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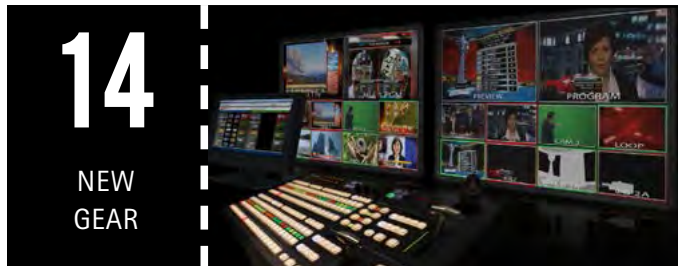
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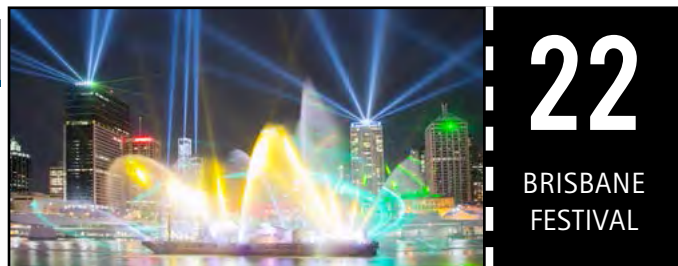
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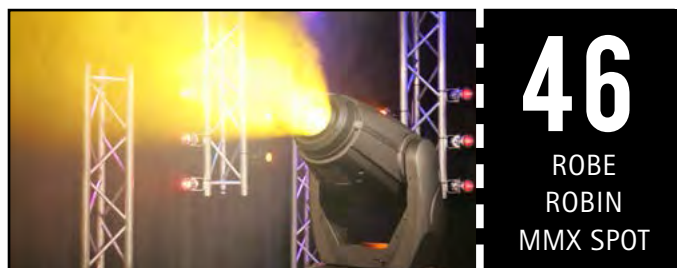
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## CX75 OCTOBER 2012. ISSUE 75 . ONLINE EDITION

### GST DEBACLE

Consumers enjoy shopping online – this year more than 11 million low value shipments will hit the shores. The retail lobby have been trying hard to get the Feds to impose GST on goods valued under \$1,000 – known as the Low Value Threshold. The Feds say if they drop the threshold to \$50 or \$100, there will be a log jam for customs to deal with. The costs to do this will exceed the \$600 million they will gain by charging recipients GST.

Several things spring to mind. First is that the retailers are being hammered. Second is that local web sales outfits are at a disadvantage as they do charge GST. And third is that we need to protect local industry, even if it does cost a little to do it. Maybe the Feds are worried at the idea of imposing ‘a big new tax’ – albeit just enforcing a small one (GST) that has worked well for a decade. Music Retailers and Pro Audio resellers would applaud a GST on all imports. Frankly we don’t see the problem, and wonder why this has gone on so long.

### BEHRINGER X32

We sure did get some action when we blogged our X32 review (CX gearbox, September). Amongst the many comments were a solid group who condemned CX for mentioning The War. Our ponderings over the imaginary personal proclivities of Uli Behringer went too far, according to some. A Blogger with an Uli Behringer email address posted an amusing rebuttal, which flushed out the (apparently) real Uli, who insisted he was not angry at our review, yet made sure we understood how some could be offended by our ‘racial’ comments.

You can find the whole saga online at [cxmagblog.com](http://cxmagblog.com)

Perhaps by way of amends, John Maizels, the sometimes suave diplomat, has filed a lengthy report on his Behringer relationship. We’ve allowed this to run in full Maizel-eque glory (we don’t pay him by the word, thank goodness), to show that we are a broad church here at CX. To quote Jane Austen - "One man's ways may be as good as another's, but we all like our own best."

### CX: THE LAST MAGAZINE STANDING

Buoyed by growing sales and infamy, your magazine is expanding. Welcome to the commentariat one Andy Stewart, former editor of Another Magazine. Also welcome Clinton Hughey-Trueman who will write on matters slightly lightie. As Australian Musician magazine is axed after 18 years, we thought a simple proclamation was in order. We are in a crowded media space, with yet more magazines and websites rumored for the limited niche in which we perch. They march with promises of eyeballs and readers and fortunes to be made, if one would simply cast a pile of ca\$h towards their smooth operatives. Perhaps even a lunch can be arranged. The readers will find them by osmosis, and be glued to every post and page! Joy across the land and commissions for all.

We’ve decided to simply say that we will be the last magazine standing, once the media Armageddon is all done. You’ve enjoyed and occasionally endured 22 years of CX so far. Now with added hormones!



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While all care is taken in production of CX media and material, the occasional mistake may arise. We apologize in advance should this happen.

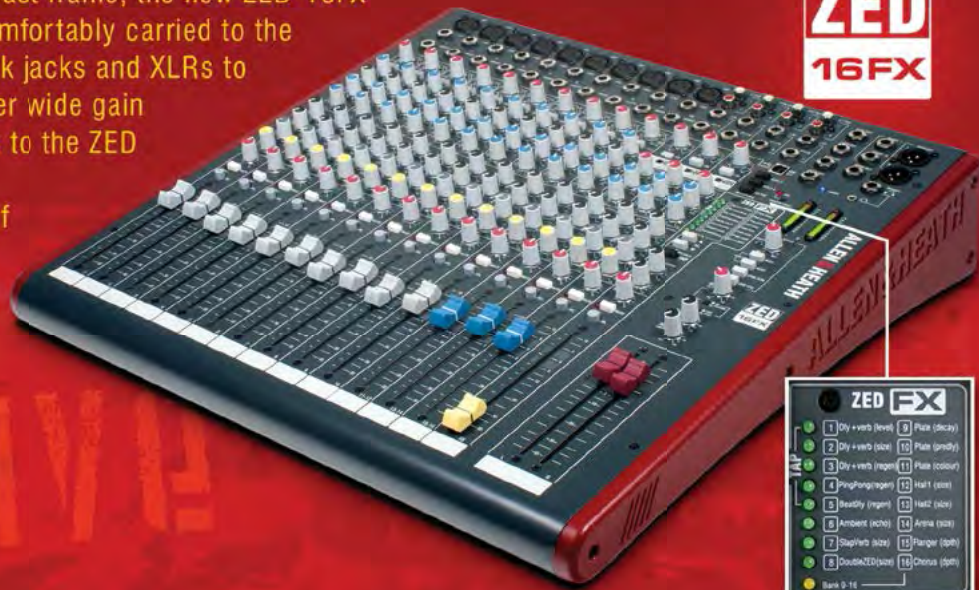
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# NEW ZED-16FX AND ZED-18

Packing huge functionality into a compact frame, the new ZED-16FX and ZED-18 can live in a rack or be comfortably carried to the show. From the premium quality Neutrik jacks and XLRs to the silky smooth ALPS faders and super wide gain DuoPre™ preamps, the latest additions to the ZED range look, feel and sound totally professional. Just ask the thousands of gigging bands, recording artists and audio engineers who already trust ZED with their sound.



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# NEWS

## CX INDUSTRY NEWS

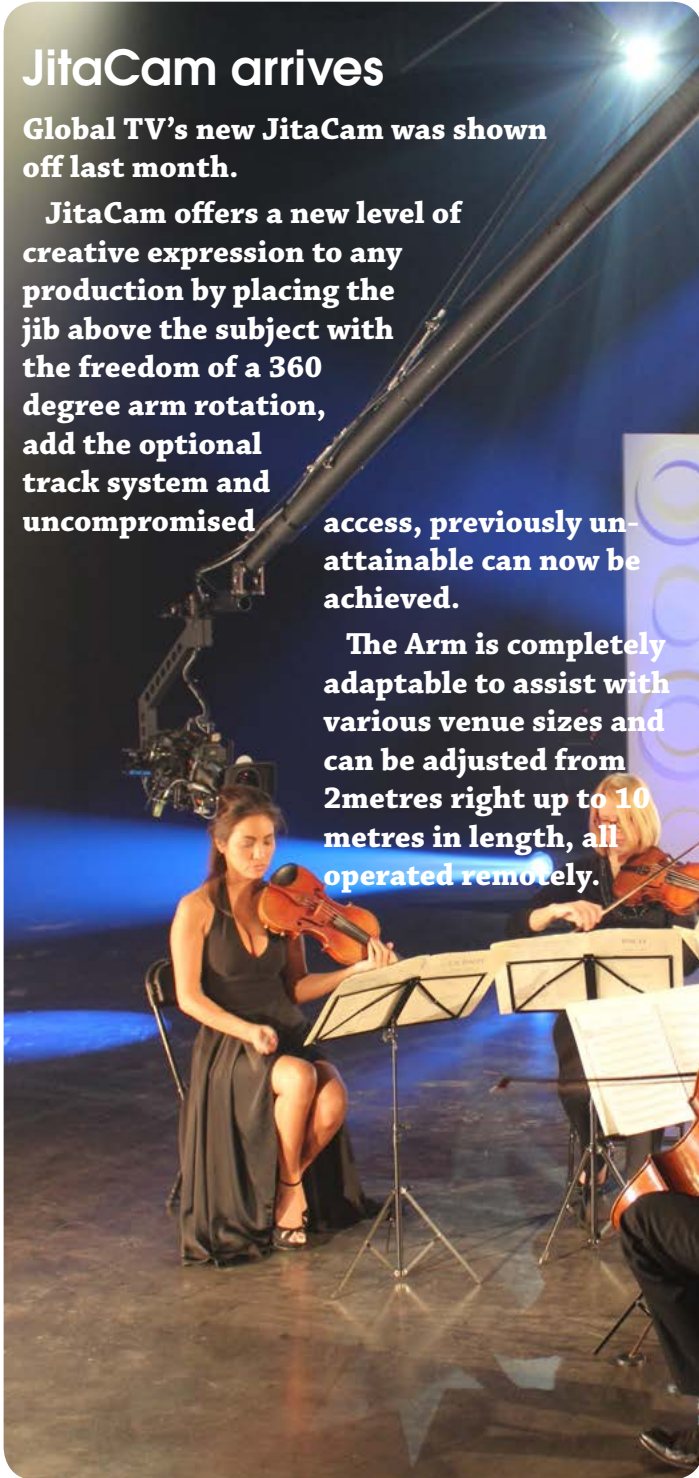
### JitaCam arrives

Global TV's new JitaCam was shown off last month.

JitaCam offers a new level of creative expression to any production by placing the jib above the subject with the freedom of a 360 degree arm rotation, add the optional track system and uncompromised

access, previously unattainable can now be achieved.

The Arm is completely adaptable to assist with various venue sizes and can be adjusted from 2metres right up to 10 metres in length, all operated remotely.



### Solar Genset

Australian company, The Solar Power Generators, has developed a mobile generator for industrial use that is powered 100% by solar energy. The unit is available as a 12,000 Watt single phase 240V ac Sine-wave or 3 phase 440V ac at 3,000 Watts / 3-phase power unit.

It includes 10 batteries, of varying special types, 12 special type solar panels, 4x3000 watt inverters, a custom-built trailer, electric breaks, various electrical components, many internal parts and wiring, trailer registration, construction and assembly labour.



8x5 Trailer Solar Generator requires no mains electricity



**Genevieve Lemon and Simon Burke  
at 2012 Helpmann Awards**

## Helpmann Awards

### Why this is important

**Theatre and live performance in Australia looks to the Helpmann Awards for recognition, as the industry comes together on a Monday night in Sydney. CX was at Sydney Opera House for the televised awards in September.**

Dishing out awards means a lot of video segments – the flown and static LED screens by Big Picture were fed a continual diet. With 41 awards, over 150 finalists plus many tributes and video acceptances, the video task was complex and very accurate.

Equally the sound and lighting were first class. JPJ Audio is a long time supporter of the Helpmann's, as are Chameleon Touring Systems who supplied lighting additional to the Opera Theatre rig.

There were ten entertainment segments during the awards – ranging from Dan Sultan singing a tribute to the late and great Jimmy Little, to complex segments for Cirque du Soleil

(OVO) and a closer from Long Way to The Top, the 10th Anniversary Concert with a full band.

The Media Entertainment and Arts Alliance chose to politicize the Helpmanns with a campaign to reinstate an agreement with producers that highly restricted import of foreign stage actors. Live Performance Australia President Andrew Kay told ABC radio: “What we've done is terminated an agreement - areas like comedy or cabaret weren't covered at all, it's an archaic agreement. We don't believe this will have any impact on Australian production at all, or Australian employment.”

Kamahl agreed. “There should be a bit of give and take. I've been the black sheep of the family for a long time, but for the opportunities this country has given me. I wish there was a compromise.”

Union skirmishes aside, the Helpmanns are a vital component of the live performance industry.

#### Some winners:

Scenic design: Brian Thomson, La Traviata,  
Opera Australia  
Lighting design: Paul Jackson,  
Little Match Girl, Malthouse Theatre

Sound design: Tony David Cray, La Traviata,  
Opera Australia

A full list of winners is online at  
[www.helpmannawards.com.au](http://www.helpmannawards.com.au)



Philby Lewis

## Sydney Opera House appoints Philby

As a result of organisational changes, brought on by David Claringbold's appointment as Director, Theatre & Events, Philby Lewis has been appointed to the role of Technical Manager. Philby will now have direct accountability for the Staging, Sound AV, Lighting and Technical Support Departments.

