better slice of the pie by installing more.

A typical S.A. (3D) system requires at LEAST five separate speaker systems, typically across the top of the stage. Not every venue is suitable for this, but some A.E. is more nimble than that, allowing for compromises - but typically needing as many speaker systems as possible.

Subwoofers can still be used, as can outfill and sidefill which typically would take regular signal and serve traditional roles - while audience in 'the zone' will be treated to something they have not yet experienced.

Unlike A.E. with its 'constellation' of speakers, S.A. gives a designer options. With your minimum five speaker systems, you can add on front fill, and also place speakers in a ring around the outside of the listening area - if that's what you want.

The developers at Fraunhofer licensed elements of their technology, and the four current systems emerged. Two of them have direct lineage to Fraunhofer dna, the other two are written from the ground up, according to the information offered to CX.

CX has heard three of the four systems during October and November this year (2017). It needs to be said: this is difficult story to follow UNTIL you hear a demo. Once you do, it is akin to suddenly getting colour where until now you had black and white.

>> Digico have a plug-in for L-ISA



>> At a d&b Soundscape presentation

The four systems are, in no particular order, L-Acoustics L-ISA; the d&b Soundscape; Barco's IOSONO; and Astro Spatial Audio from VanMunster BV.

The first two are tied to loudspeaker systems and commissioning. The latter two are not. The order of arrival: Iosono has been in the market for some years, as has Astro Spatial, while L-Acoustics and d&b have both been offering demos and are now in production with mass release starting in 2018.

Iosono and Astro have systems in use, but the entry of the 'big two' loudspeaker brands, each of which has a similar market share (they both employ 400 people and ship 600 - 900 boxes a week) will bring spatial audio mixing to the masses.

There will be confusion. This isn't Dolby Atmos. There are many derivative and production based products emerging that don't quite do S.A., such as Sennheiser's AMBEO. Expect to hear terms like sound scenography, augmented reality, object based audio and immersive media. Also you will collide with people who think this is just for virtual reality applications and movies. It is not. This was the future, and now it is reality.

The loudspeaker manufacturers who fail to seize this opportunity and who don't market it properly will lose market share, if only because for every application of S.A., there are many more loudspeakers.

d&b
audiotechnik

The d&b Soundscape

“No machine runs without friction”, says designer Ralf Zuleeg. It is the start of my introduction session to The d&b Soundscape at their Backnang HQ near Stuttgart. This is a 3D sound system, where there are at least five speaker systems across the top of the stage, making stereo completely redundant.



>> d&b Soundscape presentation

This development has been in progress at d&b audiotechnik since around 2011, and will officially launch in February. At that time, several venue installations and one large UK origin arena tour will have the system.

Based on the DS 100 processor, the system is essentially a 64 in, and 64 out matrix processor that uses Dante to connect things. On top of that you have two optional software packages, En Scene to position sounds and En Space to create new rooms through acoustic emulations. From your mixer you would send post fade from each channel, plus main outs so it



>> d&b Ralf Zuleeg

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Jason Decter
FOH Engineer, Bassnectar, at Red Rocks Amphitheater



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In its simplest implementation you would have at least 5 speaker systems, equal distance apart across the top of the stage, and small front fill across the front of the stage. The more the better. You may have subs flown or stacked somewhere, flown is preferable.

Once your room is modeled in their Array Calc simulation software, you load that into the DS 100 and use a touch screen to control the En-Scene and En-Space 3D positioning system. This is mixing, but not as we know it. You now have the ability to position sound sources in a space aligned to your speaker systems design.

A rectangular on screen matrix with 1 metre incremental squares shows where your speakers and audience are located, you then position each of your performer sources or groups on the stage – or anywhere.

A comparison recording of a big band was demonstrated in mono, from the centre speaker only, then stereo from the outside pairs, then in full Soundscape mode. The sound jumped out, and as I walked around the audience area, the image changed but in a realistic way.

It sounded much more lush and transparent.

Dragging sources around the sound system was easy, as was opening up each and making the source wide or narrow.

At this stage it does not yet position vertically, only on the X-Y horizontal axis. "You have to get used to this first, before we add that on," says Ralf. I heard independently that d&b can indeed do vertical positioning but that it is not yet implemented in the GUI (graphic user interface).

d&b have built Soundscape demo theatres, in Tokyo, Singapore, Asheville North Carolina and Nailsworth in the UK. They reason that this is a system that must first be heard, so that designers, consultants and venue clients can appreciate the potential.

The theatres are fully 'in the round' with a stage at one end. There are five short line arrays flown above, and seven front fill speakers below. Then an arc of speakers around the listening area.

The first demo is mono, then stereo, then it opens right up across the stage speakers. The difference is black and white (mono), ordinary RGB (stereo) then vivid technicolour once The d&b Soundscape kicks in.

The second part of the demo shows the full circular array, with an orchestra track that puts the audience inside the orchestra. An electronic dance music composition then shows how sounds are rolled around. The screen display



showed the moving components coming around from the back of the theatre.

The breadth of options for an audio designer and producer are staggering.

Ralf says they are talking to almost all the digital console manufacturers about 'on screen' integration. I could not help but think the onset of this kind of system is very disruptive since the mixing surface now has a lot further to go, and that the next few years of live audio will be quite revolutionary.

As to how the rollout is planned, d&b seem in no hurry. They will get their distributors trained (many already are) in The d&b Soundscape and expect that once artists and venues are across the benefits for an audience, the takeup will be exponential.

They hypothesize that an audience could come to appreciate there is a premium associated with buying a ticket inside The d&b Soundscape coverage area in a venue.

I asked the obvious question, pointing at the DS100: 'Every one of these you sell means you sell more speakers, right?'

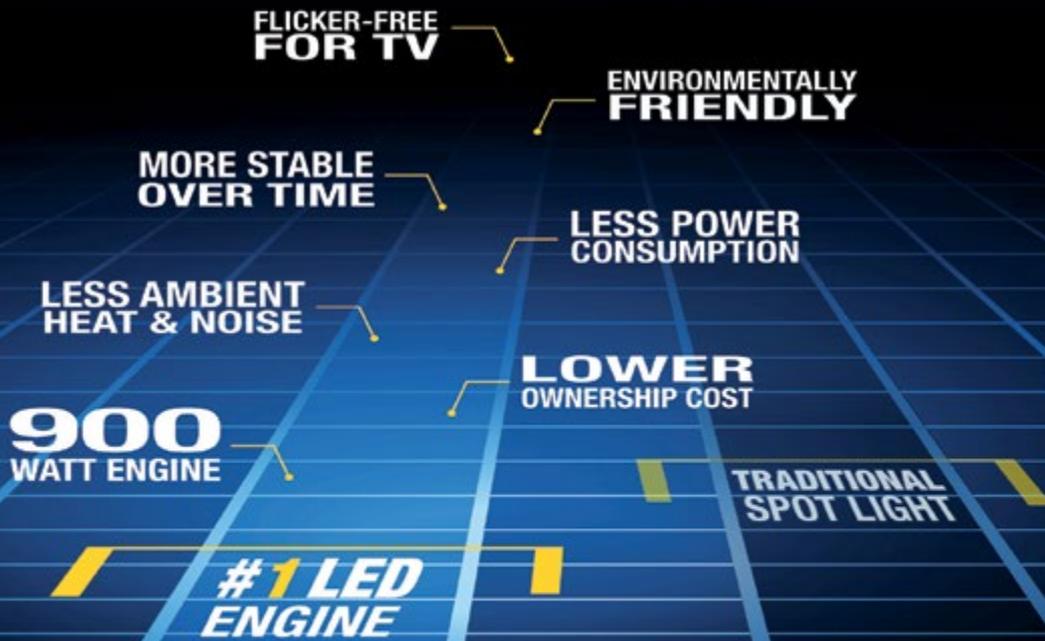
"We've done some modeling and projections on that", said David Claringbold, Chief Marketing Officer.

Footnote: *This is but one of several systems that I heard towards the end of 2017. The others are featured here on other pages,*

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BARCO DID THIS FIRST IOSONO CORE IS READY NOW



Researching S.A. (Spatial Audio) I came across the Barco IOSONO and immediately wondered why I had not heard of it earlier. On paper it does everything the new L-Acoustics and d&b products do. Plus, it has had various implementations on shows and in venues.

Amazingly it transpires a local demonstration studio exists in North Sydney, not far from me so I went over for an audition.

Des O'Neill is the local representative, he fronts Sound & Motion, a company that specializes in delivering spatial audio on projects both locally and overseas, who discovered IOSONO because, in his words, he and his colleagues are a bunch of committed soundies who come at things from a technical excellence perspective.

At the demo theatre, a loud speaker array consisting of 32 Tannoy monitors are positioned around the listening area in 3 speaker layers, a horizontal layer, overhead layer and a subwoofer layer. At first I thought this was going to be a 'surround sound' demonstration, which was intended to illustrate the difference between the IOSONO Core and the other systems, however Des stopped and reset the system so it did what the two new European spatial audio systems do. Des showed me some interesting things, like where he can place sound where there is no actual loudspeaker. He explained the algorithm, but I didn't have the right mind to understand. I just listened, and it was impressive.

Des demonstrated true 3D sound with vertical panning by

moving a source, and a group of sources, up, down and left to right, using just the front (stage) line of Tannoys. The IOSONO Core has 128 input and/or output channels, and has been on the market since 2010 which indicates it is 'battle hardened'.

Unlike the two big Europeans, the IOSONO system is loudspeaker agnostic, meaning you can use anything you like. This should really kick start sales of the IOSONO Core as spatial audio becomes more commonplace and once the marketing kicks in with the European systems and the demand rises. As written elsewhere, until you hear one of these S.A. systems, you don't quite get it.

We've heard from various people who have been to a demo and seen the lights go on, so to speak, as performers and designers twig to the possibilities. One side benefit that L-Acoustics discovered while working with various designers in the beta rollout is that with five or more speaker systems, the overall mix is a little quieter, and the apparent transparency and performance of the overall sound is appreciably better. This is in part because instead of everything getting mixed through one giant PA (per side of stage), various instruments or sources are spread around so that no one PA (loudspeaker) is tasked to handle everything IOSONO also has Spatial Audio Workstation, a VST plugin for content creation and delivery of object based 3D sound files. It's a powerful product, and we can't see why it shouldn't be considered the third contender in this new (but not new for Barco) market segment.

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STEREO IS OBSOLETE

L-ACOUSTICS L-ISA IS HERE

At the L-Acoustics (inventors of V-Dosc) headquarters in France I heard something more wonderful, more startling, and more exciting than anything ever before.

It is called L-ISA, and it is a new way to mix, deliver and to hear audio.

What they have done is pull down the left and right (and left – centre – right) speaker system and replaced them with a minimum of five systems, hung no more than 5m apart, across the top of the stage.

You still use subwoofers in the normal way, and the best deployment is as a centre hang behind the system speakers. Note I am using the term 'speakers', short for speaker system – because you don't have to hangline arrays to use this. The speakers could be any L-Acoustics speaker, be it single point source, colinear source, such as Syva or a constant curvature array such as ARCS.

It doesn't matter what model L-Acoustic speaker you use – you just design (in Soundvision, the L-Acoustics software package) your system so each of the speakers covers the area in front of it, at best the whole audience area.

A processor takes EVERY channel of your mix, post fader, and supplies the outputs to the speakers. To do this, you

need a console system with MAD1 out. That processor has ironed out any comb filtering confusions caused by nearby speakers overlapping, because most speakers used this way WILL have to overlap in coverage.

Now the audio designer and sound engineer take over and get creative. On the user interface screen, which is called the L-ISA Controller, you bring your inputs on to the stage area of the graphic representation of the L-ISA system in the room.

Then you can MOVE (position) each channel around, left and right or up and down. As you do this, the sound moves. In the demo we heard an orchestra from the perspective of the conductor's lectern. Suddenly we were almost in the middle, the strings over there, all elements spaced out as if we were just standing there.

With a band you'd spread the channels around, across and downstage. The result is deep and lush, and a by-product is that a mix seems less loud. You are no longer pouring everything into one speaker system, instead you're spreading it around.

The concept of splitting vocals into one system and band mix into a second, adjacent system is not new. But this is very, very different to that.

With this, you can put a channel, or a group (like, maybe you've grouped a brass section) into one system, and a voice into another. More likely, as with almost all the demonstrations I heard in France, most parts would be spread across a few speakers, just with some parts centralized or loudest on one.



>> L-ISA PROCESSOR

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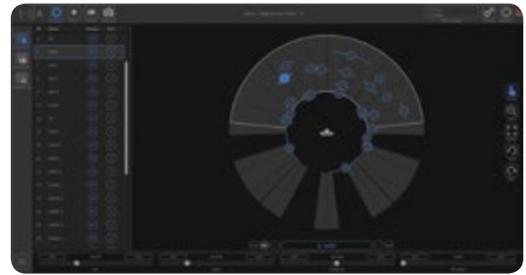
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>> L-ISA controller



>> L-ISA controller 360



>> L-ISA controller is object based

However you mix it, stereo is redundant. Every audience member in the listening zone gets multi-dimensional sound. L-Acoustics call it 'immersive', I hate that handle but it does jive with what is happening to your listening perceptions.

From an artist point of view this should be universally desirable since it better presents a performance. The words 'lush' and 'natural' spring forth, without my over-hyping this story.

OK so what happens outside the L-ISA listening zone? L-Acoustics say that, depending on the rigging capabilities and audience geometry, not every venue could be fully covered with the overlapping L-ISA speaker system. However the processor comes with a possible 96 inputs and 64 outputs, and of course they have sorted out a range of deployments.

You could have 'the listening zone' in front of the stage, then where the shorter line arrays cut off, set a delay ring that is traditional mono or stereo. The area on the sides of the stage could be covered by a conventional mono or out-fill.

You can also place effects speakers at the rear, and design some ambience or ancillary 'some-things' to mix back from them. One demo was an audio book, or a film without vision. It was mesmerizing. The sound scape artists will go nuts using this.

At the demo were some theatre sound guys. They were keen to know how L-ISA handles scenes and cross fades. It does. It can also 'track', an example would be to follow an actor across a set. Tracking is still in Beta test, the rest of L-ISA is shipping now.

WYSIWYH

What you see is what you hear. Here's how you use L-ISA.

The GUI (user interface) tells the story. Build the room on Soundvision, their visualizer and audio planning software.

If you already have that venue on file, then load the speaker system into L-ISA's processor.

On screen, you now have, the speaker positions, and the stage. You then enter the input channels list, so that each is shown as a small blue circle. Drag and position each channel where you want it. Left, right, up, down and wide. Now you have a 'Q' control for each audio source, where 'Q' is the width. Do you want this one in just one of your speakers, or do you want it to go up to 90 degrees wide?

Store each setting, so that you can have snapshot recall or cross fades where the sound is moving, or repositioning, during or between a scene, cue, or song.

DiGiCo have an add on to their SD Series consoles for this too. Now you have all these extra possibilities on where to mix to. You'd probably use the processor GUI mostly, but having a console 'go-to' is neat. One more thing on this – the processor takes the console master outputs too, so when you turn the whole system down on the desk it all turns down.

The theatre guys were excited about phase cancellation from multiple microphones. They are always excited about this, and today they have several standard procedures for when two actors or singers move closer together. Option one is to mute judiciously, almost word for word. Option two is the dual A-B speaker system. This tends to cost a lot, since you have two of everything, side by side.

L-ISA fixes this for good, because you start off with 5 speaker systems, and all you have to do is send performer # 1 to a different speaker than performer # 2. The processor looks after the rest.

SELL ME ONE - NOW!

I think this will be very popular. The DJ doofheads will be



all over it, at least the ones that are creative and don't just have a stick with MP3 files will be. Theatre will love it. Concerts will love it. Even rich bastards with huge home theatre rooms will love it, thanks to the channel that L-Acoustics are setting up for them.

Musicians will join Blububbles, an artistic entity that will become a future recording/remixing company using the L-ISA format.

Potentially tours and EDM gigs will feature the L-ISA logo, kind of like how Dolby has done with films. Concert ticket buyers will preference or premium pay to be in 'The Zone.' (Note 'The Zone' is a CX handle, L-Acoustics may call it something else entirely).

L-Acoustics are different to most. It is owned by a guy who will only do things his own way, and that is Dr. Christian Heil, a physicist in the field of elementary particles. It means everything is done according to science.

When it started with V-DOSC in the late 1990's, he reasoned that there was one way to set the system up, one way to cable it, and one way to amplify it. Any other way would degrade the system and in those early days, kill or maim the future of modern line source arrays.

The V-DOSC was such a paradigm shift that engineers had to relearn the design and setup workflow. In 1993,

L-Acoustics had eight employees on its payroll and the system was only available for rent in the French market. The very progressive introduction in export markets was necessary to fully support the users in the education domain and as the system was exposed to the real world. For a long time, this prudent approach led to the perception that the system was not available for purchase.

Now that L-ISA is here, the company is taking a similar tack, closely accompanying the venues and events that rent or install the system in order to ensure that a period of education and training takes place. The system is currently installed in a theme park in France and an entertainment venue in Moscow. It's also been used on several live events in Europe and a tour for French artist Renaud, as well as in experiential performances at Coachella and Panorama Festivals. Just this October, Odesza debuted L-ISA for a live performance at the Santa Barbara Bowl in California.

It will end up in touring productions and probably sooner rather than later. But for now, L-Acoustics is controlling what happens with L-ISA and playing a long game.

They will collaborate on design, installation, and a batch of training will happen before each system is deployed.



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Inside L-Acoustics

At a rural village in France



When the company first located at the factory in Marcoussis, France, it was a rural site on a plateau above the village. Now it is a small industrial estate, dominated by four of the six factories that L-Acoustics occupy.

I visited HQ, which is the original factory. The factory floor was converted to research and development some years ago. More than 50 people work in that area alone. Strangely I was not invited inside. Several guys wheeled something about a metre tall out a door, it was covered in a black cloth. 'That's just the lunch', my guide quipped.



>> Christian Heil

This is LAC 1, guarded out front by an enormous steel statue creature with dreadlocks made from various cables. It is called Bob. Works of art are a feature at L-Acoustics, an expression of the culture of the founder and owner, Christian Heil. His surname is pronounced 'Elle', so the company which started as Heil Acoustics quickly became L-Acoustics - upon the suggestion of some from Germany.

Across the street is LAC 2, the factory, where about 50 people assemble speaker boxes. The cabinets come down from Northern France, where L-Acoustics own a company called Simea that builds and paints the boxes.



Down the road is LAC 3B which is the goods inwards store. It dispatches components to keep the factory 48 hours ahead. These components include the multi channel amplifier/ processors that drive all L-Acoustics products. These are built at what was the Camco factory in Germany, which is now fully owned by L-Acoustics.

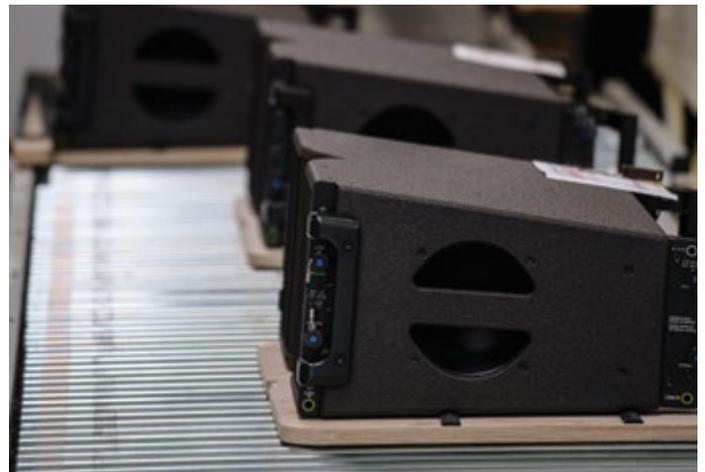
Finished goods leave the factory and head for LAC 3C, the dispatch warehouse.

The company has a good relationship with its workforce which, being French, is unionized. They work a 35 hour week, and after 10 days have one day off. They get 5 weeks holiday a year.

The factory is working at virtual capacity, with long term production planned a year in advance. This is refined each quarter. Currently they produce around 800 speaker boxes each week. They say they can step this up a little, and clearly have plans to step up even more since the new L-ISA system promises to boost demand.

Each speaker system is hand assembled from components that have been through quality assurance. A production line conveys each cabinet from one end to the other, and each line worker does a set of tasks for two hours and then moves to another station, to keep them fresh.

In this way, assembly training can be implemented step by step. Down the end of the line, a robotic arm turns the cabinet as the packaging is applied. From start to finish, no one has lifted a speaker cabinet without mechanical assistance.



Inside d&b Audiotechnik Multiple assembly buildings

Around 45 minutes drive from Stuttgart is Backnang, a town of 40,000. This is south of Frankfurt, and a region best known for auto makers such as Mercedes. Accordingly the area is populated by a lot of technical specialists.

My guide was Chief Marketing Officer David Claringbold, who hails from Sydney, and has moved with his wife and son to Stuttgart to work at d&b HQ where he is the sole non German on the site. Prior to this, he was a Director at Sydney Opera House – a position that evolved from his previous roles there as Technical Director.

We first look at the woodwork factory which operates multiple shifts from 6am until midnight. The milling and cutting is all automated, so that a sheet of 15mm Finnish birch ply goes on to the table, and very quickly after that is transformed into parts of a speaker system. These are loaded on to a cart, with each part ready for assembly.

At that stage the boxes are screwed together, with a fast setting glue and the sections squeezed together in a press. Then the first of four finishing runs are done, filling, sanding, filling and sanding again until the external surfaces are perfectly uniform.

Wheeled into a large electrostatic paint room, several coats are applied and then the box emerges the other end, and heads into the assembly hall. d&b then have one guy do all the assembly, for each of the boxes, rather than send them down a line.

Testing happens at several stations where the finished



>> Inside d&b HQ Backnang - Production

cabinet is powered up and a test tone sweep and pulse is measured. A careful visual inspection follows, before packaging.

The factory crew seem quite happy, and work around 35 hours a week with 6 weeks annual leave. Germany also has many public holidays.

Across in another building all the electronic devices – amplifiers and processors – are made. This facility has a soak test chamber where the devices are put through their paces before packaging. Everything is then sent to the dispatch facility nearby.

d&b make between 600 and 900 speakers a week, and around 200 electronic pieces. There is an additional building nearby that appears to be an expansion option. R&D and management are all located here as well.

When we arrived, the car parks were all full.

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Although there may still be a few casualties in coming months, it's becoming clearer every day that – and I can't believe I'm saying this – the Loudness Wars are over. If, like me, you've spent the last several decades being forced to crush the life out of every mix you make just to get it to 'compete', 2017 might be the year to finally wave the white flag and declare a truce.



LISTEN HERE ARMISTICE DAY, 2017

ANDY STEWART

It seems appropriate that I should be writing this on November 11 – Armistice Day. In the last two months I've been trying to wrap my head around a change that's occurring in the world of audio playback, one that's been evolving steadily over the last couple of years online, but which now seems destined to push aside the status quo and finally call a halt to the Loudness Wars once and for all. In short, mixing and mastering is changing; moving away rapidly from questions about loudness to questions about dynamic and sound quality. This is HUGE news in the professional audio world – more significant to studio engineers like myself than just about anything in the last decade.

The latest 'incident' to occur (if we can call it that) was the recent announcement by Spotify that it was changing its online streaming replay target level from -11LUFS (integrated) to -14LUFS (integrated). This is a significantly lower loudness normalisation value, one that better aligns Spotify with other streaming service (give or take 3dB) but which still allows it to replay audio at a set level, thus preventing the volume from jumping around as you listen to different material on its service by different artists that have been (in many cases) recorded across different decades.

"But wait, wait, back up a minute! What is a LUFS measurement?" I hear you ask.

Let's put some background into this story before we go any further, shall we?

MASTERING: IT'S A LUFS GAME

The LUFS (or LKFS) acronym stands for Loudness K-weighted relative to Full Scale: a broadcast industry unit of measure that ascribes a numerical value to loudness over time at full scale digital. (Within this measurement algorithm there are more detailed time-based units – Momentary (400 ms), Short Term (3s) and Integrated (from start to stop), depending on which measurement tool you're using – and I would urge everyone to start reading more about this online.)

This metering format has been around quite some time now, most significantly in the broadcast industry that first established it. It's only in more recent times, however, that this unit of measure has started to affect music production more directly – or more accurately, the measurement has been forced upon the industry (in a good way) by online streaming services.

LEVELS, BE DAMNED!

The music industry has always behaved as if 'standards' don't apply to it – frustrating many professionals in the industry – and on the whole there has been little or no regard for 'levels' as they affect (or previously affected) CD manufacturing. CD mastering has become so entrenched in the loudness wars, in fact, that there has been no hope of consensus on what constituted a limit to audio loudness on a CD, above which a signal might be regarded as 'illegal' or even 'faulty'. It has been an unregulated mess that has seen millions of masters suffer adversely from severe limiting, clipping and distortion. It's taken the online music streaming services like YouTube (-13LUFS), iTunes Radio (-16LUFS) Spotify (previously -11LUFS, now -14LUFS), and Tidal (-14LUFS) et al to force the music industry's hand, where the industry itself could find no consensus.

Although all this has been happening for some time now, it's arguably only been this year that the world has begun to fully embrace streaming as a dominant method of consuming music. The industry itself is finally waking to the realisation that consumers no longer care about CDs very much, nor do they still regard louder as better, since they don't experience comparative levels between songs or artists anymore except on CD or a CD carousel, and who has one of those now? No-one.

Within this online streaming framework, the ability to compare one song against another in terms of its mastered volume no longer exists. The question is literally made redundant by the services' normalisation process.

It's therefore now utterly futile – for delivery of audio to online streaming services at least – for an engineer to master a song with the expectation that it will leap out above the pack by virtue of its sheer volume. The concept simply no longer applies.