Philby has been working as a Technical and Production Manager for large scale events including Singapore National Day, Commonwealth Games Opening & Closing Ceremonies, Productions du Dragon Belgium, ARIA Awards, The Asian Games and the FIFA World Congress events. Prior to that Philby was a partner at events production company, Lots of Watts.

## Korg and CMI

**Korg and CMI Music and Audio are proud to announce a new distribution partnership for Australia.**

CMI formed its music technology department in 2008 and has developed a strong team to support and promote world leading brands. Korg, since it began in the 1960s, is recognised as one of the most innovative manufacturers of electronic musical instruments and accessories in the world. The new arrangement sees CMI take responsibility for all Korg products sold in Australia.

## Lighting guy has passion eruption

### White-out on set blinds crew

There's something in the water. **CX** enjoys some biff but prefers it remains on the football field or outside our designated pub. We fielded an unsolicited email recently, from a well-regarded younger lighting dude working professionally.

He was incensed with an older more senior and even better regarded lighting director with whom he works on a TV show. Young guy claimed some credit for LD on the show on his web site, and older guy said 'hey, I am the LD'.

"He seems to think every show he has worked on he has been the only Lighting Director. (TV show example) has had numerous Lighting Directors. He can rightly and safely claim the most credit as Series Lighting Designer & Lighting Director."

Note we redacted the names here, because this is highly slanderous. If we named the crew **CX** could be joined in a costly legal fight. We haven't planned for one of those in the budget this year. Our lawyer is still recovering from the last saga.

This following is untested, and unlikely to be true but we share because it exposes the angst. "When (he) turns up for every single day for every single shot then he has validity. His attitude just highlights the fact that he does not work well as a team, is being arrogant and is insecure."

The author and the target sit together, each operating a console, several days a week, as part of a larger lighting crew.

**CX** spoke to the senior guy, who is a household name in the LX community. He was relaxed about the email, which had been forwarded to others. Had he been upset, the email would have been perfect fuel for a defamation case with a damages award in the Supreme Court.

Another damaging extract: "On (another TV show) he didn't even turn up one day, what does that tell you?"

"If he wants to beat (another leading TV LD) at his own game then he needs a good team, needs to show up, and needs to show the Producers and Technical Directors 'THE LOVE' (and) say YES more often and not to F-OFF".

**CX doesn't usually get emails like this from other departments, but can report serious trash emails in the past from younger lighting guys. It must be the creative passions at work.**

## Short Technical Courses in January



Juliusmedia and The Concourse (Chatswood) have partnered to deliver short sharp technical training courses within Sydney's newest performing arts centre. These new CONCOURSES draw from a decade of training experience at Juliusmedia and take advantage of the latest technical equipment installed at Concourse. Concourses are for people interested in developing skills for live production in theatre and venues.

Concourses are INDUSTRY ACCREDITED.



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## What If I need to choose a chain hoist control system?

So finally, we get to the topic of selecting a controller for your chain hoists.

The choice of controller features, both functional and safety related, largely depends on what you're trying to do with your hoist(s), how many hoists you're trying to control, and the risks inherent in what you're trying to do.

In this article, we'll look at the requirements for controllers when performing simple lifts with chain hoists – either a single point lift, or a 2 point lift with a horizontal (not tilted) straight truss.

In next month's article we'll look at complex multi point lifting, and discuss the pros and cons of synchronised hoists and networked controllers.

The correct selection of chain hoist will give you the first clues as to how simple or sophisticated the controller needs to be, as the various classifications of hoists under differing Standards or Codes of Practice mandate the minimum level of safety features that the controller must deal with.

Low compliance hoists, to BGV-D8 or BGVD8+ (Germany) or BS9706, Category B (UK) do not require limit switches or emergency stops.

High compliance hoists, to BGV-C1, BS9706 Category A and AS1418 (any application) all require both operating limits and ultimate limits, and emergency stops.

When operating a single hoist in either of these two groupings, a simple "pickle" controller will usually suffice, but you must bear in mind that high compliance hoists all require an emergency stop function.

If the controller does not have an emergency stop feature then you are effectively "de-rating" the high compliance hoist to a low compliance device - you cannot move a load over people's heads without an emergency stop, regardless of the safety classification of the hoist doing the lifting. The design of emergency stop circuits is covered quite thoroughly in AS4024.1604, but in a nutshell, an emergency

stop must operate independently of the control circuit, and must either disconnect the power supply to the hoist(s) or use another approved method of safely disabling the hoist, such as a Certified "Safe-Off" control in electronic inverter controllers - simply adding a STOP button in the common conductor of the "Common/Up/Down" circuit of a control

pickle does not qualify as an emergency stop feature. We should also bear in mind that all high compliance hoists must be fitted with BOTH operating and ultimate "emergency" limit switches. The operating limits are required to prevent the hoist moving in one direction (e.g. the UP limit will stop the hoist moving up, but allow it to move down) and striking an operational limit is a normal hoist function. The ultimate limits (both UP and DOWN) are there to immediately stop the hoist in the event that the operating limit fails to stop the hoist, and must cause an emergency stop to be initiated, so an emergency stop circuit is required to allow the ultimate limits to operate correctly.

Moving on from a single lift to something a little more complex, let's say, 2 chain hoists lifting a truss, the same rule applies regarding emergency stops and limits, but now we must consider what happens if one hoist stops and the other hoist keeps moving, either from hitting a physical snag, striking a limit switch or from a fault on one of the hoists. If you have qualified and experienced riggers performing this lift, then you can probably use 2 individual pickle controls or 2 channels of a basic multi channel controller and perform the lift quite safely.

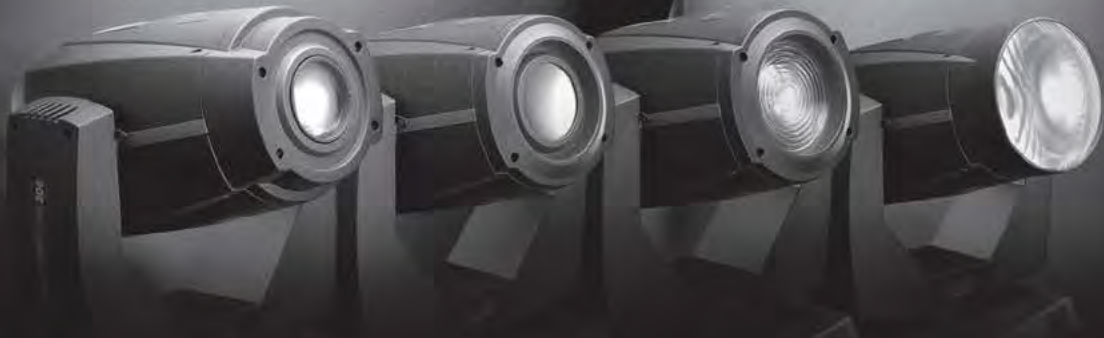
If, however, there is a degree of "novice" involved with the operators, then serious consideration should be given to using a controller that stops both hoists when one of the hoists stops unexpectedly – this is known as a "group stop" and is the first feature we will examine next issue when we look at multi point lifts, synchronisation, position control and networking of hoists.

This article forms general opinion only and must not be relied on without a detailed, professional risk assessment undertaken specific to your situation.

Consult a professional staging company every time you consider anything that may involve risk with flown objects or people.

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# NEW GEAR

## BLACKMAGIC CINEMA CAMERA MFT

The Blackmagic Cinema Camera includes a super wide 13 stops of dynamic range, large 2.5K sensor, a built in SSD recorder that has the bandwidth to capture open standard Cinema DNG RAW, Apple ProRes and Avid DNxHD files. It has a built in capacitive touch screen for direct metadata entry, standard jack audio connections, built in high speed Thunderbolt connection, 3 Gb/s SDI output, a refrigerated sensor for low noise, and is fully compatible with an even wider range of extremely high quality Micro Four Thirds mount lenses, plus other lenses such as PL mount lenses via common third party adapters.



## PEAVEY PVX SERIES PORTABLE LOUDSPEAKERS

The new range of Peavey PVX Series active and passive loudspeaker systems provide the consumer with an all in one portable solution. The PVX 12 and PVX 15 passive loudspeakers will handle 800 watts peak power with heavy-duty woofers and 2-3/8" voice coils, while the Peavey RX14 1.4-inch titanium diaphragm compression driver with a constant directivity horn, reproduces high and mid-high frequencies with clarity while the heavy-duty, Peavey woofers with 2-3/8-inch voice coils will handle the lows and low-mids. These two-way loudspeaker systems are lightweight and will handle 400 watts program and 800 watts peak power for live music, speech and other sound reinforcement applications.



## SYMETRIX RADIUS 12 X 8 DIGITAL SIGNAL PROCESSOR

The new SYMNET Radius 12 x 8 Digital Signal Processor provides users with 12 analog Mic/Line Inputs and 8 line Outputs. It has 64 transmit and 64 receive audio channels using the Dante Protocol on a standard IT Network, with ultra low latency. The user interface enables control through Symetrix ARC wall panels, ARC-WEB app, SymNet SymVue & third-party touch screens. The designer software application is based on a Windows Platform running Windows XP or higher, with all internal processing being digital (DSP). The various DSP components include, but are not limited to, mixers, equalizers, filters, crossovers, dynamics/gain controls, routers, delays, remote controls, meters, generators, onboard logic, and diagnostics. Audio conversion is 24-bit, 48 kHz and internal processing is 32-bit or 40-bit floating point, 48 kHz.



## SENNHEISER MKH 8090 MICROPHONE

The MKH 8090 microphone combines both omni-directional and cardioid pick-up patterns making it suitable as an orchestral microphone. It will pick up the entire sound body when used as the main microphone however will also pick up a decent proportion of room acoustics at the same time. The MKH 8090 also has an optional screw-on module which enables the microphone to convert into a digital (AES42 Standard - Mode 2) microphone.



## FOCUSRITE FORTE

Focusrite Forte is a 2 in, 4 out portable USB audio interface for Mac and Windows, designed to deliver analogue sources to your DAW at the highest possible quality. It features two remote-controlled mics. Forte partners these with digital conversions at up to 24-bit/192kHz resolutions. Built into a solid aluminium case, Forte features a colour OLED display, touch controls and a single large control knob for intuitive operation, with DAW integration transforming it into a control interface.



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Heavy duty packers, with internal drop tray, full foam lining, on casters



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## ALLEN & HEATH XB-10

THE XB-10 is an ultra-compact broadcast mixer for a range of applications from small radio or Internet broadcast studios, to college and university radio, podcasting and content creation. The XB-10 has 3 mic/line and 3 stereo inputs and is equipped with a range of features including a telephone communication channel, mic channel on switch sensing, stereo channel start/cue outputs for CD deck transport control, and automatic muting of speaker outputs. A separate monitor mix can be created for operator and guest or presenter, and the operator can communicate off-air to the studio or telephone callers using the 'Talk' feature. XB-10 also features a built-in full duplex USB soundcard, which has several routing options for recording and broadcast applications. The plug 'n' play USB connection can be used for such tasks as VOIP telephone calls, recording program material or playing jingles.



## JANDS STAGE CL CONSOLE

The Stage CL provides twelve direct fixture control channels, simple storing and a touch-screen interface, all in a compact chassis that fits in one hand. The Stage CL is designed for smaller venues and novice operators, and offers simple, direct control of LED's color and intensity.

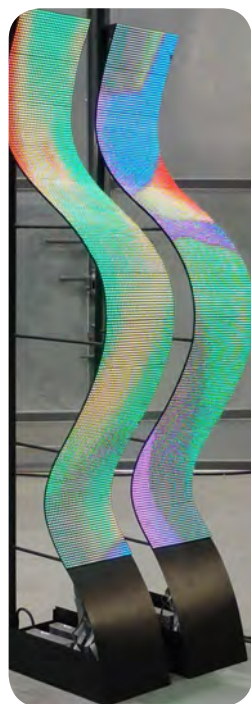
Each of the Stage CL's 12 channels has a Saturation encoder and a Hue encoder to adjust the LED color. As the encoders turn, a mimic LED on the channel shows the color being created. Channels can be grouped together so that one set of controls can set the color for all of them.



## MACKIE DLM SERIES POWERED LOUDSPEAKERS

The DLM8 and DLM12 two-way, full range enclosures include a 1.75" HF transducer and 8" and 12" LF transducers, respectively; the DLM12S subwoofer has a 12" transducer. I/O includes two XLR/TRS combo jacks, stereo RCA inputs and XLR thru-put per each DLM8 and DLM12, and stereo XLR inputs and stereo full-range and high-pass XLR outputs on the DLM12S.

Each DLM enclosure provides 2000 watts of peak power (1000W RMS) via Class D amplification with Mackie's new proprietary TruSource concentric speaker technology with digital processing. The mixing features are built around the DLP digital processor and DL2 integrated digital mixer offering a variable crossover, speaker modes for voicing and system protection features. The DL2 is a two-channel mixer with channel three-band EQ, 16 effects, multiband feedback destroyer and six frequency-based speaker modes.