When you provide any of these online services with a track that measures above their designated LUFS measurement, they simply turn your song down by the differential. The harder you try to push past their established level, the further they turn your track down. As an example, on YouTube you'll be replayed at -13LUFS (integrated) whether you like it or not, and if you've slammed your track beforehand you'll sound distorted and lacking in dynamic into the bargain. So then what of CD mastering? And what about vinyl? Are mastering engineers now expected to provide an online 'for streaming purposes' master, as well as a CD master and a vinyl master? And at what value: -13, -14 or -16 LUFS? Despite strong opinion on both sides of this debate, the jury

is well and truly out on whether several masters are required to be produced for every album that's released.

I'd contend (this week at least) that the new LUFS measurements established by the online broadcasters are, though not directly affecting CD levels, making all but redundant the war that's waged on that 16-bit format.

This is not to say that everyone agrees – some CD masters out there are still measuring at insane levels of around -6LUFS integrated, and that's why adhering to a LUFS measurement is still regarded as 'optional' in certain circles and by certain mastering engineers.

While this remains the case we're going to see fluctuating levels across CDs in particular. But pretty soon I suspect CD releases with a LUFS measurement in the single figures are going to sound dated to the ears of listeners as they grow accustomed to the sound of more dynamic, less distorted online streaming services.

In the same way as flat-screen TVs relegated cathode ray tubes to the scrap heap, online streaming must surely either relegate CDs to the junk pile (which I would regard as a shame) or finally provide CD mastering with an 'out' that finally allows CD mastering houses to back off their limiters once and for all!

THE FUTURE IS NOW

Last week I produced a CD master here at The Mill that was caught up in this mess. It was too loud and distorted for the client's liking, and for mine too quite frankly, but compared with so many other CDs out there it was still only barely cutting in the loudness wars.

So I finally thought: "well, this is it. The time has come to apply the -14LUFS integrated (or thereabouts) measurement to the CD format. No more games... I'm looking forward, not back."

I produced a master at -13.8 LUFS (integrated) with a true peak

Extremely Dynamic Master



Perceived loudness increased by 6 LUFS



Extremely Limited Master



Perceived loudness decreased by 9 LUFS



level of -0.5dBFS. That is quiet by most CD standards today, but the client loved the outcome and never once questioned the CD's inherent level.

Are the Loudness Wars over? They are for me.

I'm looking to the future now, into a listening world where consumers appreciate dynamic range. Low distortion, dynamic music will be audio's 4k TV equivalent, and excessive distortion artefacts and slammed masters will be the low-res TVs of yore.

From now on I'll be assessing the dynamic of albums I produce, mix or master on a per-album basis. I will only do what's best for the sound of each, and I will no longer wage war on the wider industry.

Coincidentally, -14LUFS integrated is right around where a lot of my mixes end up before they're mastered... so now I'll barely have to touch them before they're released into the world.



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

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By Julius Grafton

Forget Failure, Fink Fortune!

A

fter last month's depressing rant I had many sympathetic calls and messages but that wasn't the motivator behind chronicling my \$1.5 million loss on the College dream. Indeed the article must have been noticed, because in the old snail mail came an envelope with a good old fashioned cheque inside. A cheque from that exact same time, which reduced my losses!

As of now I am only \$1,499,991.99 out of pocket! It was damn strange to get a refund of \$8.01 from the bank just as I published that story. They apologized for overcharging me (and a million others) for some fee or charge. I framed the cheque rather than bank it, since it is poignant and bizarre. I also can't bank it, as the college company no longer exists.

This month we're headed in the other direction. It's time to talk turkey as we board the gravy train. Yup, the goose is fattened and you need to loosen up the belt as your hard earned efforts reap fruit and your waistline bulges. The metaphors are gushing, like champagne from the magnum or flowing chocolate from the dessert fountain.

We're talking about profits, baby, and your corpulent excessive wages. Lifestyle be damned, we're gonna live beyond our means – at least until someone (like an administrator or your daddy) stops us!

Seriously though it's a funny balancing act when you work for yourself. How much do you pay yourself?

A single shareholder business – like my media conglomerate – really is no more than an extension of you (me). Even if it is a separate entity, by way of incorporation. It has its accounts and it submits returns and – if profitable – pays income tax. Likewise you declare your income, submit your return, and pay your income tax. That is, assuming you earn over the threshold of \$18,200.

Sadly most of the creative industry do not, but let's assume you do.

At the ripe and salty age of 60, and having been in business since age 15, you would think I would be a raving expert on tax. I'm a raving writer, to be true, but every year I learn more from my most excellent and well remunerated accountants. I have a 'top shelf' philosophy about accountants – always hire the best of kind, and in my case, Watkins Coffey Martin at Roseville are a top notch small business practice.

Before buying my last two properties I loaded up my income in anticipation. I needed to argue – via a very good mortgage broker, who did all the negotiating – that my personal, taxable income alone was all that a bank should consider when assessing me for a mortgage. I had a philosophical objection to the bank pouring over my company balance sheet and past three returns. If I earned enough, as an employee of my company, then that alone is all they need to know.

After all, if you work for an organization and you apply for a loan, the bank can't ask your employer for its accounts, can they? Noooo.

In both of my cases, a full year taxable income, sufficient to justify the mortgage, was what I produced. It also required that I pay myself all the legal superannuation that went along with it. Naturally it also required more than a year's forward planning and fortunately things just kind of worked out that way.

As soon as I was in as a home owner, I dropped my taxable income back by half. I was still drawing the same net cash per week, rather what I was doing was paying tax on half of it, each month, in pay-as-you-go. This meant I could elect to only pay super on the taxable component, which helped cash flow.

Naturally there was a reckoning, at June 30, where I would have to declare the extra. This is where a good accountant does amazing work with dividends and things that I'm not going to write here and that sometimes I just don't understand.

My accountant tells me a LOT of small business operators, whether company incorporated or sole traders, just draw money and then get to June 30 with no plan. It can also cascade into provisional tax, where the algorithm at the tax office decides you should pay in advance. That makes the following year a year of tremendous pain.

How you structure your pay affects the eventual value of your business. If you draw almost all the profits out as a reward to you, a future purchaser could fear that the business is only viable with you driving it.

If you are drawing everything out and not reinvesting, eventually your business will look worn out. If it has plant and equipment, those will wear out, hopefully slower than the rate of depreciation!

I had a great equipment rental business in the 1980's, and the guy who bought it chose to take the profits with very little reinvestment. It now looks very shabby (still in his hands) and presumably still generates some returns because it still operates. I wish I hadn't sold my name with it, that's a topic of another story sometime!

So what is a market wage for you? This matters a lot if you have partners, because you'll need rules in your shareholder agreement about who gets paid what, and when. A working partner should get a market wage, while a passive partner should be content with their share of the eventual profits.

The greater the wage bill, including your 'market' wage, the lesser the profits. Your market wage should be roughly what other people who do what you do, get paid. With average adult earnings running at about \$1,608 per week (gross) this year, that's a good place to start. That is \$83,616 plus super, a total package of \$91,559.52.

Not too many of my readers earn that kind of money – we are an underpaid industry. We do this for love, apparently.

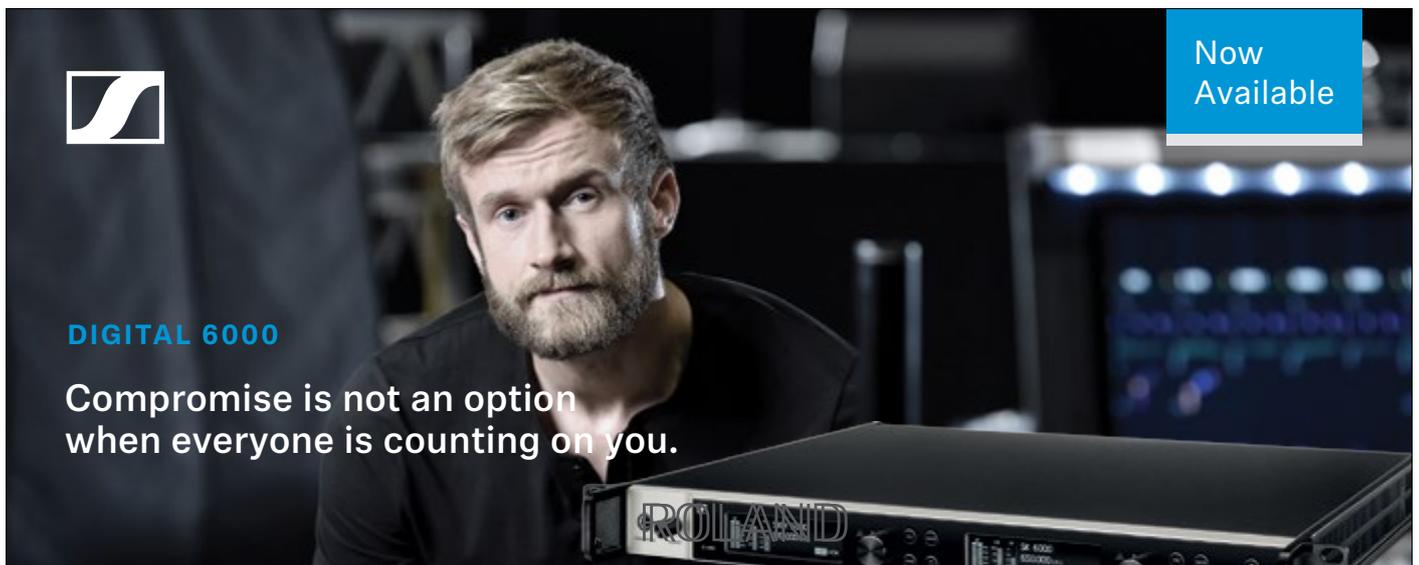
My accountant has worked many near miracles over the years. He actually negotiated my second divorce. Can you believe that? He took the time to explain to my ex that her valuation of this media empire was somewhat optimistic. He had her interests at heart too, at least in his mind, since he did her tax.

She had some tax problems that she wasn't properly understanding and he took the time to gently and accurately portray a pathway for her, and a fair value for her settlement alongside.

That kept the lawyers out of the divorce, which in turn meant there was something for both of us, without the endless drip or outpouring of legal fees.

Another pleasant surprise was that the house we had shared had a large depreciation allowance due to the extensive renovations we did to get it large enough for our collective four daughters. I had no idea, but certainly appreciated a five figure deduction!

If there is any take-out from this, it is that you really always should retain – and talk regularly with – a top notch accountant. If they don't communicate at your level, get another one.



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history

1992: 2017

Compiled by Dan Cole, who rummages through crates of back issues in our hermetically sealed, environmentally protected dungeon. This month marks a milestone, it was 25 years ago we inked the final edition of Channels AND it was 15 years ago we did the final CONNECTIONS.

Ain't that strange?

➤ Channels #18 / 25 years ago

The final Channels. Originally intended as a black and white newsletter for Jands, this edition ran to 68 colour pages with advertising. Since publishing was not Jands' core business, Julius Grafton embarked on a new independent publication called Connections Magazine, and the rest as they say...



In December 1992 the industry was looking up; The Beach Boys and Red Hot Chili Peppers were touring and Paul McCartney and Guns & Roses tours mooted, with strong equipment sales in

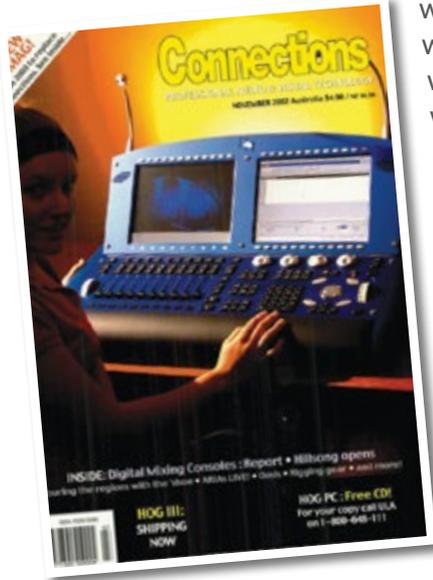
some segments. However we also reported the auction of Buddy The Musical's inventory and the closure of Rhinoceros Recording Studio.

At LDI in Dallas we viewed the first Whole Hog console and ETC's innovative Source Four spot, and toured High End Systems factory in Austin - a hot-house of creativity such as the 'Wall of Fog' feature for a ZZ Top tour - but just don't say 'waggly' when in their factory... In Great Mistakes, a tour staffer with US band Rhino Bucket (in Oz supporting The Angels) recounted a chilly Jindabyne and a quite unreasonable request from the band involving cold hotel beds. Elsewhere, the Tascam DA-88 was on the horizon and in resale values, the ask on an 8-way Molefay was \$400 and \$700 for a Yamaha REV7.

➤ Connections #100 / 15 years ago

Also the final edition. After 10 years this was the last Connections, to be replaced in March 2003 by CX Magazine

with Julius Grafton back in the scorched editor's chair and primed to take on the digital publishing realm. Reflecting on 10 years of



Connections and the 1st edition we wrote: “Dud predictions, woeful pictures, bad spelling - it was a hit!”. In all 105 editions were produced (originally on a Mac II CX, 68000 processor, mono screen, Pagemaker 4) and the complete set is highly collectable.

In this edition, we refreshed our most popular Market Report - Lighting Control Desks plus Large PA Boxes (over 500w). Production reviews were the Red Hot Chilli Peppers (Sound - David Rat; LX - Scott Holthouse), and John

Farnham’s ‘Last Time’ tour. Staff on this tour included Grant ‘Tosh’ Walsh, FOH; John Henderson and Bob Daniels, monitors (using two DM2000s purchased especially); Chris Newman, Lights (design and operation) and Peter Lothian (movers); and Denis Murphy, Video Display.

Other features included Mastering for Beginners incorporating ‘Seven Tips For Your Mastering Session’, and we outlined the history of Vari Lite following its sale to Genlyte Thomas Group with an interview with founder H.R. (Rusty) Brutsche III.

➔ **CX Magazine** [December 2012] / **5 years ago**



Industry news we reported a comeback by French audio firm NEXO into the Australian market with their STM Line Array, and the sad news of the ill-health of Ian Woodhouse and Neil Smith, reminding all readers to be vigilant with yearly medical check-ups.

The diverse range of industry advice that month included: how to choose a chain hoist control system (Pt2); 25 questions you need to ask a technical course provider before enrolling (and that they don’t want you to ask); mixing fatigue

and objectivity in the studio; AV installations for small bars (we advised how and what gear to use); business mergers; and a reminder from John Maizels about cumulative delay when shiny new equipment is added to a system.

Gearbox equipment reviews included Soundcraft’s Si Performer incorporating lighting control, and in Roadskills we reviewed productions for Elton John (see also CX November 2017), Maroon 5 and Living End. In closing Duncan Fry recounted his first PA gig involving column speakers, Father Christmas and an E-Type Jaguar...

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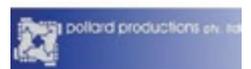
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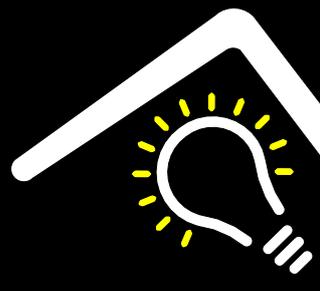
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BRISBANE'S AISLE6 PRODUCTIONS

from Studio to Stage



>> Scott Mullane

Starting as a recording studio in the 90s, Brisbane's Aisle6 have moved and changed with the times, and now work across live production, installation, and management. Jason Allen chatted with owner Scott Mullane about production past, present, and future...

Scott has a story about his beginnings in the industry that will be familiar to many; "My background is as a musician, but I was an auto electrician by trade, and I've always pulled gear apart to see how it works," he related. "One day in 1989, a muso mate dry-hired a PA for a show, but didn't know how to use it. He asked me to have a go. I managed to plug it together and made noise come out, but I had no idea what I was doing. The gig was not going well, but thankfully, someone in the audience who knew what they were doing helped me out. That's what started me learning and exploring, and my live and studio career." Aisle6 owns a commercial recording studio in the Brisbane suburb of Salisbury. "The studio has permanent tenants,

and I go in to produce records. It's got a lot excellent gear, including, Focusrite Red2 and Red3, Tube Techs, Dakings, and Neves. I was more focussed on studio production at the start of my career. I produced a few albums, including Amity Affliction's first EP, and won an LA Music Award. As studio budgets started to shrink, I got more enquiries for live sound work. I slowly built up the live production side of the business, and bought my own PA in 2001. Eventually I entered into a partnership with a good friend, and we bought a PA together. He's now a well-known tour insurer."

TOWN AND COUNTRY

Aisle6 has now diversified into consultancy and installation services for schools, theatres, and churches. Its live production arm covers one-off special events, multicultural and community gigs, and bands. Tour support services include tour management, production management, and sound and lighting operators. Aisle6 also provide technical services to three Brisbane venues; The Princess Theatre, The Queensland Multicultural Centre at Kangaroo Point, and the new SunPAC Performing Arts Centre in Sunnybank. Scott also enjoys a healthy touring schedule, with clients including Marina Prior, The Screaming



>> Scott with Marina Prior



>> Scott mixing The Screaming Jets at Eaton's Hill Hotel, Brisbane

Jets, Baby Animals, Wafia, and Darren Middleton (ex Powderfinger). “We’ve seen big growth in the touring market. I’m one of the older techs in the industry now, and I’m very lucky to enjoy touring the way I do. Over a three month tour, I’m generally home four days a week, as the acts work three. Aisle6 are now getting more and more

production management roles, as many acts don’t need to tour gear, but need someone on their team to make sure all their technical requirements are fulfilled. We look over gear and venue specs for people and get involved in keeping the show running smoothly.”



>> Baby Animals at The Night Quarter, Gold Coast



>> The Earth Harp, at King Beach, Caloundra



>> The Screaming Jets

LIT UP

In their lighting stock, Aisle6 keep things flexible. “We stock enough to do our own shows, and partner with another company when we need LED screens and high end lighting,” outlined Scott. “For control, we’re typically running something like a Clarity Wing or a Jands Stage CL, and we’ve just bought a ChamSys MQ40, which

is big enough for our rock and community gigs. In terms of fixtures, we’ve got a fair bit of inventory from Event Lighting, Litecraft by ACME, Philips Selecon Showline, and TourPro from TLC Global. It’s about variety and depth; we’ve got battery-operated IP65 washes, through to standard RGBWAWU Pars.”

HOLD THE LINE

On the PA side, Aisle6 recently acquired its first major line array, an Adamson S10 system, after needing to scale up from their KV2 Audio point source inventory. “When I tour, I mix on a lot of top-tier PAs, and each leading brand has its strengths,” observed Scott. “I was attracted to Adamson because of the unique design features such as Kevlar drivers and 19” subs, in particular. The mid-high in the S10 has a lower crossover point than the average box. I find that any acoustic anomalies caused when you push high SPL through a mid-high box are heard in the crossover point first, typically around 2kHz. With the Adamson crossing over around 800Hz, I find they respond much better to high SPL, and the vocal path stays really smooth and musical. I’ve also found when you push some line arrays, you start to lose dynamic range, but the Adamson retains the dynamics. The vocals are front and centre, and the stereo imaging is stunning.”

The S10 got its first major outing on October’s Red Deer Music and Arts Festival, held outside Brisbane at the Mount Samson Amphitheatre. “We used the S10 rig on the main stages, with The Preatures headlining,” relates Scott. “We were going to do eight elements a side, but we were able to rig two of the S10 mid-highs on top of subs as fill and fly seven a side. We reconfigured using Adamson’s Blueprint AV prediction software and were able to scale for task. Red Deer has dual stages running concurrently, and the distance across the front is 25 metres. Using Blueprint AV, we found a nice position for all eight subs across the front, avoiding lobes and nulls. It looked great on paper, and when we walked around and had a listen, we were impressed by how accurate it was.”



>> Scott with his new Adamson rig

Drake

Boy Meets World tour

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By **Cat Strom** / Photos By **David Youdell**

The photos of his tour overseas looked promising but often budget constraints sees production cut down when a tour travels to Australasia. Time and

time again, I visit shows expecting the technical wonder I'd already read about only to find a poor replica.

Drake decided to go the other way, turning his end stage show

into a massive in the round spectacular just for Australasia. Several elements were retained but essentially it is a new production that is incredibly generous for only nine shows. >>>>



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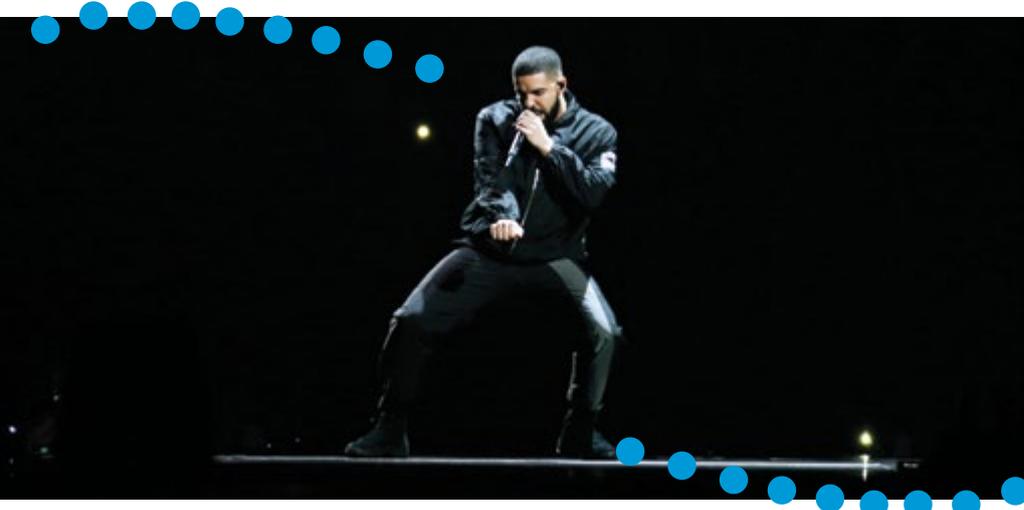
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DRAKE IS AT THE
POINT WHERE
**IT'S NOT ABOUT
THE DOLLAR. IT'S
ABOUT THE
IMAGE**

Technically, it's an amazing piece of work with fireworks, light cages, 1000 kinetic glowing LED balls undulating in time with the music, and a giant globe for Drake to run around, to help remind us of the tour's title: Boy Meets World.

The production set up was built in Las Vegas a few weeks ago and after some exhaustive programming, everything was shipped over in two 747 aircrafts and onto a fleet of thirty plus trucks. The system was tried, tested, and brought to life in a giant hanger not far from Las Vegas by Drake's Tour Director and Designer, Steve Kidd, and Lighting Director and Designer, Guy Pavelo. They've both worked with Drake for more than five years to deliver the most hectic stage designs and to achieve the most non-tourable productions.

"Drake is at the point where it's not about the dollar," commented Guy. "It's about the image, the progression of his career and of his brand. He wants the best. This time everything is out in the open. Drake loves the super clean, sharp line approach on everything so there's so many effects coming from different angles that nobody will know where they're coming from."



Lighting fixture placement was tricky due to the gap required in the middle of the stage for the inflatable globe and of course, all of the Stage Kinetic/Glow Motion Technology LED balls that have been stealing the limelight.

The Glow Motion balls emit quite a bit of light and in some numbers they are the only fixture switched on and there is plenty of light. Most of the kinetic numbers see the balls run at 50% especially as patterns read better at a lower intensity.

The kinetic spheres are a collaborative project between Stage Kinetik and Glow Motion Technologies, who supplied the spheres which are actually two different components: the physical plastic sphere and the LED chip inside. The winch elements are from Stage Kinetik although Glow Motion Technologies handled acquiring all the necessary elements of assembly.

"In the past we had all of the lighting mixed within the globes, but in this format weight can be a problem so we keep the kinetic trusses as light as possible with only SGM XC-5 LED strobes inside. We're basically at maximum capacity through Australia with our weight."

Consequently Guy placed most of his fixtures around the perimeter of the stage but that did leave a large black hole in the centre.

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"We would love to place a truss right down the centre but because of the inflatable, we can't," he said. "We have the diamond truss in the middle and all the Icons on the floor which really help surround and evolve the show, ending up a core element."

The sixty-four PRG Icon Beams on the floor coupled with the seventy-six new PRG Icon Edge fixtures in the air around the perimeter work together very well. The diamond truss in the centre held PRG BestBoy HP's as well as some GLP JDC1 strobes. More JDC1 strobes and High End SolaSpot 2000 fixtures were also located on the outer ring.

"We've been using PRG for quite some time and they really look after us," said Guy. "They go the extra mile to ensure we have what we want."

For 99% of the show Drake is onstage alone, working the large space with a lot of effortless sprinting around. It's a bit of a nightmare for the PRG Ground Control operators who certainly have their jobs cut out for them.

Guy worked closely with Strictly FX to create a laser system that actually tracks the information from the kinetic and follows those along.

"We actually trace the laser into all the balls and patterns as they move," he said. "However we're not quite ready to give up all our secrets as to how we did it! We wanted to have a visual tracker; with the winches we can track up and down but the problem is air current especially when the balls are suspended on a thin wire. We wrote a lot of custom software to accelerate the information and actually align the systems back into place."

Strictly FX supplied twenty 15w Arctos lasers, ten 6w Arctos lasers and eight 3w laser audience scanners. The lasers are programmed in Pangolin Beyond but are triggered out of the grandMA2 console as is the kinetic, lighting, and video. The only element not triggered by the grandMA2 are the three lifts in the stage.

In Europe the grandMA2 was dealing with 140+ universes of information and the system began to slow down. MA suggested using a third 'driving' console as a final compiler that the stream comes out of so it has the high CPU rate and no glitches.

"The guys at MA are always there to teach you something new and they have helped us out a lot," said Guy. "We worked closely with MA Lighting to evolve the kinetic elements and build new objects that MA can utilize and relate to, to make the kinetic spheres work in 3D."

"The in the round set up is totally different to an end stage. Some looks you may only understand the pattern if you're to the side of the stage, some you need to be north or south and others everyone can understand."

Previously, Drake's tours have been very video driven but this was quite a departure for him. There were four I-mag LED screens located on each corner of the truss that were constructed by 224 x Galaxia Winvision GL12 LED tiles. The stage was wrapped in 372 x Roe MC-7H 7mm LED tiles. Projection was by eight Christie 4K 30k Boxer projectors with a Panasonic AV-HS450 switcher and five Grass Valley LDX 80 Cameras (two hand held and three with 99x long lens).