## displayLED digiFLEX Tile

displayLED has launched a new generation of flexible LED tile, digiFLEX which is more usable in concert touring environments while simultaneously providing camera friendly imagery in television studios. The product opens up opportunities for the architectural and conference/exhibition market. Its magnetic installation system is easy to use, allowing any metal surface to be covered with this LED video skin. The screen is available in 10mm and 6mm versions and includes features such as Pixel Eater - a device which allows a single coherent image to be displayed on fragmented or exploded screens - offering set designers and video directors enormous scope for creativity. digiFLEX uses one-to-one DVI pixel mapping in a magnetic mounted, flexible PCB package. A choice of improved LED technologies, the super-black level performance suitable for TV has been enhanced, while brighter characteristic LEDs allow for near sunlight levels of screen environment.

# Are your wireless mics ready for the Digital Dividend ?



**OURS ARE !**

By the end of 2014, all analogue TV transmitters will be turned off and all digital TV transmitters will have changed frequency. The band between 694 MHz and 820 MHz will be cleared of all users so it can be used for mobile data services.

Check your wireless microphone systems now ! If they operate between 694 MHz and 820 MHz you need to start planning to operate between 520 MHz and 694 MHz before the end of 2014.

**Make certain your systems are ready!**

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for more information



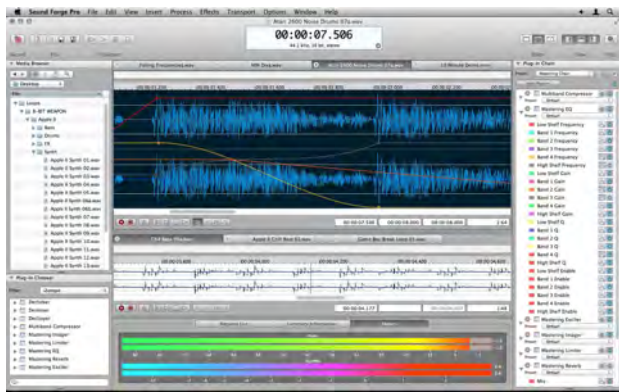
### NEWTEK TRICASTER 40

TriCaster 40 creates an entry point for broadcasters and producers who need full-resolution, HD, multi-camera live production and streaming capabilities. It is a turnkey, desktop video production studio that enables anyone to create live television for delivery to broadcast, Web and projectors.

TriCaster 40 makes easy live multi-camera video production and streaming by eliminating complicated setup and cabling between production components, while integrating video switching, graphics, titles, effects, media playback, virtual sets, keying, recording and streaming in one compact solution.

### ProTools | HD NATIVE THUNDERBOLT

ProTools | HD Native is a new system that enables you to compose, record, edit, and mix music and/or sound for picture. Consisting of an HD Native Thunderbolt interface or PCIe core card, Pro Tools HD software, and Pro Tools HD Series interface, Pro Tools | HD Native delivers pristine sound, incredible performance, and the lowest latency of any host-based DAW.



### SONY SOUND FORGE™ PRO MAC 1.0

Sound Forge is a multichannel audio recording and editing application that was developed from the ground up on a clean slate for OS X.

The application ships with a full suite of audio mastering and repair plug-ins, making it a comprehensive solution for the Mac platform. With this software you can record up to 32 simultaneous channels and produce broadcast-ready audio master files. Included with the software is the Mastering Effects Bundle by isotope that provides the following plug-ins for Sound Forge: EQ, Multiband Compressor, Exciter, Imager, Limiter and Reverb.

### BEHRINGER XI CONTROL IPAD APP

Behringer XiControl iPad App for its X32 Digital Console is available as a free download from Apple's App Store. It is compatible with all versions of the iPad including the 1, 2 and New iPad. The app allows complete mixing control over the X32 Digital Console with fader control over Mic/Line inputs 1 – 32 plus Aux 1 – 8 as well as all 8 FX returns, 16 Mix Busses, the Main LRC and Matrix Outputs and all 8 DCA Groups.

With real-time metering, channel labels that reflect the LCD scribble-strip settings on the console and individual channel mutes, the app offers a seamless transition from the control surface to the iPad.



### CARBONITE C2X

The C2X has 32 source selection buttons, making every source, internal and external, available at the touch of a button, which means no shift buttons. The addition of memory keypads dedicated to each MLE makes live production even easier, and will feel extremely familiar to Technical Directors that like to switch large parts of their show from the memory system. The C2X is compatible with all Carbonite production engines as well.



# Format Freedom

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# Roland

**NEW**



Monitor not included.

Featuring the new V-800HD and the industry acclaimed V-1600HD, Roland's line of "true" multi-format switchers gives you the freedom to connect whatever you want – SD, HD, computer, digital, analog, SDI, HDMI – it doesn't matter. Every input has it's own broadcast quality scaler so you can individually scale, stretch, crop and zoom each source and output to the resolution of your choice. Never before has a switcher line-up provided live event and production with so much freedom to use any kind of format, anytime, anywhere!



## V-800HD

MULTI-FORMAT VIDEO SWITCHER

- 8 + 2 Channels (16 inputs)
- Built-in multi-viewer output
- 4 x 3G/HD/SD-SDI (4:4:4 10-bit 1080/60p)
- DVI-A/DVI-D/HDMI, RGB, Component, Composite
- Dedicated down-converted SD output
- Assignable crosspoints
- HDCP compliant



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## V-1600HD

MULTI-FORMAT VIDEO SWITCHER

- 13 + 1 Channels (16 inputs)
- Built-in preview monitor
- 8 x HD/SD-SDI (4:2:2 10-bit 1080/60i)
- DVI-D/HDMI, RGB, Component, S-Video, Composite
- Dual, Split and Span multi-screen modes
- Independent multi-format outputs
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## SENNHEISER DIGITAL 9000 WIRELESS

This all-digital wireless system has two transmission modes to suit the need and environment of the installation. The High Definition (HD) mode will transmit entirely uncompressed artifact-free audio. The Long Range (LR) mode has been designed for difficult transmission environments with many sources of interference. It ensures maximum range with a proprietary Sennheiser digital audio codec.

The Digital 9000 offers IR synchronisation between receivers and transmitters and a convenient antenna loop-through for creating larger receiving systems. The receiver also automatically measures the RF cable loss between the receiver and the booster and adjusts the gain accordingly.



## iWEISS ViaWinch

ViaWinch is a self-contained motorised winch with an 8:1 safety factor designed for overhead lifting with primary motor brake. It is rated for various line pulls utilizing a 1/4" drive line on a grooved aluminum drum with a travel of 40' and a range of speeds. An on-board starter cabinet allows the use of a plug-in pendant for operation, soft start/soft stop and a power requirement of 120v 20 amps at the winch. ViaWinch is specifically constructed to be mounted in various orientations for a variety of uses, including a deck winch, clew-winch, or grid-mounted point hoist. With its compact size and weight it is a portable unit.



## SOUNDCRAFT Si PERFORMER CONSOLE

Soundcraft has introduced a new compact console line: the Si Performer series is believed to be the first-ever console series that does both lighting and sound via a DMX512 port. The Si Performer 2 offers 24 mic and eight line inputs, while the Si Performer 3 has 32 mic and eight line inputs, plus four FX return channels. Each console has an input capacity of 80 inputs to mix via Soundcraft stageboxes and option cards from the Soundcraft ViSi Connect line, or from CobraNet, AVIOM or AES inputs via other appropriate cards.

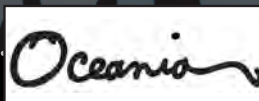
Users can dial in parameters for color intensities, and basic automation can be achieved by storing DMX settings alongside audio settings in the snapshot system, allowing both audio and lighting settings to be recalled via button press or an external MIDI command.

The combined audio and lighting technology is in its early stages and these consoles are not designed for big stage performances, however the pathways are there for their future.



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## INTRACOM iOS BELTPACK SOLUTION

IntraCom's iOS Beltpack Solution transforms an iPod Touch or iPhone into a wireless intercom system. The Beltpack Solution includes a VCOM Intercom System Port, IntraCom's Proprietary Beltpack Template, an extended life battery, swivel belt clip and a broadcast style headset. The VCOM Wireless Intercom system supports up to 200 users that can talk hands free privately or in conference in full duplex. The system allows virtually unlimited channels configurable for point-to-points, group calls, and party lines. All typical hardware matrix control panel operations are supported including push-to-latch or momentary mode on any control key. It can be used over WiFi or Data Cellular, interfaces with virtually any number of external communications systems, and has no radio frequency restraints.



## MEYER SOUND CAL : COLUMN ARRAY LOUDSPEAKER



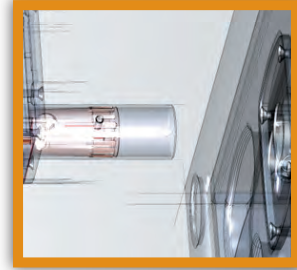
The CAL steerable column array loudspeaker is designed primarily for vocal reproduction in fixed installations. They offer variable vertical beam coverage (as narrow as 5 degrees and as wide as 30 degrees) that can be digitally steered up or down by 30 degrees. CAL is available in three models, each providing a different output level — up to a maximum peak SPL of 106 dB at 30 meters with CAL 96 — over an operating frequency range of 100 Hz to 16 kHz. Providing a horizontal coverage of 120 degrees, as well as the flexibility of vertical beam steering.

Discrete onboard Class-D amplifier channels, processed by sophisticated algorithms, power each driver and tweeter. Controlling each element individually yields greater flexibility and precision than other beam steering systems that control modules comprised of multiple drivers. The amplitude and phase responses of each driver are engineered to produce interactions that yield the desired vertical coverage pattern.

# The first scalable line array for all occasions

However large or small your audience and the venue, you can put together a system suitable for every situation using just the six components of the HK Audio Elements system. Here are just a few examples of systems you can build using the six components of Elements.

Thanks to **E-Connect**, HK's novel integrated signal routing, even the largest Elements setup is performance-ready in just a few minutes with a minimum of cabling. Due to each component's extremely compact and rugged design, transportation is no longer a hassle.



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### Band Four

8 x E435  
2 x EA600  
4 x E110  
4 x E110A  
2 x EF45



3,600w RMS



### DJ Three

6 x E435  
2 x EA600  
2 x E110  
4 x E110A



2,700w RMS



### Acoustics Three

6 x E435  
2 x EA600  
2 x E110  
2 x E110A



2,100w RMS



### Voice Two

2 x E435  
1 x EA600  
1 x EP1  
1 x EF45



300w RMS



# BRISBANE FESTIVAL

## BIG LIGHTSHOW RETURNS

By JULIUS GRAFTON



**BRISBANE FESTIVAL'S SANTOS CITY OF LIGHTS HIT A HIGHER NOTE FOR ITS SECOND ANNUAL SHOWING THIS SPRING. BASED AROUND A LARGE BARGE ON THE RIVER, THE SHOW IS DESIGNED TO BE VIEWED FROM SOUTHBANK. ON THE COOL MONDAY NIGHT CX ATTENDED MANY THOUSANDS WERE THERE FOR THE SHOW.**

### WE'RE HARD TO IMPRESS HERE AT CX.

This year the 14 minute show was long on dazzle and short on themes, not counting the windmill and vintage farm truck plonked on the barge amongst gal iron sheds – an iconic Australian look by designer Tony Assness. John Rayment again designed the lightshow, this year supplied by Chameleon and Oracle Attractions.

Once the soundtrack rolled, the spectacle drew you in. It did, even though our vibe was 'quick be over - then nice restaurant for media cocktails'. It was very obvious when it ended, because suddenly we were on the side of the river, released from a mesmerizing hold. It was like when the lights go on at the end of a good movie. (Except when the lights came on after the Alvin and the Chipmonks movie recently. CX looked at the grand kids and told a big fat lie, along the lines of 'Wasn't that FUN, kids? Not. Fun. At. All!')

Brisbane delivered exactly what a Son et lumière (French pronunciation for a 'sound and light show') is supposed to deliver.

Festival Director Noel Staunton told The Australian newspaper that the City of Lights gives great bang for buck. Kirsten Herring, acting chief executive of Events Queensland told the newspaper that the clustering of cultural attractions in Brisbane in the mild winter months is a strategy to draw visitors from interstate and elsewhere in Queensland. City of Lights is attracting people in greater numbers than the first which demonstrates the importance of having free events alongside ticketed ones. "It gives the general public a way of engaging with the festival, even if they don't want to buy tickets to festival events," Herring says.



So how was it done?

## WATER COOLED

The Oracle Attractions crew fitted nine large pumps to the barge, capable of shooting a water screen more than 40 metres high. With so much water in the air, the lights needed to be double water proofed.

Chameleon are experts in outdoor lighting, having learned the hard way over decades. Their new 7k searchlights were the first hurdle, since Chameleon didn't have anything large enough to shoot more than half a kilometre. Last year PRG did the gig, with 7k Space Cannon searchlights borrowed from their associates in Germany. Chameleon reasoned that if their bid were successful, owning searchlights of this horsepower would pay off.