The show builds starting with just lighting, then adding the balls and finally the lasers. The show finishes with the inflatable globe and everything else is switched off including the follow spots. It's just Drake lit by the projection on the globe and hundreds of mobile phones.

The inspiration for the globe came from an art installation that happened in Toronto called Death of the Sun, a 45-ft round sphere on top of a projection-mapped pedestal over a 12 to 15 minute progression on the different stages of the sun. Fortunately, the creator had worked with Drake before, so one phone call secured the ideas and the original needed to get the ball rolling. The eight Christie projectors, four double-stacks in quadrant, drive the globe itself with d3 to map and track the ball as it's inflated during the show, so Guy can realign and hit it completely.

Demetrius Moore is the kind of FOH guy who is as cool as the act, hangs out with the act and, according to the lighting crew, waltzes into the venue at the last moment! Joking aside, he pulled off a thumping big sound in difficult circumstances.

"I'd had some experience of doing sound in the round," he remarked. "I was the monitor tech for an in the round Prince tour and seeing and hearing how the PA was set up, I was able to prepare myself and know, years later, where I'm going with it."

Demetrius said his biggest hurdle was that his FOH location is different at each venue. With the subs only pointing east and west and Demetrius usually positioned to the north or south of the stage, he has no subs pointing directly at him.

"We have to steer the subs to fill the whole room which is a bit of a challenge but Arno, my FOH tech, is great at low end," added Demetrius. "I can't take credit for it, he has dialed that in to a thunderous, booming low end and I don't even miss having subs at north or south."

There were forty-eight pant-shaking B22 subs on



the floor, sixteen stacks of three high. The d&b audiotechnik PA was very wide due to the design of the show, having speaker cabinets amongst the balls or in the centre just would not have worked or looked right. There were ten hangs, eight of which are twenty deep d&b J8 cabinets and hung four a side east and west. In the centre are two smaller hangs of eight d&b



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V8s to cover anywhere missed north and south. There were also four d&b Y10P centrefills and eight d&b Q7 stretchfills.

"The d&b is great for this design particularly because of its weight and size," said Demetrius. "You come and you see the picture of the show, you actually miss the PA so it really ties in together. Our aim was for a big sound but it had to look aesthetically great and tie into the show. I can't tell you how many emails, phone calls and meetings we had about PA placement - but in the end it is perfect and I'm totally happy."

Demetrius ran the show on a DiGiCo SD7 with an Ableton computer rig for his vocal effects coming through a MOTU 112D digital from the computer back into the SD7 for reverbs, delays and special effects.

"Drake uses a Sennheiser 9000 microphone fed to me digitally at 96K, and my SD7 is 96K but I do have a little secret source of the Avalon VT-737 to give it warmth of the analogue," added Demetrius. "There are no other outboard effects, everything is done in Ableton ... I have some UAD plugins, a couple of

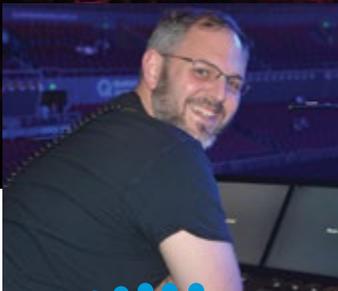
tc electronic plugins, Waves H-Delay, Soundtoys EchoBoy and MaxxBass for Waves plugins. I also use one Ableton delay; the Ping Pong delay which is great and an AMS RMS 16 reverb from UAD."

Demetrius commented that Drake has great mic technique, that the vocal chain has been set and has been that way no matter what stage configuration or set up is being used. If he's in front of the PA or behind it, he still delivers the same.

On previous tours, Drake has spent much of the show performing in front of the PA and spill into his microphone was always a threat. In this set up, the PA does not bleed onto the stage as much which makes it better for him and Demetrius said that with this design, they are all working a little less.

Monitor world was located in the bowels of the stage with Sean Sturge from AK Sound also running a DiGiCo SD7.

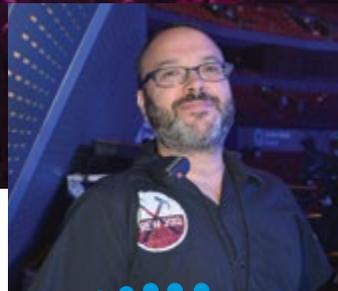
Eighth Day Sound were the local sound production company.



DAVID DIAMOND



DEMETRIUS MOORE



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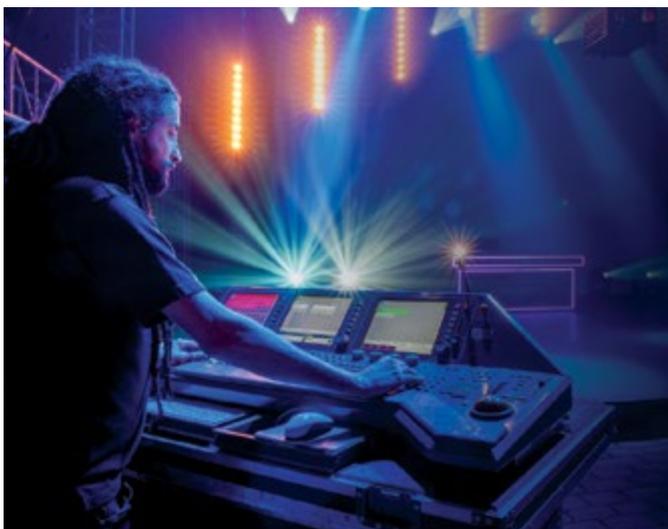


ILLUSIVE PRESENTS AND FRONTIER TOURING ONCE AGAIN JOINED FORCES WITH **AUSTRALIA'S BIGGEST RADIO NETWORK** THE HIT NETWORK TO BRING **BACK RNB FRIDAYS LIVE.**

By Cat Strom / Photos By David Youdell

After successfully launching on air in 2015, the RNB Fridays radio show is now the Hit Network's most listened-to day on air across its 43 stations nationwide and features the best RNB hits from the '90s all the way through to today.

In 2016, RNB Fridays Live launched to an absolute frenzy with every one of the 50,000 available tickets snapped up in a matter of seconds with the Melbourne, Brisbane and Adelaide events even breaking their respective long-standing venue records for highest attendance. >>>>



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In 2017, the party continued on with another round of RnB musical royalty gracing the stage nationwide; Craig David, Ne-Yo, Sean Paul, Kelly Rowland, Kelis, En Vogue and more. Again, the tickets went quickly and extra dates were added.

"Last year was the first RNB Friday live event which was supposed to be a bit of a side gig to the TLC tour I was lighting," commented Jamie Centofanti of The designsoup who created the production design for both years. "However, the ticket sales were phenomenal and it flipped to being 5 or 6 sold-out arena shows and a few TLC side gigs!"

Illusive Presents and Frontier Touring joined forces to tour the event and Jamie worked closely with Frontier's Travis Hogan who looked after production for Illusive. "Travis managed to ride shotgun as my co-designer on this one simply by being a very involved client," said Jamie. "He managed to get four versions of the show out of me before we landed on budget and with every headliner satisfied! It can be difficult because a lot of these artists haven't toured for a long

time and have to round up their old production team. Some of them can be very specific as to what they want regardless of the fact it's not a standalone tour. There are easily six or seven acts of equal importance on the day."

If any of the acts were a demanding pain in the arse it didn't matter to Jamie he wasn't out on the road with the tour and all dramas fell to Michael 'Simmo' Simpson, his lighting director! Simmo had to look after seven of the acts whilst three acts toured their own LDs.

"Jamie brought myself onboard to program and run the board for all indoor shows and he employed Shaun Cook to do the two outdoor shows and it was a busy schedule," added Simmo. "I was shown the design which funnily enough was hand drawn on a napkin but when it was brought to life it wasn't too far off the money."

When designing the show, Jamie ensured a large focus on the DJ as it is essentially a live radio show. Last year the design was centred around a large DJ riser with a video surround and Jamie kept that theme going this year.

"Of course there's also a decent amount of branding and with that comes big video screens," he said. "There's also Imag for all of the shows to take into consideration and good Imag needs a good background. So this year we created a really nice wall of Martin VDO Sceptrons to dress up the set, not only for the DJ but also to create some texture for the cameras shooting the acts."

The VDO Sceptrons all had their Perspex covers removed so that they went black like the rest of the set when turned off. Ken Weston was the tours head VJ / programmer / operator.

"Jamie came up with a really cool look with the VDO Sceptrons," said Simmo. "The risers started low and peaked in the middle where the main DJ was; the 126 x 1m VDO Sceptron pieces masked the entire riser fronts. It added another dimension to the show."

Truss configuration was the old faithful V spray configuration, initially six truss fingers but budget kicked in and it was cut to four fingers of 40ft truss. The fingers extended from back to front and



JAMIE CENTOFANTI



stretched over the front of the stage over the audience. The end result made the punter feel that they were in a massive nightclub from the start to finish.

"It's a good solution as you can get a lot more variation in beam structure with an upstage/downstage truss and if you fan it out a bit, it's doing half of the design job already," said Jamie. "Running upstage to downstage can also make best use of the airspace when you have a large LED wall that needs to be seen clearly throughout the arena."

Jamie's rig featured plenty of Martin MAC Viper Profiles which he describes as a chunky, solid profile light that no matter how high you rig them and what you put next to them, they still manage to deliver a nice crisp image with lots of zoom.

"I went with MAC Quantum Washes in the air just for stage wash so there's one at the end of each truss finger," added Jamie. "Each truss finger also holds five MAC Viper Profiles, four Claypaky Stormy, five DWE Duet, and five MAC Aura XB."

On stage the two risers flanking the DJ riser each had four MAC Viper Profiles at the back and six MAC Aura XB at the front along with DWE linear 4 way fixtures. A couple of MAC Quantum Washes flanked the stage.

Out front for control were both an MA Lighting MA2 console and a High End Hog 4. Chameleon Touring Systems supplied the tour except for Perth which was supplied by Tim Bradsmith and Showscreens. Big Picture supplied video and special effects were by Showfx.

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Stevie Nicks

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Gold
shows

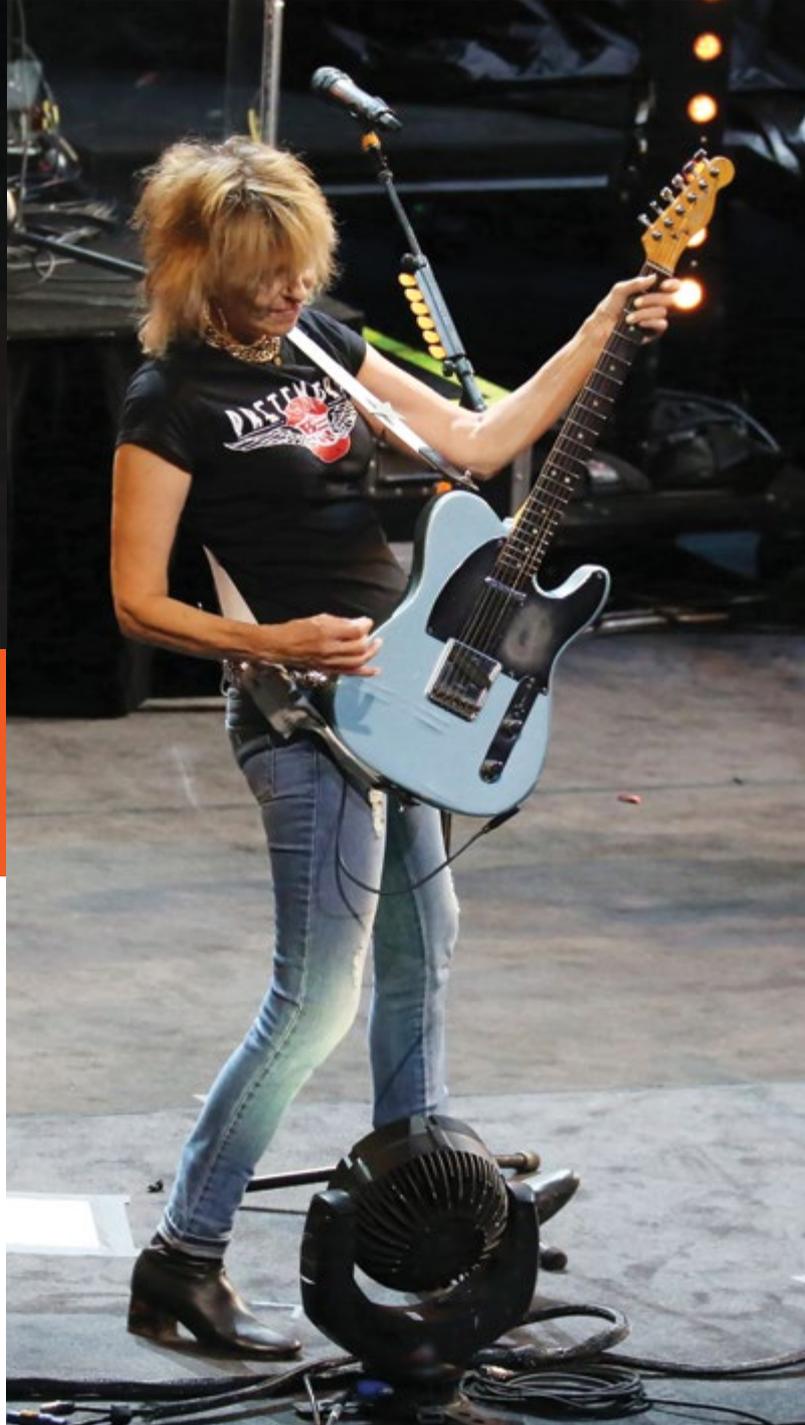


By Cat Strom / Photos By Troy Constable

with very
special guest

Chrissie
Hynde

Singer-songwriter Stevie Nicks returned to Australia for an exclusive run of her 24 Karat Gold shows. Joining Stevie for these special concerts were the Pretenders, fronted by Chrissie Hynde.



The Pretenders FOH engineer Pete Bartlett was happily ensconced behind an Avid Profile whilst next to him Stevie's engineer Dave Kob was drawing attention with his large, analogue Yamaha PM5000 console.

Dave has been with Fleetwood Mac, on and off, since the Mirage tour in 1982 and has worked with many big names such as Sting, Pink, and Boz Scaggs. In between mixing this tour, he has also done a couple of large Fleetwood Mac stadium shows and



Christine McVie and Lindsey Buckingham's tour.

"I always say I am one of the last analogueasauris roaming the earth," remarked Dave. "I like the ergonomics of having all the input faders in front of you rather than having to scroll through different pages. I use digital consoles when I have to; on Lindsey and Christine there are a whole load of tracks so I use one with them. It's the tool I needed for that job, there are too many things you have to recall to do it manually on an analogue console."

Although Dave's Yamaha PM5000 is analogue it does have some automation such as flying faders, auto mute and effects sends on/off.

"I have a snapshot for every song," he added. "In this day and age, I wouldn't want to use a console without that. Stevie and her band are a good live rock'n'roll band, they're not a machine and don't play the same things at the same levels every night. You've got to roll with it which is what I think rock'n'roll should be about. There's not much of it around anymore."

Although Dave has mixed on Midas consoles in the past and loves how they sound, he chose the Yamaha PM5000 because it can take up to seventy stereo inputs whereas a Midas Heritage takes a lot less.

"It's basically real estate and it sounds good," he said. "It's also a very reliable console which has never let me down. The only problem can be sourcing them as they are getting as rare as hen's teeth. Not like Pete's Avid Profile which you can find in any corner of the world - but any computer can break and crash. Some days you turn on a Profile and it thinks it's a small kitchen appliance, it doesn't know it's a console and you're left to fend for yourself!"

Dave had a couple of racks of outboard gear including the one piece of equipment he will not leave home without: the Summit Audio TLA-100 valve compressor he uses on Stevie's vocals and describes as amazing. Just as important is his Empirical Labs Distressor which he says if you can only have one that's the one to have as it can mimic just about anything.

"I have Aphex gates on the drums, Lexicon 480L reverbs on the vocals, an Eventide harmonizer on Stevie, Bricasti M7, SPX2000

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Audio Team

I use on percussions and drums and that's about it," said Dave. "There aren't a lot of effects, just some reverbs and a little fattening on Stevie's vocal.

"You have to ride Stevie's vocal just like you would for anyone but she has a very good mic technique and she can sing loud. She gives me plenty of gas most nights! Obviously some nights her voice may not be as loud as normal, everyone has on nights and off nights, but there's always enough there to put effects on and away we go. The Summit compressor just rides her vocal."

The consoles, monitors, outboard gear and band gear tours whilst the PA is picked up locally. In Australia JJJ Audio supplied a Clair Global Cohesion system, Dave's preferred PA.

"It's a great PA and riggers like it because it's lightweight yet very powerful," he said. "The sub lows are unbelievably powerful."

At the ICC Sydney Theatre the front hangs consisted of sixteen CO-12, with three CP-218 self-powered lows a side and the out-fill system was twelve CO-12. For front fill there were CO-8 along the front of the stage.

"This venue doesn't sound bad but I am struggling with the low end," commented Dave. "Most rooms have too much low end but this one seems to suck out the low end. However I think they've done a good job in general



in addressing the acoustics; it's not echoey or overly bright, there's just something weird in the low end. Mixing up on a balcony is odd too, I'm used to mixing on the floor."

Microphones were mostly what you would expect with Dave saying he never does endorsements preferring to pick what is needed.

"There's a mixed batch of everything up there," he said. "One thing I have been using for decades is a Milab M96 on overheads as I've never heard an overhead mic sound anywhere close to it. I have Audio Technica on drums, Shure 57 on snare, Shure inside the kick and Sennheiser outside, Shure ribbon mic, a Shure 57 on Waddy's guitar and Sennheiser mics on vocal. It's a standard rock'n'roll kit, you don't have to get fancy."

Monitor engineer Miles Hale ran a DiGiCo SD10 console which he says is more than capable of doing what is required for this tour.

"We have a mixture of wedges and IEMs, very reliable snapshots and good sounding preamps," he commented. "We're running everything at 96K and it's all very clean sounding. Stevie has her own Sennheiser SR 2050's for the transmitters and everyone has mixture of different ears."

Outboard gear included Yamaha SPX990, somewhat vintage but Stevie likes the core sound of it.

Miles pointed out that running Stevie's monitors is very much like mixing FOH for her mix; constantly riding faders and nothing stays the same from night to night.

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STAGE PAR 400 ZOOM IP ACME'S ALL PURPOSE PAR



By Julius Grafton

This sleek IP65 rated LED par sits neatly in the 'all purpose' category where you need a light to make colour and zoom. It features 7 x 30w Osram RGBW LED engines that make a pleasing amount of output.

As the picture shows, it has a double yoke and is made from die-cast aluminum. The LED electronics are in the back module, while the lens and zoom are up front. Those modules are weather sealed, while the centre section with heatsink has mesh breathing, and water through that doesn't bother the unit.

It zooms from 6 to 40 degrees. The specification for fan noise says 42dB, and the unit will then reduce

power to maintain temperature rather than start to make more fan noise. In practice, I found the fan very quiet.

You can elect to run the device with 5, 7 or 9 DMX Channels. In 9 channel mode, you can access 34 Lee colour presets and the whole range of colour temperature settings. You can also get to the strobe functions – if you really have to!

The colours ranged from exactly 'just like Lee' to somewhere close. Having the ability to use this macro

Brand: Acme
Model: Stage Par 400 Zoom IP
Pricing: \$1,285 inc gst
Product Info: www.acme.com.cn
Distributor: www.ulagroup.com

makes life easier. Of course you can mix it up, and use the 4 channels of colour RGBW.

Dimming appeared perfectly acceptable, with 16 bit selected, a ten second fade was just that – quite smooth. In the 9 DMX channel mode you have access to fine dimming.

The device weighs 8.5kg, has RDM

functionality, draws 250 watts with everything at full tilt, and has Truecon connectors with caps for power in and out.

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PRESONUS STUDIOLIVE 3 FROM STAGE TO STUDIO

By Jason Allen



SL16 top

Presonus have updated their StudioLive digital mixer series to generation three with three new consoles and three new stageboxes, which, surprisingly, are also digital mixers. In doing so they've created a digital ecosystem that can be used to create quite complex setups, all on an AVB backbone.

The three consoles in the range are the SL 16, SL 24, and SL 32, named for their amount of faders (plus master). The SL

32 has 22 analogue out, the SL 24 has 18 analogue out, and the SL 16 has 12 analogue out. All three include a mono sum out on XLR, monitor outs on TRS, AES out on XLR, tape out on RCA, and AVB. The racks are the SL 16 Rack, SL 24 Rack, and SL 32 Rack, named for the amount of mic pres. Each rack has half the amount of outs to their ins on TRS, plus a dedicated L/R XLR out and AVB port.



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Mixing architecture is the same for each device in the range; 32 mix channels, 24 DCAs, and 28 busses, which includes 16 'Flex' busses that can be used as auxes, subs, or matrices, L/R, four dedicated subs, and four FX busses. There's 10 GEQs available, and 6 band parametric EQ, compression and delay on the outs. The racks can be controlled via the consoles, or with PreSonus' UC Surface touch-control software for Mac, Windows and iOS, which can also be used for the consoles. Multiple screens can be added to any setup.

PreSonus' StudioLive digital mixers have both their fans and detractors over the last two generations of the product, and the detractor's biggest bugbear, the lack of motorised faders, has finally been addressed in V3. Non-motorised faders in the previous two generations made mixing on these desks something of an abstract task for those not used to faders not necessarily doing what they look like they're doing.

The new generation has redesigned the 'Fat Channel' interface for the better, adding a lot of dedicated hardware control. My personal litmus test of any compact mixer – how easy it is to adjust channel EQ – is passed with flying colours with eight encoders plus 7" touch screen adjustment. There are two types of EQ, modern and vintage, and compressor options are standard, tube and FET.

There's some handy new additions like dedicated mute buttons for the FX busses, a built-in RTA, and Bluetooth connection. On the console surfaces, DCA spill has been



Brand: PreSonus
Model: StudioLive 3
Pricing: All inc GST:
 SL 16 \$3,528, SL 24 \$4,470, SL 32 \$5,294. SL 16 Rack \$1,411, SL 24 Rack \$1,882, SL 32 Rack \$2,352.
Product Info:
www.presonus.com
Distributor:
linkaudio.com.au





SL32 top

implemented elegantly, and the user layer setup allows you to get around one of the desk's interesting quirks - PreSonus have implemented the AVB connection between the rack and desks in streams of eight channels each. This means digital patching to the desk channels can only be done in blocks of eight. So, if you want to patch, say, inputs one to six from the rack to mix channels five through eleven, you're out of luck. What you can do, though, is patch a block of eight from the rack and patch local console inputs over them, or patch where you have to and create a user layer with anything you want in any order.

Connection to the racks gives you some interesting options - take total control of the rack and use the surface as a remote, take ins from the rack and mix a combination of local and remote inputs, or, 'monitor mix', in which the console has no control of stagebox, turning it into a separate foldback mixer. In this mode, the stagebox can't mix to the stereo or matrix busses, and the console can't mix to the aux busses. Preamp control can be assigned to either or both mixers, and while the system does not yet support gain sharing, it's said to be coming. It's easy to see applications like worship putting a monitor operator on stage with an iPad and running this mode, as it's almost impossible to get a FOH, monitor and digital stage box system at this price point.

The 'Studio' side of the StudioLive is very well integrated, as you'd expect with PreSonus. Recording options are plentiful - 32 tracks to SD card on the consoles (2 on the racks), 38x38 via USB, and 55 channels of AVB, which can be connected directly to Macs. Recordings imported into PreSonus's included StudioOne DAW will also carry across their channel processing settings. Dedicated transport controls and a button to flip to DAW control mean going from stage to studio is easy.

The StudioLive really embodies its name, to the extent that as a live engineer, I looked at it and thought 'that's a bit studio-y', and I imagine a studio engineer would look at it and say 'that's a bit live-y'. The AVB and operation mode options, which will be a bit beyond the inexperienced user, could see this generation both enter a new market and possibly leave their old one behind. But at these prices, there's not much else around that gives you anywhere near this amount of capability.



HK AUDIO LINEAR 3 112FA

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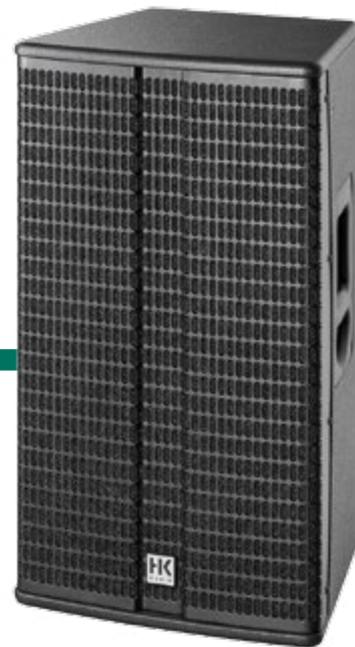
By Jason Allen

HK Audio's new Linear 3 range of loudspeakers is designed to sit between their premium Linear 5 range and their Premium Pro range. Keeping the styling of the Linear 5, the Linear 3 range includes the L3112FA powered 12" with a 1" horn at 90° x 55°, L3112XA powered 12" with wedge profile, and L3115A powered 15". There's also two new Linear subs - the LSUB 1500 A and LSUB 1800 A, a 15" and 18" respectively. For this review, we put the L3112FA through its paces.

Construction is sturdy, with 16mm MDF, and the same metal front grille as the Linear 5. The handles are good, and the box weighs in at 21.5 kg. First impressions are of a serious black box that is made for rock'n'roll.

On the back, there's three inputs - two combi jacks and stereo RCA, each with a dedicated gain pot. The combi jacks can run mic or line, and the addition of the stereo in means this box can do a solo performer gig as well as be part of a serious PA, offering rental flexibility. There are XLR thrus under the combi jacks - A outputs A, and B can be switched between 'B only' and a mix of all ins.