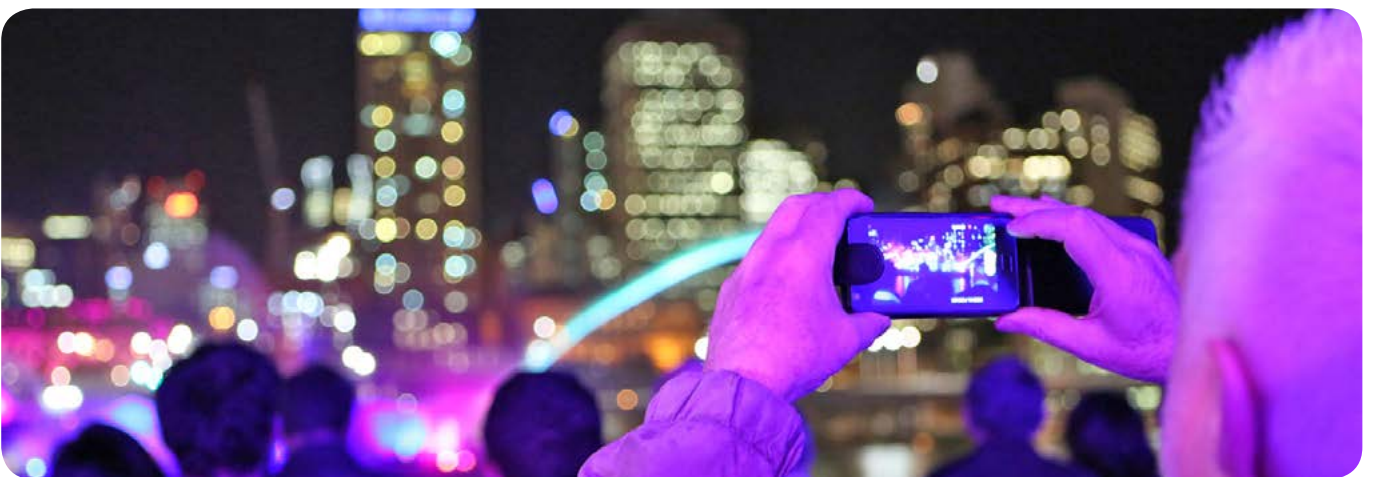
Brisbane manager Brian O'Connor flew over to the Panther Electronic factory in China to assess the CX7001 searchlights. Gearhouse from South Africa had recommended the firm, having purchased a lot of product for the Rugby World Cup. One of the Panther directors was closely involved with the lighting at the Beijing Olympics. It all seemed good.

"I tested the searchlights there, and got a garden hose and gave them a blast from every angle while operating, to test the water proofing", Brian told CX. Duly impressed, Chameleon partners Tony and Greg Davies purchased forty units, 36 were used on Brisbane Festival with four held as spares.

"We've had these modified. They now use the genuine X STAGE Osram lamps – which are only made to order. Panther offer a Chinese lamp, but it has too much haze around the outside. In China the air is dirty so you get a beam. Here, you can't even see a 4k beam because the air is so clean. So the Osram bulb makes them even better" according to Brian. The Osram bulbs are \$1,800 each, and no other globe will now fit. Chameleon sunk almost \$70 grand in globes alone – so all the searchlights start with the same lamp intensity and colour temperature.

For the Festival, three high rise buildings each had six Panther's on the roof, for a total of 18 across the river. Another 18 were placed on the barge.

Brian is in love with his searchlights. "At the factory, I got a garden hose, and every time it spun around I'd shoot a bit of water up the fans, in the ballast. We knew if they stayed on, we had a good product. Their service has been unbelievable. They flew out 2 technicians for 12 days to make sure they were all aligned properly when we installed them."





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NORWEST PRODUCTIONS  
Cameron Walker

### LIGHTIES PARADISE CRUISE

In the middle of the river is The Barge. Festival Technical Director Jono Perry went shopping for the biggest barge that could be navigated up the river. A scaffold tower is built on the western end, and various sheds and elements were placed on the other part. Two large 1000 kva (1,500 amps per leg) generators are hidden in a shed, and a day power generator (for testing and working) lurks in another shed.

There’s a 5,000 litre fresh water tank, and a pump with hoses to hose all the salt water off at the end of each show. A 4,000 litre diesel tank supplies the generators.

Water is everywhere – not just in the river. The Oracle pump system seems capable of draining the river or at least messing with flow, and the water screen is impressive. With a light northerly breeze, we even got some cooling mist over





## CHAMELEON CREW

Daks Plozza, Brian O'Connor, Jason Waide

at Southbank, but not enough to make us wet.

On the barge were, in no particular order, 40 x Alpha Beam 700s, 40 x Clay Paky Sharpy and 20 x Mac 700 Profiles. There were 30 Atomic Strobes, some big outdoor rated Dominator Shimmer effects, 4 x 4k Griven and some 2.5k Citicolours.

2 Roadie Foggers helped the water screen, and a big 7m balloon inflated during the show.

Over on the city side were 4 Syncolights under the freeway on scaffold platforms.

“Nothing’s going to catch fire anywhere near this barge”, Brian said. It was wet on there in the middle of the day. No kidding, this thing was like Mad Max meets Water World with Kevin Costner.

Jason Wade was Captain Jack Sparrow, in charge of the official boat. He did a convincing safety induction, advising CX to stay on top of the water if we fell in, and to try to avoid the ferries. Jason is known to CX, having been the first and only recipient of the Barratt Lighting Scholarship in 1996. We sent him to London.

The water proof system on the barge relies on Pro Shop inflatable domes – “a great savior”, says Brian. They work very well. They inflate and then we power the light up underneath. We did a lot of plastic testing before we came in, we know how far a Sharpie needs to be to avoid reflection or melting. There is a battery backup in the Domes, so they just keep going when we power down”. This preserves the Dome plastic while the light slowly cools.



CHAMELEON  
Chris Britton

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MICROPHONES

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For the bigger fittings they have a hutch type of tent. These are made by Butlers Hire in Sydney. "They have a fantastic sail maker, he can make anything", Brian enthuses. "The hutch is the best way to waterproof. We did a lot of trial and error. They have doors that roll up, so the guys can get in and out and service the lights. We also have 64 little ones that we can cable tie the bottoms to stop water shooting up. We tested them for 4.5 minutes with the Atomic strobes, the plastic got a bit soft but no one is going to leave a strobe going that long."

**SHOW DAY**

The action started at 3pm, when Chris Britton, Daks Plozza and Nathanael Scully from Chameleon joined Jason at the riverside. Nathanael took off on a 6 kilometre walk to the three high rises across the river, where he fired up the searchlights. Chris worked the Grand MA, and confirmed the lights were performing. CX knew Chris from his year at our college.

Norwest have 70 speakers strung out along the waterside for the soundtrack, with 2km of cable.

The Oracle crew presented and tested their gear. Oracle supplied 5 x 20w Green Gold Lasers , 2 x 30w Red Green Blue Lasers and 2 x 15w Red Green Blue Lasers all driven by Pangolin Laser System control.

Brisbane Festival Technical Director Jono Perry told CX he had a better show this year that was less labor intensive than last year. He remains hopeful that Santos will sponsor the show again next year.



## SANTOS CITY OF LIGHTS TEAM 2012

Creative Director - Tony Assness  
Lighting Designer - John Rayment  
Laser and Water Design - Glenn Turner, Oracle Attractions  
Laser Programmer - Lawrence Ryan  
Associate LD - Daniel Anderson  
Lighting Programmer - Richard Clarke, JLX Productions

## BRISBANE FESTIVAL TEAM

Technical Director - Jono Perry  
Technical Manager - Jason Waide  
Operations Manager - Lew Bromley  
Technical Administrator - Peta Winters  
Show Caller - Staycee Johns

## CHAMELEON CREW

Project Manager - Brian O'Connor  
Account Manager - Shannon Ward  
Crew Chief - Jeff Pavay  
System Technicians - Chris Britton, Daks Plozza,  
Nathanael Scully

## ORACLE CREW

Production Manager - Dean Tuttle  
Technician and Operator - Chris Walsh  
Technician - Ben Templeton  
System Engineer - Gwyllym Suter

## CREW

Soundtrack Engineer - Drew Bisset  
Norwest Productions - Cameron Walker, Leon Darcy  
Boat Captain - Clive "Capt Pugwash" Rippon  
Barge Rigging - Graeme Dew, Tri Point  
Building Rigging - Emmanuel Economidis, All Access  
Carpenter - Mick Owen  
Foti International - Anthony Foti, Nathan McAlister,  
Jack Johnson  
Generator Hire Service - Peter Walden, Stuart McLaughlin,  
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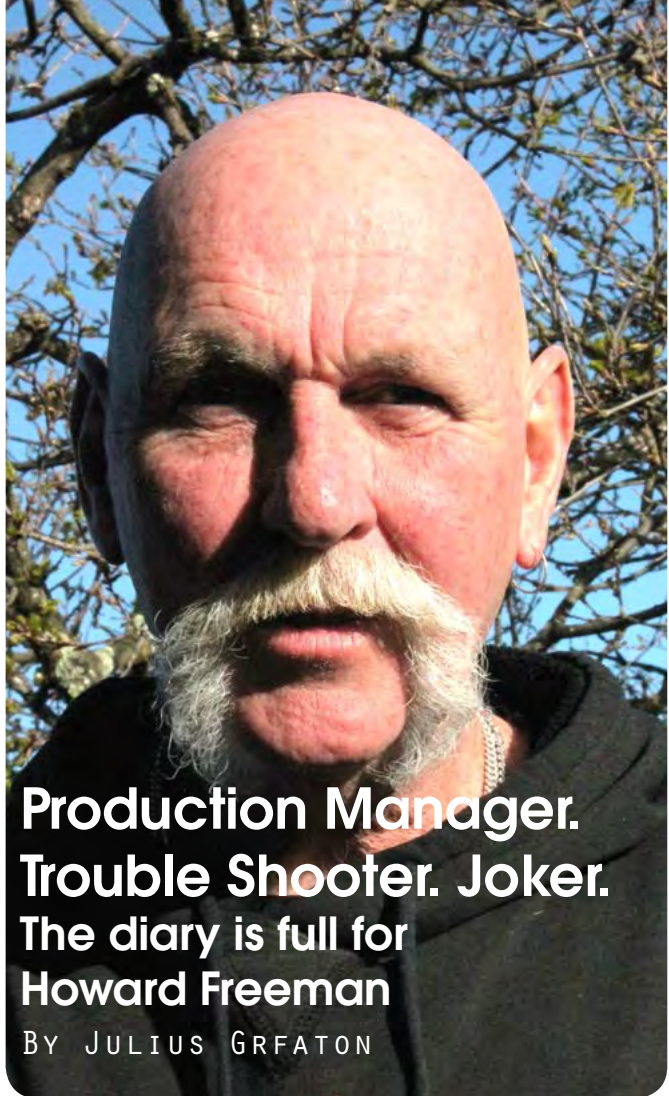
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**Production Manager. Trouble Shooter. Joker. The diary is full for Howard Freeman**

BY JULIUS GRFATON

Howard Freeman is driving a band to Big Day Out in a Tarago. His phone rings. "Na, I wouldn't bother seeing them. They can't play for s\* \*t. Really crap", he tells the caller.

"Who are you talking about?" asks the bass player. "You guys of course!" he retorts.

That's Howard Freeman through and through – joker, fixer, and production manager since forever. His dad ran jazz dances at Kew Civic Centre and was listed as 'entrepreneur' on his tax return. His granddad was also a promoter. Young Howard grew up in the dressing room as his dad made and lost a fortune.

From the dance scene he found Sherbet, and went on to tour manage that band around Australia. Now his calendar – a notice board on his office wall – shows festivals like Soundwave, tours like Coldplay and Green Day, and the annual Big Day Out of which he has worked on almost all.

In between prep and site inspections for Coldplay's outdoor run this summer, we visited Howard at home in the foothills of the Dandenong's. His cottage is pristine, extended several times and rebuilt from its original ramshackle state. The office has every tour laminate from 40 plus years of work, lovingly framed in groups. The sole survivor of the Freeman flock of chooks pecks about in the garden, views rolling into the distance. A fox recently took out the other chooks, and Howard feels sorry for the sole survivor.

There's movement outside so Howard stops talking and heads for the front door to help Lil with the shopping. This is 'the woman I love', and they've been married 40 years, with adult sons Lee and Paul now working in entertainment.

"I went to the Kew Club with some girlfriends", Lil tells. "I knew some of the bouncers from Sunday School. We were out the back, throwing stones against the window to attract their attention to get in. That's where I met Howard".

**ROAD LIFE**

"The glamour goes away at three in the morning standing in mud building a stage when the kid next to you complains it's freezing. You have to learn on the road, and train-up at the gigs, the hard way", Howard says. "Some web fingered f\*\*k-head straight out of college hasn't a chance".

"Yes we're fulfilling dreams, and camaraderie is the strongest thing."