HK have eschewed giving the end user fancy DSP settings to play with - it's mostly locked down in the box. What you do get is two switches - one to set the LF to flat (for use with a sub) or boost, and one to set the HF to flat or 'contour'. The 'contour' setting is recommend when using



the L3112FA in smaller rooms to avoid fatigue - it rolls out some highs starting around 1kHz without decreasing overall volume.

Interestingly enough, though our room wasn't that small, 'contour' proved extremely beneficial. While we were A/Bing a range of loudspeakers, we noticed the room was making the top end in all of them very dull. This was due to reflections and comb filtering issues caused by a low false ceiling. Switching in 'contour' took some of that energy off the ceiling, and counterintuitively actually boosted the HF in the room.

The lack of user control over the L3112FA's DSP is one of its strengths - it's hard to make this box sound bad unless you really try. It's a well-made product tuned to sound good the moment you put it on a stick and turn it on. Sonically, it's a lot like its more expensive Linear 5 sibling, presenting with a reliable mid-range, detailed top-end and musical bass. All that's missing is that it doesn't quite have the laser-like accuracy from 1kHz to 6kHz that the Linear 5 has. Driven hard, it's not painful, which is the biggest downfall of its competitors, and it punches above its weight for a 12". On paper, its 1200W Class D amp produces 135 dB max SPL.

I really like what HK have hidden under the hood. Your investment is really well protected, with under-voltage, thermal, short circuit, and over-current protection, a subsonic filter, look-ahead temperature control, and peak, RMS and multiband limiters. The crossover is at 2.3 kHz with a 72 dB/oct FIR filter. In addition to the pole mount, you get four rigging points for flying. Made in Germany, it comes with a five year warranty.

The L3112FA is a solid wooden contender in a market and price point which has a lot of plastic boxes in it. It avoids the hype, boom, tizz, and fancy menus and processing of some of its competitors and just gets on with being a decent, reliable loudspeaker.



Brand: HK Audio
Model: Linear 3 112FA
Pricing: RRP \$1799 inc GST
Product Info: hkaudio.com
Distributor: www.cmi.com.au





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the worm?

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NETWORK SMARTS FOR PRODUCTION

By Jason **Allen**

Belgian AV networking specialists Luminox are staunch live production people, with networking knowledge to boot. They pride themselves on making Ethernet switches that you don't need any specialist IT knowledge to use, optimised for live production. Their range of ruggedised switches is packed with etherCONs, operable on the front panel, and designed to be hung off trusses or roadcased and toured. The GigaCore 26i is a little different.

These guys pride themselves on making Ethernet switches for live production

The 26i is a high-density switch, packing way more connectivity than its siblings. This comes at the expense of using RJ45s and SFPs (Small Form Factor Pluggable) instead of etherCON, so it's better suited to being at FOH or side stage and protected than hanging off a truss. It sports 24 RJ45s, and four shared and two dedicated SFPs for fibre. It doesn't have a LED screen and front panel operation like other units in the range.



What it does have is major automatic intelligence built-in. It's like having your own IT staff, but you don't even have to ask them to do anything, they just know what you want. Setting up VLANs is so ridiculously easy and understandable that they don't even call them VLANs, it's 'Groups'. Open up the software, click on a diagram of the switch and which ports you want in which group, and it's done. You get colour coding in the software and on LEDs on the front panel so everyone knows where they can plug in their gear.

Automatic redundant link set-up is enabled by default. This means you can connect two fibres between one 26i at FOH and one on stage, and the switches automatically recognise them as a primary and back-up connection. Some normal off-the-shelf switches will crash if you do this.

With bandwidth at 1gig per port, you can easily link ports together if you need to stream something big, like 4K uncompressed video. Again, a couple of clicks in the software and its done.

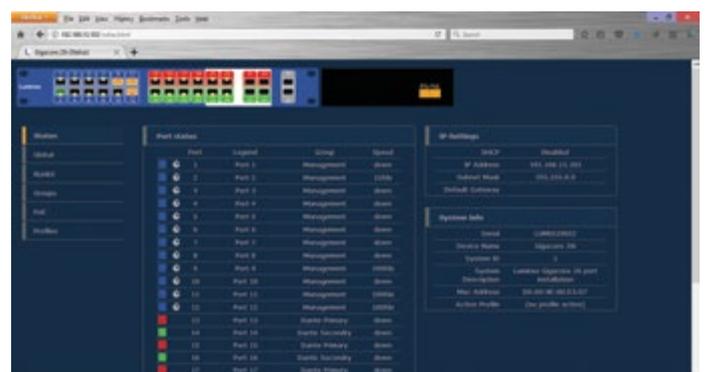
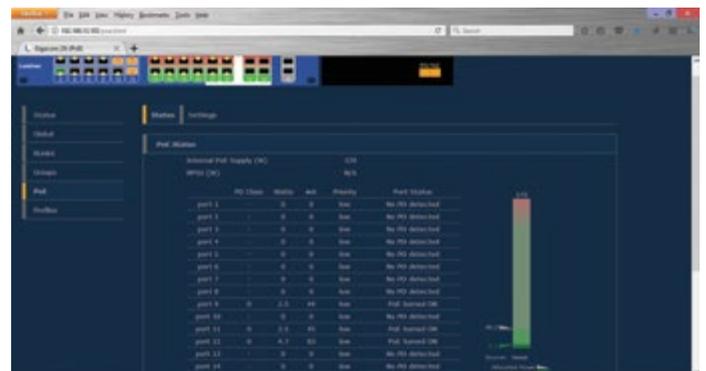
Brand: Luminex
Model: GigaCore 26i
Pricing: RRP \$5,521 inc GST
Product Info: www.luminex.be
Distributor: www.pavt.com.au

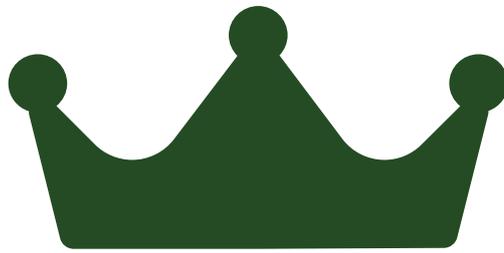
After you've got everything set-up the way you want it, save it as a preset in the Profile Manager. You've got 10 slots available, which saves heaps of time when you need to reconfigure your switch for different gigs.

There's an option for PoE if you need it, for a bit extra. It's 375W total, and is managed very clearly for you in the power page. You get to see the unit's total power, how much is allocated, and how much is being drawn. You can set a priority list that will start to turn off lower priority devices if the power draw gets too much.

Reassuringly, the GigaCore 26i has the option for a redundant DC power back-up, which any sane live technician is going to run.

Two GigaCore 26i are enough to cover the most demanding live-set ups on all but the most enormous of gigs, and anyone in the crew who has a data connection on their gear, which is just about everyone now, will be able to connect and use the software.





EFFICIENCY IS (OR SHOULD BE) KING

By Simon Byrne

The production business is a great way to waste money if you let it. The temptation is to spend more time and money so as to improve what we do. The key however, is to be efficient with the resources that you have, so you can build and focus on what is important.

The in-house AV providers have had this worked out for a long time. Go into most hotel ballrooms nowadays and there will already be a basic installed PA system, moving lights, projectors and screens available for hire. By doing this, they've stripped out the bulk of their labour costs for most of their gigs. As a side benefit, they've made it harder for outside contractors to compete whilst still being able to charge premium rates. It is smart, profitable business.

In many production companies, labour is about 50-55% of the costs, but only 40% of the charge out, so real gains can be made by getting smart and systemising things wherever possible.

Starting with rental management software such as RentalPoint is really helpful, if not critical for efficiency in any production operation. Even for theatres who don't charge out, in house AV, or the one man road warrior, it puts all the records in one place which delivers valuable information. On a day to day level, it forces you to be really structured, or at least think about your decisions when putting a gig together. It saves time and in my view, it is a critical planning tool which dramatically increases efficiency when it comes time to deliver the jobs.

Also, in the long term, the data really pays off. For example, how much is that customer worth to me? She wants the job we did last year again, just duplicate it. Has that widget paid for itself? How many times has that piece of gear been out of service?

Long hours are part of what we do, so it makes sense to keep the key people fresh where possible. That means systems and processes that speed things up, or permit the substitution of people without compromising the

end result will really shine.

Reducing the endless equipment prep and dismantle time is key. Equipment packaging is the obvious time saver both in the warehouse and on the gig. By investing a little more capital expenditure, regularly used configurations are packaged up which saves time every time it is deployed in the future. This is especially the case with networking. I can't tell you how many gigs I've been on where crew have struggled to get gear to talk to each other. By having a very standardised methodology dramatic time savings will be made.

Standardised cables, looms and packages with colour code labels. I'd always try to buy the most reliable cabling possible because poor cabling costs money out on the jobs. Whether it be not enough cable, damaged connectors, poor performance, it all costs time and money out on the gig.

Standardised cable packages are a dramatic time saver in the warehouse because time is not spent picking, packing, unpacking and returning cables. Basically, have cable packages that will do 95% of the jobs and send them out on all jobs in road cases on wheels, ie; separate audio, power, lighting and vision cable packers. That may often mean more cables are brought than needed, but with the benefit of using the packers as dollies for other gear and being able to deal with unforeseen needs.

The business must be committed to keeping the standard packages intact, always. There is no point in standardising cable packs if they are going to be raided every other day, otherwise inefficiencies are introduced back into the system.

Dolly boards are cheap and make life easier too. If you haven't got a lot on wheels, make it easier to move gear where it needs to be.

In my old company, the warehouse was laid out in a grid and row pattern. Row A, B, C and so on with clear signage. Then the bays had numbers as did the shelves. On RentalPoint, every piece of equipment had their location as part of the description. So a mixer might be "Yamaha LS9 B41". The guys and gals pulling the equipment instantly know that the mixer is located in Row B, Bay 4, Shelf 1. The entire inventory and warehouse was done this way which meant casual staff unfamiliar with the operation, could still find gear quickly which frees up key personnel.

Absolutely everything has its place which meant we never had to hunt around for anything with the added benefit of immediately knowing if something was out or missing.

High end microphones were kept in steel cupboards with foam cutouts for every single one. Being a high theft risk item, we knew instantly if a microphone was unaccounted for.

I find checklists to be invaluable.

When I got my pilot's licence, I learnt that in aviation, everything has a checklist and you are expected to use it, no matter how experienced you are. Even supremely experienced pilots are required to use a physical checklist despite knowing it off by heart. It really drove home to me that people are fallible and that by going through a simple check off process, you are forced to briefly think about all matters relating to the job at hand.

Equipment failure is normal so a process should be in place for this too. We carried bright red tags and if anything was faulty on a job, it got a tag, as did its case. Then when it got back to the warehouse, everyone could see there was an issue and have it sorted out straight away. Faulty equipment is not performing so it becomes dead money if it is not repaired. So it should be repaired quickly.

Monday is recovery day. That's when everything is put away, paperwork done and maintenance carried out. In my production business, all the vehicles were filled and checked on Mondays and given a (very) quick clean. That way we knew they always had adequate fuel in them for the coming week's work. And talking of trucks and vans, either a ramp or tail lift means less manpower is needed when loading and unloading.

I'm not a fan of signage on vehicles. It's advertising to criminals that it is probably worthwhile to break into. We never left loaded vehicles parked outside overnight for the same reason. I had 3 branded vehicles and all of them were broken into so I changed to unbranded. No break ins!

Use software to your advantage. Most gear manuals are available as PDF's now so why not have the manual for every piece of equipment you use on your phone?

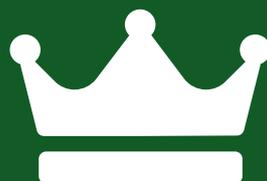
I have an app on my Macbook called Text Expander. Text Expander saves my time by expanding custom keyboard shortcuts into frequently-used text and pictures.

Rather than say typing my email address out, I have a 3 character code and Text Expander replaces the code with the full text.

Another invaluable app is Lastpass which manages my 300+ passwords and other confidential information such as credit cards and autofills them when I'm online. For example, when I'm ordering from a Ecommerce site, Lastpass can autofill my credit card and address details which saves a lot of time. It all counts.

Evernote is a great favourite too. It is an app designed for note taking, organising, and archiving and it does it by creating "notes". A "note" can be almost anything from text, files and photos. It's real power lies within it's optical character recognition and search engine so it is a fast way to store and find stuff. Anytime I need to keep a note of something, it goes into Evernote.

Whilst getting efficient saves money, it really frees up time to finesse your work. You have the gift of time to be better.





The Survey that had to be Done

And the consequence will surprise, excite and deliver for those truly invested

In preparing this month's editorial, I sensed that the impending narrative would deliver total surprise to most industry participants, who will instantly recognise the game-changing nature of a new ACETA initiative that will facilitate far reaching development and opportunity for members. The subject matter not only details the findings of our comprehensive survey that reveals the current size and nature of entertainment technology creation in Australia, but offers a clear insight into its potential. Deciding on the presentation manner for this editorial was obvious, such informative and compelling material is best relayed as it is.