Howard says he maintains his energy (he is 62) with the ability to cat nap. "There's no drug you can take to get you through this", he says knowledgeably.

"I work amongst really good people – we are an army as an entity. People are all you've got. Care and humour helps, and a family vibe", Howards says. The worst part of this transient lifestyle? "You work hard back to back and avoid getting physically exhausted".

An earlier spell managing bands like Broderick Smith's Big Combo and Cruel Sea taught Howard about risk. "Management is about planning and putting money aside. There shouldn't be surprises."

These days his Big Day Out gig is officially accounts and admin – spent in the site office. But that doesn't stop the multi-tasking, since BDO is itself a family, with the music program curated carefully. I ask around about a Mankini story, punters called CX at the time to say an old guy with a white moustache had upset their vibe by doing a nude run. Story has it that Lee Freeman chased his old man off the stage. No one confirms anything. What happens on the road stays on the road.

# CX CALLED AROUND FOR RECOLLECTIONS ON HOWARD.

## JOKER

Angry Anderson spent a while waxing lyrical on his forty year journey with The Weird, as he calls Howard. "He gave me my first smoke of dope – so I had to crash at his place due to being immobilised". Howard was his first band manager, the group were called Peace Power and Purity. "We were a heavy folk band. He saw something in me, and he saw something in the band".

"He's a life force, in touch with the inner child. He creates happiness and joy. And he's the worlds greatest roadie".

\$crooge Madigan, who rightly is credited as Australia's first roadie from his days with Daddy Cool asked how long we had. "Well he can talk alright", \$crooge rasped. "Come see me and we will talk more about Weird."

Phillip English from Showcall Crewing remembers a flight they took. "I was sitting in my seat watching Howard with a pillow slip on his head walking up and down the plane "blessing" people. We arrive in Adelaide and Howard decides to drive the entire trip in 1st gear."

"I'd like to add there is no peer for his knowledge and skills base and no job to big or too small where he does not apply those skills".

Peter Trojkovic (now of CMI) fondly remembers many BDO moments, as his live sound company Troy Balance

Corporation did the first BDO tours. "There was a manager character with really, really shiny shoes. Like mirror shiny. He was walking out of the gig backstage, and Howard yells STOP! STOP! At the top of his voice. The guy freezes as Howard runs over and drops down on one knee, wiping his shoe. "There's a speck of dust there', he said. It was hilarious!"

Fellow production and tour manager Aaron Chugg says Howard was at the top of his legend list, but Howard thinks that handle makes it sound like CX is writing an obit. He is very far from finished.

Another Howard rumor that we can consign to the correction bin is the Kangaroo hunt in Mount Isa. The story was that Howard took an Avis Fairlane on a tour of the outback around the town, to run down some native marsupials. It was in fact Grant 'Tosh' Walsh, according to Howard, who 'borrowed' the almost new rental and returned it somewhat rearranged and adorned with blood and fur. Back then the car rental firms replaced cars without questions asked. As to what Tosh was doing, that will be another story.

Also denied was the cane toad assassination. This is blamed on Ray McGuire who interrupted dinner in far north Queensland by appearing with a toad in his mouth. "It escaped into the bowl of soup on the table", Howard recalls.

Madness on the road is the exception these days, as the industry is now organised along professional lines. "But Australians and New Zealanders are so well regarded across the world, we are generalists in a business where the guys from America and Europe are always specialists", Howard says.

"This year I reckon the shows I work will serve over a million people. Part of my job is keeping them all safe".

Howard insisted we mention that he says he's been very lucky to be surrounded by people "with better skills that made my journey easier."

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# HOT AUGUST NIGHTS

BY MICHAEL ORLAND

A LITTLE OVER FIFTEEN YEARS AGO, ONE OF OUR REGULAR CLIENTS, PETER BYRNE, WHO DOES A NEIL DIAMOND TRIBUTE SHOW, SOUNDED ME OUT ON AN IDEA: "I'M THINKING OF HIRING SYDNEY'S STATE THEATRE AND A FORTY PIECE ORCHESTRA TO CELEBRATE THE TWENTY FIFTH ANNIVERSARY OF THE RECORDING OF NEIL DIAMOND'S HOT AUGUST NIGHT ALBUM. HOW DO YOU THINK IT WILL GO?" I WAS BRUTALLY HONEST. "YOU'LL LOSE YOUR HOUSE, YOUR CAR, EVERYTHING. NO ONE'S INTERESTED".

Which is why I would never make a promoter. Not only did he get full houses that year, but every August, every year for fifteen years ever since. And apart from a couple of years off, I have looked after the sound for each August outing.

In 2012, we reached the fortieth anniversary. The run of gigs was mainly in theatres, including QPAC, Crown, and Canberra Arts. Even one of the two club gigs was Penrith's Evan Theatre. These days, the orchestra has trimmed down to thirty. Peter's core group of "band" musicians is supplemented with thirteen strings, nine brass, a keyboard player, and occasionally, a percussionist. These are picked up in each state as we travel. One three hour rehearsal at the first gig, and then we're off and racing...

Playing theatres rather than clubs called for a different approach technically. In clubs, especially when you can almost guarantee a full house, everything and everyone is at your disposal. Very *mi casa est su casa* attitudes. Deals are done that I could never comprehend. This many dollars Vs that many heads minus this plus that... Bottom line: apparently everybody wins. But the theatre thing is a different world. Venues are hired where every minute of every person's shift, and every mic clip, cable, and strip of gaffa (or so it seems) is itemized on the final invoice. And costs escalate to where, even with healthy tickets prices and full houses, it is all too easy to still slide into the red. So a smarter approach to the gear I travelled with was required to minimize risks.

Interesting to read in another audio magazine that one of the big selling features of Yamaha's new CL consoles is that the base model, in its flightcase, was "within airplane luggage limits". Obviously, very relevant these days. I must admit, I still feel very comfortable with my Yamaha DM1000s. Even with the plethora of new arrivals in the digital console market, there aren't too many options for 48 channels in a seventeen inch wide casing. And the three layers of sixteen channels suits me fine. One layer predominantly "band", one



“strings” and one “brass, etc”. At 32 kgs, it just squeezes under the 33 kg limit. I’ll add a bit of controversy at this point. The touring pros are always asking me how I deal with Yamaha preamps. OK, this I don’t get. Like most of these acts, all main vocals are on wireless mics and coming into the console at line level. And my external Presonus preamps have never disappointed. So, to me, the whole Yammy preamp thing has always been a moot point.

Wiring 8 channels at a time with lightpipes makes setup quick, easy, with minimum spaghetti. In previous years, I have toured with two DM1000 consoles. These sat alongside each other at side of stage. One assigned to FOH duties. The other to monitors, of which nine sends are used in the show. Both consoles have two sixteen channel ADAT cards fitted, allowing simple transfer of required channels from one to the other. No messy external splitters. The FOH console connects to a PC laptop via a USB cable. This connects to a wireless router. And I mix out front on a second laptop which “remotes” the first. In previous years, on club runs, the in-house audio person was allocated to controlling the monitor console. With varying degrees of success. I don’t recall anyone ever saying they weren’t comfortable with digital consoles when the pre-tour emails were circulating. But occasionally, someone would sit behind the console who was so clearly outside their comfort zone that problems ensued. Yea, abounded. Remarkable then, that this year we had the easiest and most successful run with monitors by doing away with the (main) monitor console and monitor operator all together!



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Nothing new about Aviom monitor control systems. One could say this is not doing away with the monitor console, so much as adding a whole bunch of “personal” monitor consoles. Always regarded as “nice, if you can afford it..” What is new is Aviom’s competition. Unable to get my hands on the DBX alternative in time, I acquired a Behringer Powerplay system. A day before the first gig of the run. I became an instant fan. All relevant musicians were asked to turn up half an hour earlier to familiarize themselves with the system. We needn’t have bothered. Each of them “got it” within minutes. Like most sound guys would be, I was apprehensive about putting the controls in the hands of the singers and musicians. I was sure mics would be feeding and the gig would go to hell. You know what? It just didn’t happen. No feedback. No whinging. Everybody happy. Every night. The Powerplay system wires with two lightpipes (sixteen channels) assigned from the main console to a kind of distribution unit. This then wires to each of the consoles via a Cat 5 cable. So quick and easy. And it all packs into one light padded bag. Time to put my second “monitor” DM1000 on the market...

I still use third octave equalizers between these personal consoles and the monitors. In fact, what I use is an Alesis

DEQ830, a piece of kit not many soundies seem to be aware of. Eight third octave equalisers in one rack unit. Easy to use with eight balanced inputs and outputs. Love the lightpipe option. My setup just keeps getting lighter and easier.

The only mics I tour with, apart from Peter’s wireless EV (he has a sponsorship), are my Countryman bugs. Tough little critters. I purchased these about the third year I did the show when it became apparent it would be an ongoing annual concern. Miking strings in an electric environment can be a challenge. I initially tried attaching them to violin bridges. Or inserting them into “f-holes”. But always got heavy breathing from players. And no, this can’t be gated out. I quickly settled on the technique of encasing each mic head in a couple of layers of acoustically transparent foam. And then wedging each mic under the tailpiece. Maximum sound. Minimum feedback. No “obscene-phone-call” type breathing. As with so many times over my chequered career, I have had techs tell me “No. That’s not how it’s done. That’ll never fly!” Well, it flies for me.

At each of the Hot August Night gigs, it would be fair to say I worked my butt off, even where there was an abundance of TODs (see previous CX). It would be equally fair to say that when all falls into place, it’s hard to beat the job satisfaction.





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# LIGHTING RIVERVIEW CHURCH PERTH

INTERVIEW WITH  
NATHANIEL BROWN

BY CLINTON HUGHEY-TRUEMAN

**NATHANIEL IS THE LIGHTING DESIGNER FOR RIVERVIEW CHURCH IN PERTH. ON STAFF SINCE 2006 WE CATCH UP WITH NATHANIEL TO TALK ABOUT LIGHTING AT RIVERVIEW AND THEIR RECENT UPGRADE IN JANUARY THIS YEAR.**

## **How did you get into Lighting?**

My background is in Media, and was working part-time for a nightclub here in Perth as a VJ when the lighting guy fell ill and I was shoved onto the desk. I spent a year or two as a lighting operator slowly getting more experience. I had been attending Riverview Church since '99 and in '06 when Riverview decided to upgrade the lighting rig and it became obvious that we would need to put someone into the position of Lighting Designer, I was the logical choice.

## **What is the reason for employing creative lighting within the church?**

We believe that church should be a welcoming environment for anyone who wants to explore his or her relationship with God. Riverview's "style" (our unique way of creating this environment) lends itself to creative, dynamic lighting that contributes to the atmosphere. In addition, we produce a weekly television programme 'Riverview Live', which airs in Australia on Channel 9 and Foxtel (as well as in other countries). This means we have to maintain a certain professional standard when it comes to lighting.

## **How does the lighting contribute to the atmosphere of a service?**

The atmosphere of our church services – or any concert or event for that matter – should always follow what is happening on stage. Our job as lighting operators is to accentuate and elevate what the band or speaker is doing. If that means being simple, we pull back. If that means going large, we go large! The main rule of thumb is: don't be distracting.

## **How is the team structured and how do you go about training the team?**

The lighting team at Riverview consists of three staff members and six volunteers. I serve as the designer and leader of the team. We have one staff member in our production area that rigs the lights for me and maintains the stage. The other staff member, six volunteers and I take shifts across the different weekends as lighting operators.

For the most part, I program the desk and then train the team on how to use the shows. We have a basic show, designed for someone with zero lighting experience to be up and running with one or two training sessions. Then an intermediate show that opens up the complexity as it adds in some of the more challenging fixtures. This is the show that most of the volunteers are using at the moment. I'm currently working on an advanced show that opens things up even more and makes full use of the Martin M1 console capabilities. The key to our success since implementing the new rig in January has been this slow rollout – protecting the operators until their skill and confidence reaches the right levels.

A couple of the team members have shown a real interest in learning the designing/programming side of things, so we're working on training them as well – it's no good if I'm the only one who can do it!

## **What do you do to build/grow as a team?**

We run regular weeknight training sessions where we can come together not just as a lighting team, but also as a broader creative group that includes the musicians, the camera crew, sound monkeys, etc. We encourage and thrive on community; hanging out, talking shop, sharing ideas, and just doing life together.

## **Apart from normal Sunday services what other events do you design for?**

We regularly run special events and host conferences and people who use our venue. There are regular mid-week gatherings of the church community, conferences and the like. We have primary school concerts, we host conferences for the wider Christian community – in a few weeks we have the Fresh Conference (an event attended by hundreds of women from across Perth), and this year we also hosted the Youth Alive Conference across three days – hundreds of young people rampaging through the building, great fun! Very occasionally our auditorium and building is also hired out for concerts and special events as well.

Each event, whether church-based or more secular, comes with its own unique style and challenges. I like to be accommodating – especially if we're hosting non-Riverview people; I try to design to their needs. It's great because it opens me up to new ideas and experiences as well.

## **How far ahead do you start to plan lighting upgrades?**

Lighting upgrades are discussed as a part of our planning meetings. At the moment (August 2012) we are discussing our 2013 plans. A lot of the choices we make will stem from the kind of shows that we're going to be asked to design for.

## **Riverview upgraded their rig in January, what process led to the upgrade?**

Our Senior Minister wanted us to raise the bar when it

came to creating the welcoming environment I mentioned earlier. From a technical standpoint it meant that the analogue desk and array of tungsten cans we'd been using for over 15 years just weren't doing what we needed anymore. Much thought and discussion was put into deciding what would best serve the church long term and be best value for use across many settings - from church services, to youth events, conferences, to television records etc.

### **Was there a brief from the leadership that they wanted you to fulfill?**

Yes, our leadership team clearly specified the need to create a space where people have a great experience. We want to create a welcoming environment for people who may be checking out church for the very first time. We make sure the lighting adds to the environment in a respectful, uplifting manner, that honours the mission and vision of the church.

### **How did you go about making your choices of equipment and supplier?**

The big question was around the desk. We were looking for something that had as much flexibility as possible on our relatively tight budget. It was important that we respected our financial contributors enough that we got as much 'bang for our buck' as possible. We also wanted a supplier that would give us support and be available for the many, many questions and issues that we knew we would have.

### **What equipment did you end up choosing?**

We went with the Martin M1 console, mainly because

it sits in that sweet spot of price, ease of use, and flexibility. Our colour washes are Pro Shop PAR64 Tricolour's, and we have eight Martin Mac 350 LED Entour's. We also have some Pro Shop LED bars, and a Unique2 hazer.

### **Was it easily integrated into your current rig?**

Since we'd been running tungsten cans all this time, it was quite easy to pull them down and put up the LED lights. I now have more dimmer channels than I can use! Most of the hard work has been around training up volunteers who may only get time on the desk for three hours every fortnight to be both competent and creative. Fortunately we have a great team!

### **What advice would you give to other churches about working with suppliers?**

Find a supplier who will work with you to find the right gear to suit how you 'do' church. Always have a play with a fixture - hang it in your roof and really look at what it does. Think about the after-sales aspect: you will need that extra training/advice.



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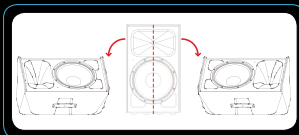
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# NOW LISTEN HERE

## Mixing main vocals

BY ANDY STEWART

Getting the vocal right is the most important facet of any good mix. If a song has a vocal component, that's its focus – always. I don't care what genre it is or how loud the band needs to be: a mix will always be judged on how the vocal is presented. Sorry to sound so sure of myself here, but it's true.

WHETHER you're mixing live or in the studio, the vocal is paramount to the overall appeal of the mix. That's why I almost always draw a star on the console's vocal channel these days – not merely the word 'Vox'. (When you're mixing you need all the cues you can get to remain mindful of this unassailable fact.)

The main vocal – even though it should go without saying – is the audience/listener's perpetual focus, and in the end, this is who we – the mix engineers of this world – are catering to: the audience. We're not mixing for one another's sake, we're presenting music to punters who, in 99 cases out of 100, are looking at the singer on stage, or focused on the voice on the stereo. They're not obsessing over

the trombone, or the chime tree, or the kick drum (unless they're a 15 year old stick twirler). Buried and/or unintelligible vocals are thus almost always a bad thing.

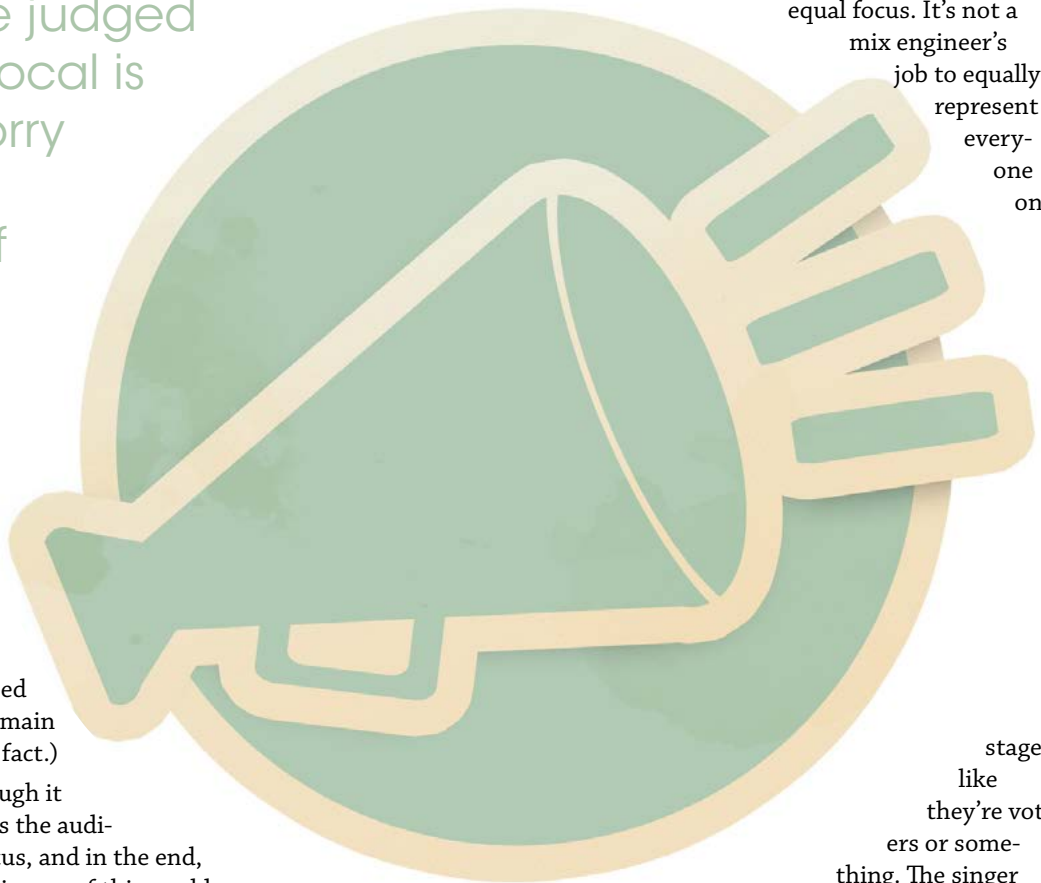
If a punter can't hook into the vocal performance – sing along with it, hear the words being sung and the story being told etc – they tend to switch off or get frustrated. On stage, there's simply no excuse for a main vocal being inaudible, particularly when there's 200,000 watts behind it. Sure, you might have too much drum kit spilling into the singer's mic, but you sorted that issue out during soundcheck, right? In the end, what's all that power for if you can't hear the vocal? Punters want to hear voices, not excuses.

Likewise, on a recording, the vocal is what defines a good mix. Too low and your mix sounds average and dull, regardless of how good those guitars and drums are sounding.

### THE SOLUTION IS SIMPLE

How do you ensure the main vocal you're controlling is sitting at the appropriate level? Well, first of all, dispense with any false notions you might have that the vocal is 'just another one of the elements' in a mix. It's 'THE' element.

The biggest mixing falsehood is the notion that every member of a band deserves equal focus. It's not a mix engineer's job to equally represent everyone on



stage like they're voters or something. The singer casts the deciding vote in any election you care to hold. I cannot count the number of times I've been to a concert as a punter where the people around me have complained that the vocals were too low: "I couldn't hear what he was say-

ing!” I can, however, count how many times I’ve overheard complaints that the kick drum was too low – zero.

When in doubt about the main vocal level, pull the vocal fader down and work it back up with your eyes shut, listening for the point where you’re satisfied that the singer is ‘in focus’. If you can only hear half the words, or the detail is lacking, your focus is lacking, just like a poorly captured photo. Keep pushing it up until it’s crisp and vivid. When you’re satisfied, open your eyes and check out where the fader has ended up – you might find it’s 5dB up on where you had it previously.

## DON'T GET HUNG UP ON INITIAL LEVELS

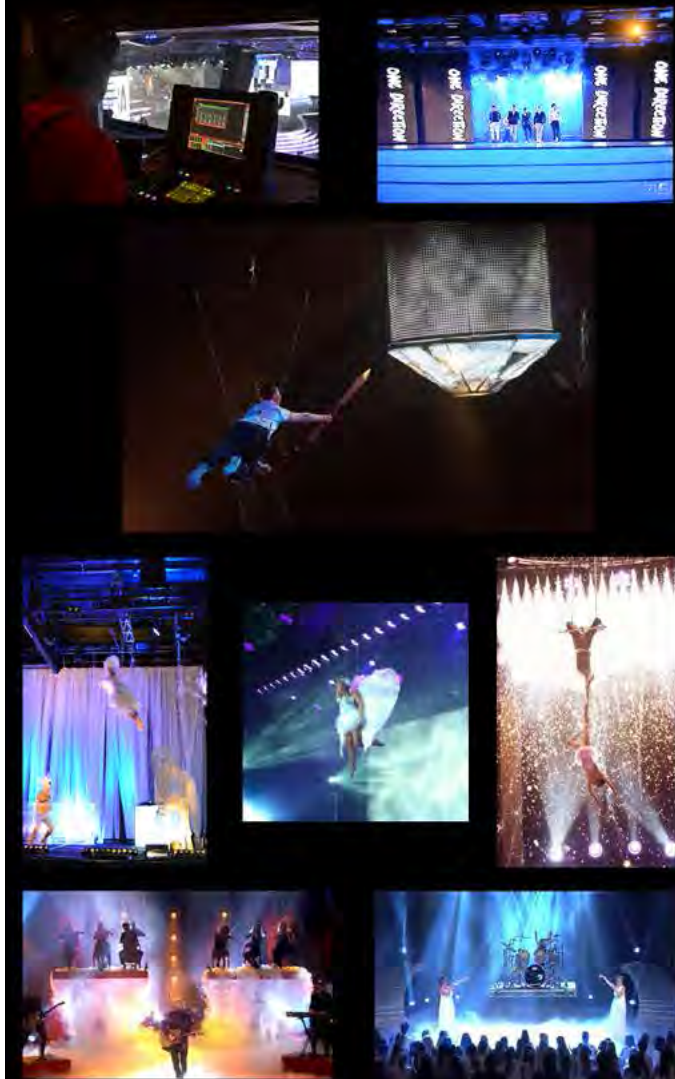
In the studio, where there’s ample time to experiment with this simple trick, repeat the process several times. By all means mark where the vocal fader was –but then just go for it: dump the fader down to nothing and bring it back up with your eyes shut. Don’t ‘reach’ for the old level, or feel tempted to open one eye and peek. The key is to focus only on the voice and its clarity. Do this several times until you find yourself hitting the same mark over and over. That’s when you’ve nailed it. Too often mix engineers look at levels rather than listen to them, and in no case is this approach more misleading than with the vocal.

Now that your main vocal is in focus, you may find it’s loud, but now proud, of the band. Don’t panic! If you do you’ll just turn it down again so that it’s lost in a sea of instruments once more. This is where effects come into the mixing equation.

A vocal that needs to be loud and proud to remain the centre of attention – the star of the show – often needs help to stay glued to the instruments around it. That’s why delays and reverbs were invented.

Next month we’ll get into that discussion.  
Meanwhile, remember: quality vocals are vital to any good mix.

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# NORWEST PRODUCTIONS UN-REINFORCE SOUTH PACIFIC

Musical takes off with great sales

BY CAT STROM

RODGERS & HAMMERSTEIN'S MUSICAL SOUTH PACIFIC IS THE FIRST LINCOLN CENTER THEATRE PRODUCTION TO EVER TOUR AUSTRALIA AND IT ALSO MARKS THE COMING TOGETHER OF AUSTRALIA'S LARGEST PERFORMING ARTS COMPANY, OPERA AUSTRALIA, WITH AUSTRALIA'S LARGEST COMMERCIAL THEATRE PRODUCER, JOHN FROST.

Considered one of the finest musicals ever written, the score includes *Some Enchanted Evening*, *I'm Gonna Wash That Man Right Outa My Hair* and *There is Nothin' Like a Dame*. With a cast of 40 and an orchestra twice the size of most musicals, this international hit and landmark production dominated the 2008 Tony Awards picking up seven of the coveted awards.

One award recipient was sound designer Scott Lehrer and so the pressure was on for Norwest Productions to deliver a sound solution to ensure the Australian production lived up to its heritage!

Norwest's Adrian Riddell was appointed Associate Sound Designer and it was his task to translate Lehrer's design to the Australian production. Lehrer has made no secret of wanting a quieter, more intimate show than is typical of most musicals preferring to use available technology to make the audience perceive the sound as more natural than most musicals.

"I always thought it should be done as quietly as possible, to keep the focus on the storytelling," Lehrer has said. "It's the difference between the audience being pushed back by the sound and being drawn in."

“Scott never wanted a fully amplified sound but rather a reinforcement of the acoustic sound of both the principle actors, chorus and orchestra,” commented Adrian. “His comment to us was, the audience really needs to lean in to listen rather than sit back and it be fed to them.”

There were spatial techniques used throughout the show so as the actors moved across the stage, a sound processor changed the delay times in the loudspeaker system to give the feeling of movement.