The survey set out to establish the number, financial output and employment statistics of Australian organisations engaged in creating and manufacturing entertainment technology, a challenging but necessary task to drive industry and nation building. Inclusion in the survey required organisations to be at least 51% locally owned, subject to Australian law, employing at least one full time individual and engaged in the research and development of entertainment technology, produced or partially produced in Australia. With regard to financial output, approximately 85% of the aggregate is on the public record or confirmed by reliable sources, the remaining 15% is speculation based on logic and credible information. Establishing employment numbers followed similar parameters, taking into account only those employed in Australia and excluding sub-contractors. It is possible there are qualifying organisations that have escaped attention who can be included at a later date. Over or under estimating of the 15% proportion not on the public record or confirmed, will even out as a matter of course in the aggregation, therefore, we suggest the survey statistics are accurate to within plus or minus 2%. The survey also shows there is no reliable formula in correlating employment numbers to financial output. Some organisations and sectors are labour intensive, others highly automated, a number manufacture off-shore and some sub-contract all or part of their

production. Following is the statistical data that defines the current composition of entertainment technology creation in Australia, we will conclude with a few revealing insights and summary.

The survey revealed that the three largest organisations had established a strong export presence and a growing international market share. However, with a few exceptions the majority of the 90-listed organisations had either a sporadic or no export program, relying instead on the small Australian market (around 1.5% of the world total) to sustain their business. A hypothetical analysis will lend perspective to the possibilities; given the same circumstances and market penetration a company turning over \$100,000 in Australia would be turning over \$1,316,000 if based in the USA. And a company turning over \$999,999 in Australia would be turning over \$13,160,000 if based in the USA. These figures are in AUD, based on market similarities and a USA population 13.16 times the size of Australia, with enhanced opportunity of export due to a significantly higher income base. The majority of Australian companies in the survey, 59 in total (or 66%) currently turn over \$100,000 to \$999,999, therefore the key indicators in this survey are positive and present remarkable potential for financial output and employment growth, but we must export.

The manufacturing sector of our Western nation competitors, particularly the UK, Europe and the USA operate in well-established decentralised environments, benefiting from realistic manufacturing and warehousing cost structures, not so Australia. Our survey shows we are primarily centralised in the capital cities, in particular the two highest cost of all Melbourne and Sydney where real estate, services and employment costs are by far the highest in the nation. As the market place is also rapidly decentralising, thanks to the internet, many of our manufacturers would be wise to investigate re-location to a much lower operational-cost region, to ensure we can successfully compete on a more level playing field. This important issue is being addressed by ACETA on behalf of the membership, and

will be addressed in the form of a re-location program at the inaugural convention in May 2018, in collaboration with the Wangaratta City Council.

In summary, the survey confirmed, Australia's entertainment technology creative / manufacturing sector finds itself well positioned to substantially elevate its international influence and become a significant source of entertainment technology supply in all its forms. With only a few exceptions, the sector is conveniently compact, niche by nature, resilient, proven in the development of high performance technology, and with very little baggage, a highly desirable international supply partner. But most importantly it is now empowered with its own increasingly influential 'peak body'. With or without the participation of any particular organisation, ACETA is determined to prevail. In partnering with resourcing agencies and the establishment of development programmes, the current financial output of 473 million could become a billion and 891 employed individuals could become 2,000 or more. Obviously only bona-fide ACETA members receive the benefits and qualify for inclusion in programs, therefore it may be in your best interests to join the vision and secure the future. Contact www.aceta.org.au or phone (03) 9254 1033.

All the best
Frank Hinton
President ACETA

1. National Composition

Turnover from – to	Organizations	Employees
100,000 – 999,999	59	110
1,000,000 – 4,999,999	21	184
5,000,000 – 9,999,999	7	107
10,000,000 – 24,999,999	1	30
25,000,000 – 99,999,999	1	110
100,000,000 – 249,999,999	-	-
250,000,000+	1	350
Total	90	891

2. Regional Composition

State/Territory	Organizations	Turnover	Employees
QLD	9	5,700,000	29
NSW/ACT	31	100,500,000	253
VIC/TAS	35	343,950,000	511
SA/NT	8	5,600,000	26
WA	7	17,300,000	72
Total	90	473,050,000	891

3. Sector Composition

Sector	Organizations	Turnover	Employees
Audio	57	118,350,000	368
Lighting	6	16,800,000	58
Curtains/Staging/ Scenery/Rigging	12	4,600,000	30
Vision	5	315,900,000	379
Ancillary	10	17,400,000	56
Total	90	473,050,000	891

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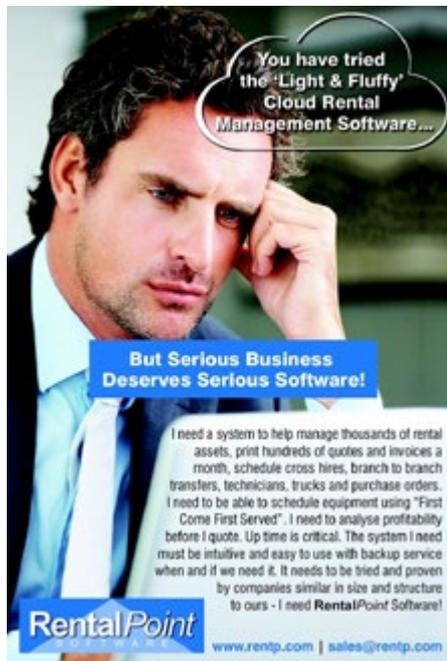


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Are you concerned about your mate's mental health?

FACT: Most Australian tech crew and roadies have attempted or considered suicide¹!

Support those around you and register for free mental health training

www.entertainmentassist.org.au
 Supporting the mental health of Australian entertainment industry workers

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DUNNCAN



Fry



Bad Santa? No, Bad Santa's Music

'Oh Christmas tree, oh Christmas tree,
Standing there so silently
We cut you down and set you up
In the corner watching us
Oh Christmas tree, oh Christmas tree,
We'll chuck you out by New Year's Eve'

(tune: O Tannenbaum)

It's coming up to that time of the year again when you can't go into a shopping centre or department store without wearing some blinkers, and a decent pair of earplugs. The blinkers to stop you being distracted from your shopping list, and the earplugs to blank out the never-ending outpouring of bad Christmas music.

Don't misunderstand me, I'm no Scrooge wandering around muttering "Bah, humbug" under my breath. I like Christmas, always have. Especially the present receiving part when I was a kid. The actual Christmas message was lost on me, though, hidden beneath a pile of shredded wrapping paper.

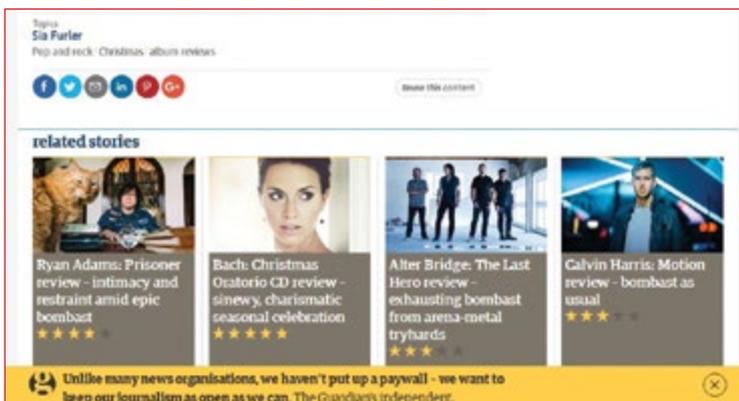
Christmas songs are a staple part of the marketing plans for a lot of artists in the UK, a concept satirised by Bill Nighy's character in the Movie 'Love, Actually.'

Seeking information on the current crop of UK Christmas albums, I hit The Guardian newspaper's home page,

which listed four of them. Each of the review's headlines contained the word 'bombast' (def:**bombast** - noun high-sounding language with little meaning, claptrap, **bombastic** - adjective speech or writing that is pompous and inflated and suggests extravagant verbal padding and little substance.)

Wow, hardly a resounding vote of confidence in any of them! Not exactly making me rush out and buy or download one!

For my money, the only Christmas music I'll happily listen to is Phil Spector's Christmas album, featuring the Crystals, Bob B. Soxx and the Blue Jeans, Darlene Love (who sang on most of the tracks despite the names of the bands!) and the Ronettes. As well as old favourites the album has some really classic Phil Spector productions on it. Worthwhile tracking a copy down if you love the voices of Darlene Love or Ronnie (Veronica) Ronette.





I used to have an original USA vinyl LP of it, but in a rash moment I loaned it to a DJ that I sometimes worked for, known as Nat Prick. Not his real name but close enough! I never saw it or him again, and it became yet another on my personal list of 'Great Mistakes of the 20th Century!'

I had a look online to see if anyone had a list of crap Christmas songs, and luckily for us, the San Francisco Bay Area newspaper 'The Mercury News' has done the hard work and created a short list comprising their choice of the 5 worst Christmas songs. Surprisingly enough Mariah Carey doesn't feature on there at all!

1/ Dominick the Donkey. I must confess to never hearing this one before, but having heard it once I never want to hear it again. It comes complete with a donkey "Hee Haw" sound with every verse. Please, make it stop!

2/ All I Want for Christmas Is My Two Front Teeth. I seem to recall a version of this playing when I was a kid, but the original is truly awful, and comes with the requisite whistling lithping thound on every sibilant. Ugh - like fingernails down a blackboard.

3/ Santa Claus Is Coming to Town (Bruce Springsteen version). I don't mind this one at all. It's got the Boss' usual 'band falling down the stairs' production, emulating Phil Spector's wall of sound but not quite getting there. Least worst of the 5 though IMHO.



4/ Santa Baby (Eartha Kitt) I remember this one as a child too. She's not asking Santa for much, just a new convertible, a yacht and a platinum mine. It's a harmless song, but 'hardly the kind of Christmas spirit that we want to celebrate', thunders the Mercury! Oooer.

5/ Please Daddy Don't Get Drunk this Christmas I should recuse myself from any discussion of this weepy John Denver tune as I have some history with it. But, what the heck - it's Christmas so let's live a little.



When I was a record rep in a previous lifetime, one of my duties was to take the new releases around to the radio stations; singles they could listen to, and albums with potential hits that might get released as singles. If the program managers liked them, they might play the album track and force it to become a single and thus a hit. Then they could say to advertisers 'look at this number one hit - we're the only station playing this track and now it's gone gold, thanks to our market penetration of 16 to 20 year olds, the market you want to grab, the big spenders, etc.etc.'

And so it was that I wandered into one of the top 40 stations in Melbourne one day, clutching the album Rocky Mountain High, the latest from John Denver, in my hot little hands.

"Looks a bit country for us, Dunk," said the program manager.

"Yeah, but there's a track on here that's got hit written all over it," I said, "You guys were so late getting on to 'I Don't Wanna Play House' the other stations played the shit out of it and it became a mega hit thanks to them while you played catch up. Remember?"

He frowned and glared at me, because he remembered all too well.

A singer called Barbara Raye had recorded a monster hit in Johannesburg with a very basic cover of a Tammy Wynette song 'I Don't Wanna Play House' the year before, and our national sales manager had got hold of the rights to it for literally next to nothing. A couple of the Top 40 stations had picked it up here, and played it to death. Somehow it caught the mood of the country music fans and we sold a shitload of it all over the country at a truly astonishing profit margin! And a nice little bonus earner for me!

"Yes, I hate to say it but you're right," he agreed. "OK let's have a listen to it." He pulled the disc out of its sleeve, I pointed to the track and he put it on.

It was, of course, 'Please Daddy Don't Get Drunk This Christmas!' A true classic of its kind, in which the young son sees his Daddy come home plastered, knocks over the Christmas tree, yells out 'Merry Christmas' while his Mama quietly stares out the window sobbing and sends the kid upstairs.

Great stuff – what's not to like? I thought.

"Jeez that is truly horrible, Dunk," he groaned,"but I can see it might have some potential, especially at Christmas. Tell you what, I'll have a chat to the other guys at our program meeting, and see what they think. Thanks for coming in with it."

Sadly for me and my much anticipated bonus, it turned out not to be a hit for John Denver. Someone at the program meeting took a copy of the song and gave it to a local cover band called Phil Golotta and The Blue Echoes, who did a hasty cover version in time for Christmas. That was the version the station ended up playing, not John Denver's.

It never became a hit for either of them, though, except in reverse, being voted #1 this year (2017) as the Worst Christmas Song Ever!

Actual voting percentages for the Mercury News' list were:

Daddy Drunk	42.37% Worst
Dominick Donkey	20.34%
Two Front Teeth	13.14%
Santa Baby	12.99%
Santa's Comin' to Town	11.16% Least Worst

Of course this is only one person's list of 5 Worst Christmas Songs; you've probably got a list of your own - maybe one that does include Mariah Carey! Email me - dunkworld@gmail.com - and let me know. In the meantime, have a happy and safe Christmas and New Year with family and friends.

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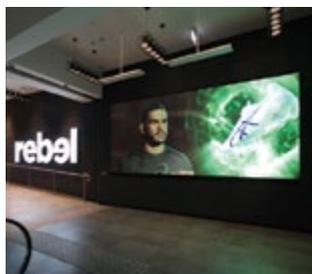
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