“There are four separate vocal zones on stage so wherever the main speaking is happening at a particular time we will route the audio into that particular zone which changes the delay times into the speakers,” he explained. “So wherever you’re sitting the delay time in the speakers will change to give you the perception of the sound coming from that particular area. It’s quite a different technique which we’ve never done before but it works well.”

There was a requirement for sound effects to be generated from moving set pieces (radio telecommunications radios) throughout the show and they were required to be cable free. This was achieved by having 12v battery powered car amplifiers to power the speakers and RF Beltpacks to receive the audio signal.

“There is a speaker on each desk so that rather than the sound coming out of the main PA system, it comes from the desk giving the audience the perception the sound is really coming from there,” added Adrian. “We do the same in Act I with the telephone ringing on the desk; the phone has a battery powered amplifier hidden in the desk.”

The PA system is a fairly standard set up with both d&b audiotechnik and EAW boxes driven by d&b and Crown



Lisa McCune and  
Teddy Tahu Rhodes  
2012 Helpmann Awards  
Photo James Morgan

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# SOUTH PACIFIC



amplifiers. Lehrer favors d&b audiotechnik C7 speakers, which comprise the centre cluster. “These are my favorite speakers to use,” Lehrer says. “They’re incredibly neutral, beautiful-sounding speakers.” He also chose d&b Q-Series amps for left/right and main delay systems. “When we get to the scene with the Folies stage at the beginning of Act II we decided to put a couple of Altec Lansing 511B spectral horns on top of the stage” said Adrian. “That meant that when the lead actor was talking it sounded like she was coming through a really old PA. Rather than using a digital effect, we actually sourced a really old PA to get that sound. Unfortunately those particular horns are as rare as hen’s teeth, bigger too, but we eventually found some in a friends garage in New Zealand!”

The actors employ headworn DPA 4061 lavalier microphones with Shure transmitters and receivers. When Lisa McCune, who plays Nelly, sings I’m Gonna Wash That Man Right Outa My Hair whilst in the shower, a Countryman B3 water-resistant microphone is deployed.

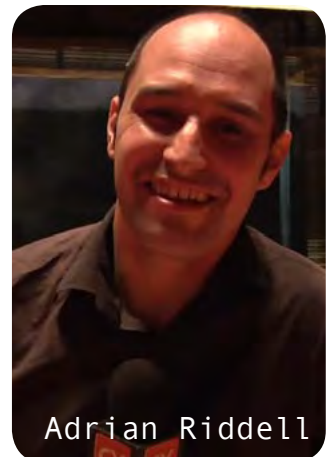
“Countryman makes a lavalier that is very water repellent,” Lehrer is quoted as saying. “So we have two transmitters on her, both with Countryman lavaliers, which resist water much better than the DAP 4061s. At least one of them generally works when she comes out of the shower.” Lehrer

also double-mikes the character of Emile, an operatic baritone, with a second lavalier on his chest to capture the rich bass frequencies that the head-worn mic does not pick up.

At FOH mix engineer John Watterson uses a Digico D5T for mixing with a couple of Qlab Replay Machines, a Big Ben Word Clock Master and a TC6000 Reverb Engine also in use.

As well as the audio, Norwest Productions was also responsible for the communications providing all of the comms and the video system, including monitors allowing viewing of the conductor by those onstage and backstage. Added to that are surveillance cameras for the automation operator.

“With the floor moving backwards and forwards there were certain pinch points in the stage that could be a potential hazard,” explained Adrian. “If a cast or crew member was standing in the wrong spot they could be crushed so we provided surveillance cameras so the automation operator can see if the coast is clear before he moves anything.”



Adrian Riddell



FOLLOWING A SELL-OUT SEASON AT THE SYDNEY OPERA HOUSE, THE SHOW HAS EXTENDED ITS MELBOURNE RUN BY THREE WEEKS, AND THE PRODUCERS HAVE ANNOUNCED THAT THIS PRODUCTION OF SOUTH PACIFIC WILL RETURN TO SYDNEY OPERA HOUSE IN 2013.

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FOH MIX ENGINEER-JOHN WATTERSON  
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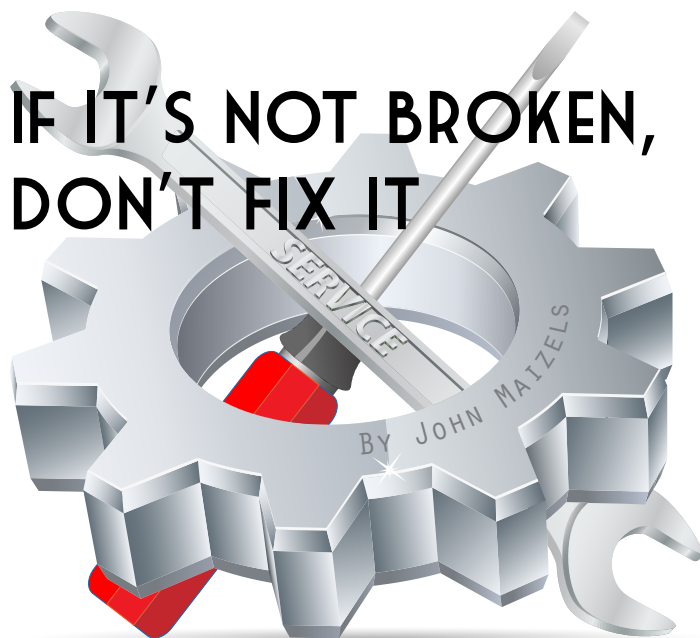


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## SO...WHAT IF IT IS BROKEN?

**HERE AT THE BUNKER** we believe in a solid Australian principle: you play the ball, not the man. There is a lot of gentle (and not so gentle) sledging in these pages and on CXTra, but it's never given priority over truth, honest critique, and fair play. Julius might have gone a bit far with his description of Uli's eyrie - the line between satire and defamation can be thin indeed. In support of Mr Behringer, I have the greatest respect for anyone who can successfully design mixers AND make enough money to afford a sandwich, let alone a piano. TheMaiz started designing mixers when he was thirteen, and has only just raised enough cash to buy an octave of black keys. It's unreasonably difficult to make a living from the very fickle and very price-sensitive electronics industry. So, knowing that the Behringer X32 has an extraordinary pricepoint, I read the review in CX74 with the same interest that you might. I take on-board that the reviewers weren't impressed with some aspects of the product, and that got my attention. It's the sort of advice that you, our reader, ought to get from an industry mag. Hell, it's one of the best reasons to buy a mag, and I trust that you value informed opinion. Vendors and advertisers note: opinion. It's not a death sentence, and we all hope that honest feedback leads to improved product. No vendor wants to read negative comments about their creation, but you'd better believe that any comments made in a CX review are directed to the product being reviewed and not everything that the manufacturer has ever made. Play the ball, and not the man.

Around the time that Julius and Jimmy were reviewing a certain mixer, I had an unrelated experience with the same company. An experience that completely blew me away, and has set a very high benchmark. More on that in a second, but first the news.

It's pretty obvious to any manufacturer that today's professional buyer is perfectly happy to take a risk with product if the price is low enough. Once upon a time we purchased modular mixers so that a failing component could be changed quickly. We didn't seem to care that adding connectors actually made the modules less reliable. We accepted

the increased cost as an offset for apparently more solid engineering. Then Mackie, Behringer, Soundcraft, Uncle Tom Cobbley and All realised that there is a perfectly good market for product that isn't fixable in the field. They touted the benefits of a single solid circuit board bolted to a single metal plate, and held in place with the sum force exerted by every switch and pot nut. It sort of works. You never hear about circuit board failure these days, only that mixers can't be repaired without undoing an obscene number of front panel components first. I just checked my brand-B 16-channel mixer which has sixty one knobs, twenty four pot-nuts, and maybe fifty screws, all of which have to be undone so that I can inspect, clean and possibly replace one small switch that is giving me the irates, and rendering the mixer unusable.

As a result of focus on solid, but throw-away construction techniques, manufacturers like Behringer and Mackie have brought truly affordable, and very high quality, electronics to the masses and I'm grateful for it.

The thing is, the same economics also means it's cheaper to replace my mixer than repair it. That's just so counter-intuitive. Things can be fixed, and if I do the fixing then I don't have to pay anybody anything, right? Besides, I like doing repairs, in the same way that some misguided people like cleaning gutters. By the way, that's "like-with-benefits". Mrs TheMaiz says she hooked up with me because I can use words (most of the time) and the fact that I can fix things. Happy to go with those criteria because I know she didn't buy the package for its looks. I don't stand a chance of being noticed if George Clooney is the next guy. Consequently, I don't hang out with him, and I pray every day that Clooney can't repair a mixer. Of course, there's never actually time to do repairs, which leads to an ever-increasing pile of things in the about-to-be-fixed-honey-I-promise room, the one with the door shut. And anyway, if I'm really honest about how much I should be charging per hour, it would be smarter to hustle up a paying gig than to be at the table with a soldering iron. With even just a little extra dosh coming in, and the low low prices of today's product, I could afford to throw away the old mixer and buy a new one. A cleaned-up house would thrill Mrs TheMaiz, and quite a bit more than if I suddenly resembled Clooney.

This discussion exposes an industry reality. The flip side of "low-cost, disposable" is that none of us spends the time or money to get product fixed any more. Without margin to support a service business model, vendors naturally reduce the size of their service departments. With that goes the training ground that allows skill to be passed on from technician to technician. You can see where this is going: eventually the skill thins out to the point where there's nobody who knows how to fix your broken one-piece mixmaster and that's the day when you praise the designer who made it a low-cost product. Because you go out and buy another one for less than the cost of repair. It's a rather vicious circle that we will unpack on another day.

For the last two years or so I've had a Behringer mixer for which the power supply had simply vanished. So why not get a new one? Simple economics: spares are notoriously expensive, especially spares that don't fail often. Just ask anyone who has had to replace a bumper bar or headlight how much a new one costs. The mixer wasn't burning a

hole in my schedule, so it sat around while I occasionally contemplated options that might be cheaper than getting a replacement part: ask around; build a new one from parts; look on eBay.

I asked around. One of my mates said he had one he could give me, but he's the same person who owes me back pay for six gigs. Scratch option 1. Build a new one. The cost of parts (a transformer, AC plug, mixer-end plug, solid box, a few grommets, some wire) comes to around \$45, plus my time. No time, so option 2 went to the rainy-day tray. And the online auctions? Don't know why, but eBay is surprisingly devoid of AC power supplies for Behringer mixers, and the only item which came up recently was in the US. The wrong mains voltage plus a fortune in postage, so that one was out too. Option 3 sits waiting for a hit; sooner or later some guy in Norway will want to sell one. Meanwhile, the problem remained unsolved and the search was chewing up brain cycles that could have been spent doing something more useful, like washing the car.

I don't know why I never thought of actually asking Behringer about their spare parts pricing... maybe I'm an idiot. But there it is, on their Australian website for all to see: replacement power supplies. Seriously reasonable pricing. Unfortunately, the PSU for my mixer was not on the list anywhere. Does it exist? Is it still available? Their site has an FAQ that you're asked to read before calling (fair enough) but which had no relevant answers. So one Saturday night, because I had nothing much better to do, I filled in the online feedback form. "Dear Mr B, I have an old product and I'd like to know if you still support it with spare power supplies at a cost less than that of a small yacht". Expectation: zero. I've asked questions on the web before, and generally the answer is unpalatable or gets lost in the ether.

Thirty six hours of weekend passes (spent fixing things). Monday morning, a few minutes after 8, and an email arrives from the Music-Group Care department. Yes, of course they can help. Wow. That was unexpected. The note confirmed the part number, applicable mixer, had a price, with some words about GST plus delivery. I started

to do the sums for how much extra GST and delivery would add. But I had misread. \$24 including GST and next-day delivery. Can we have your address? Absolutely, and a note went back with the information plus the obvious question: how do you want me to pay for this? About two hours later (and this is still way before lunchtime on Monday) another note comes back: we have a problem with our accounts system at the moment. We're working on it, but we can't process the charge. The power supply has been dispatched, and here's the con note number. You will get it tomorrow. Yipes - blow me over with an ancient copy of Connections. Music-Group's response to an internal process failure is to immediately service the customer and sort the rest out later. They didn't ask or obfuscate, they just did. OMG.

Hands up anyone who expected that level of responsiveness from Brand B? Come on, be honest. Yup, I see one or two up there at the back. Now, hands up anyone who has EVER experienced customer service like that from any vendor? OK, a few more hands and you're right - it's still not many.

I'm blown away. Provision of service and support is a tough business that doesn't usually go hand-in-hand with low margins. For the cost of a few email interactions and a delivery charge that would have been more than the cost of landing the power supply, Brand B has my attention. I fully stand by my colleagues' right to assess a product honestly and to say whether they like how it works. Some products are good, and some aren't. Some are more likeable than others. Some perform really well, and are still completely unusable. All those assessments are valid. You need to know that I and my colleagues believe that we have a strong obligation to give you trustworthy comment which will keep you out of trouble in your professional endeavours.

So here's my opinion: I'd like every vendor in the world to treat me as well as Behringer's customer service has.

**THEMAIZ@MAIZELS.NU WOULD LIKE TO KNOW IF THIS IS A ONE OFF, OR IF YOU'VE HAD A SIMILAR EXPERIENCE.**

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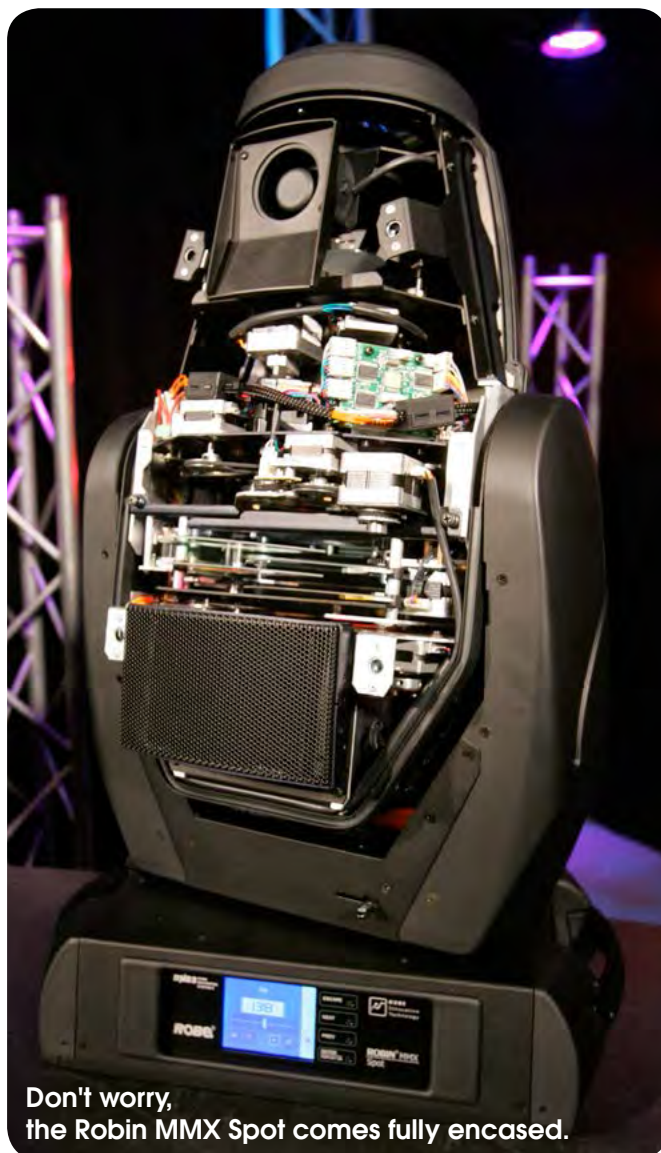
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Beautiful  
beam effects

# Robe Robin MMX Spot

Sometimes,  
more is more.

BY JIMMY DEN-ouden



Don't worry,  
the Robin MMX Spot comes fully encased.

**Funny how we grow through our experiences. Moving light manufacturers in general are a good example of this, Robe included.**

Looking inside the MMX spot you'll find some very nice engineering indeed. Things that can go wrong have been anticipated and counteracted before they surface – all the sensors that detect where the moving parts have moved to are bolted down nice and securely. It's built well, but when you pick it up it weighs less than you'd expect (25.5kg). So it's built smart too.

It could be argued that discharge fixtures are a declining sector of the market, and maybe in a few years that will be true. But for now, the reality is that for punchy beam output where gobos are involved LED still doesn't quite compete. Certainly Robe has embraced LED technology with open arms, so the Philips MSR Platinum 35 1200W equivalent lamp inside the MMX may come as something of a surprise to some. To me it makes sense. During testing the fixture idles at a bit under 1A current draw with the lamp off, and once the lamp is fired this jumps up to around 4.6A, though

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International Standard BS EN 13200-3:2005 (Spectator Facilities) Annex A  
WA Health Directorate 2004 (Guidelines for concerts, events and organised gatherings)  
Crowd Control At Venues And Events, A practical Occupational Health and Safety Guide, WorkSafe (Vic) September 2006  
Australian standard AS/NZS 1170 parts 0,1 and 2:2002 (AKA loading codes)  
Australian standard AS/NZ 1664: 1: 1997 (Aluminium structures)  
Australian Standard AS 4687-2007 (temporary fencing and hoardings)  
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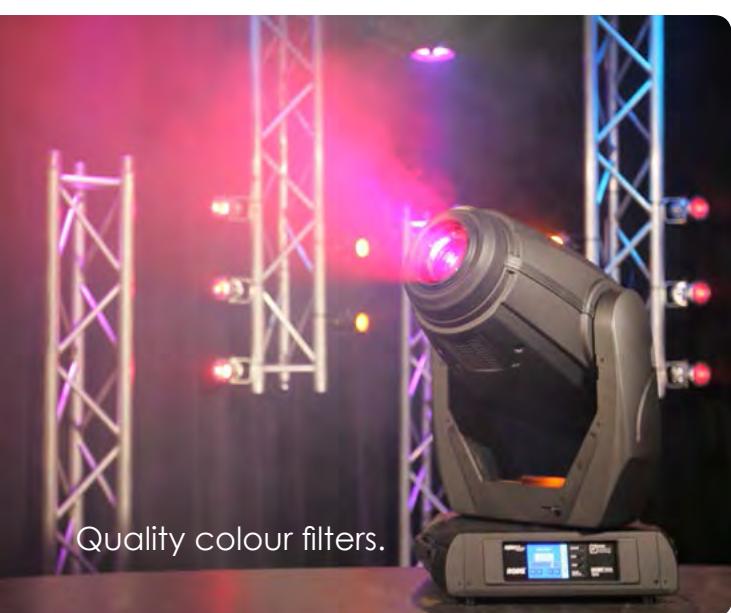
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it varies depending on what the fans are doing. Not bad value for power, considering the spec is 26141 lm total output. Colour is handled by dichroic blades which slide in and out of the beam, providing not only CMY but also CTO in smooth curve from 0-100%. There's a 7 slot dichroic colour wheel as well. The colour mixing system works well, with my only real criticism being that the red filter in the wheel is very saturated and seriously reduces the fixtures output. In open white and other colours it's great, even with gobos. Dual rotating indexable gobo wheels hold 7 gobos each plus have an open position to this. The factory gobos are nice, and seem not to be "the same old" thing. Additionally, there's a dual graphic wheel which is basically interleaved swirls, a section of which can rotate through the beam. It's a different gobo look entirely, and I really like it a lot. A 5 facet prism, iris and frost filter add to the package. Pan and tilt ranges are typical of this type of fixture – 540 and 270 degrees respectively.



Big output...



Quality colour filters.



Measuring current draw on the MMX Spot.

Probably one of the more interesting beam effects is the hot-spot control, which allows the user to accentuate the hot-spot in the beam or make it more subtle – remotely via DMX. The other really appealing beam effect is the zoom, which runs from 8.5 to 46.5 degrees, with the ends of these ranges varying slightly depending on gobo use. Setup via the Robe Navigation System V2 is really simple, with 3 DMX modes allowing control via 29, 31, or 38 channels. Seems like a lot of parameters, and indeed it is. That's because there's a lot of functionality to control. The V2 RNS is based on touchscreen and 4 adjacent buttons – gone is the encoder wheels of previous generation fixtures. The menu is great – it's probably the easiest moving light I've ever interfaced with. A good touch is the ability to quickly slide across the range of values for a parameter using a slider bar – one fixture I remember had a stupid number of values for each parameter and the value change didn't accelerate as you held the button. It took forever – the MMX Spot doesn't. It's nice to see a manufacturer learn from the mistakes of others.

Typical of a Robe product, the fixture has 3 pin and 5 pin DMX in and out ports, and it arrived in one of their wstandard Armageddon-proof cases. There's a CRMX wireless option available which adds a little over 300 bucks to the price.



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# JBL STX800 Series Speakers

## What's changed since the 700 series?

BY JIMMY DEN-UDEN

JBL boxes have always had kind of a specific sound - at least to my ears anyway. So do most speaker boxes. I pulled the cabinets out of their brand new unopened cardboard cartons and set up the system, knowing exactly what I expected.

What I heard when we turned it on was something of a deviation from my expectations, but this is not necessarily bad.

The range comprises 6 models. We reviewed the STX815M / STX818S combination - a 15" and horn plus single 18" sub. I wanted to try the bigger boxes out, but I don't think our palatial headquarters would have been big enough to give them a fair go. Hence the small combo it was - we ran the whole lot off a Crown XTi4002 amp. During the course of testing we used both a Driverack PA+, and then the internal DSP on the Crown. The Driverack interface is better, but the

Crown was capable of all the functions we needed to make it run like we wanted it to.

The STX815M seems designed to be everything to everyone. It's integrated top-hat makes it suitable for pole mounting, while a diagonal inset on one of the back corners makes it suitable for wedge use. Dispersion is nominally 70 x 70 degrees, so there's no need to spin the horn. First thing I tried with the box was lying it down in wedge mode then standing on it. Sounds like a dumb idea right? It is, but that doesn't stop singers, guitarists, and other stage dwellers. The box doesn't react too well, tipping backward easily under these conditions. But lots of wedges have the same problem. On the upside, NL4 connectors at each end mean that cabling it can be done neatly. Since the NL4s are on the sides (not the back), you won't wind up with a bunch of snapped Speakons when someone does jump on the thing.

At 26kg, it's not exactly light, but nor is it the heaviest 15" composite box I've run into. Construction is wood of some kind, though it doesn't feel like ply. Hitting the box with your hand it seems like there's a weird resonance to it, but this didn't have any apparent sonic detrimental effect. The STX815M can be run in two modes - using an internal passive crossover, or bypassing this and running bi-amp. I tried both, and surprisingly enough I liked passive mode

better. Decisively so. Bi-amp doesn't sound bad, it just doesn't lend anything to the sound. Perhaps if you planned to smash the things with high levels all night the extra head-room might make it worth doing, but otherwise the internal network is more than adequate.

The STX815M doesn't sound like every other JBL box I've ever heard. Traditionally I expect to hear a gentle rise (or in some cases a fairly aggressive one) around the 3kHz region. The STX815M doesn't have this, but it does seem a bit overly present around 900Hz straight out of the box. A 4dB cut at this frequency with a Q of 1.0 didn't seem to reduce the overall midrange presence, but what it did do was let the low mid warmth through better. This one filter engaged, I was really happy with the overall sound of the box. Dispersion seems largely as stated, and for a composite cabinet it seems to throw quite nicely with the overall sound translating well at varied distances.

I put the box on the floor in wedge mode, plugged in a 58 and was pleased to find it was pretty good straight up. I thought it seemed a little forceful around 2k, so I tried a different brand and type of vocal mic. This confirmed my suspicions, though the eventual feedback take-off wasn't sudden and violent. Overall I'd say the box requires a lot less corrective EQ than most.

Next it was sub time. The STX818S is a single 18", with dual NL4 input and loop connectors. There's a switch to choose which pins of the NL4 you want to pick up in the box, so if you were to stack a pair of them you could conceivably run them off separate amp channels through a single NL4 cable.



## DVA T12 3-way Active Line Array



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KEEPING a handle on things...



STX815M  
POLE MOUNT  
and NL4  
LOOP CONNECTOR

I like the flexibility of this, though I think sub on pin 1 and mid/high on pin 2 would have been a more traditional choice. The 815M picks up pin 1 by default when in passive mode. The flipside is that you can connect it to mixer amps and other devices which only output pin 1 with no adapters.

Unfortunately the divots cut into the top of the sub means the 815M can't sit directly on top of it (grilles aligned) without rocking, which is a shame since this stacking configuration sounded phenomenally good. I guess most users would employ the pole mount system anyway, presumably the divots are there to accommodate the larger top boxes. Threaded inserts on the back of the sub mean adding wheels to it is an easy operation – in fact the whole series has been designed for 'truck pack friendliness'. Four carry handles support the theory that at 45kg, it's a 2 person lift. We added in the STX818S and setup a crossover in the Driverack. A couple of things became apparent from this

– the first being that the 815M/818S combo is quite forgiving with crossover frequency. You could run anything between 60 and 100Hz and achieve good results. Gentler slopes seem to sound nicer (we settled on BW 6dB filters), though you need to be more careful about making sure the drivers are phase aligned with each other. When using the sub pole mount you'll need to apply a corrective delay.



**STX818S**  
input and loop out - choose your pinning

Lining up the front faces of the sub and top box seemed to work well with no delays. My preferred combo was rolling the sub off around 60Hz with a bit of an overall level kick on the sub channel – around 4dB.

The single 18" sub goes okay, but I managed to run it up loud enough clip the XTi4002 amp output without the neighbours complaining. To be frank, I was expecting more. I'd like to stick a much bigger amp behind it and see what kind of difference it makes. The XTi makes 650W into 8 ohms, so more power would be better – the box is rated to 1000W continuous.

Just for laughs I ran some dubstep through the system, then some Def Leppard, Michael Buble, Fairfield Four, and finally my own voice again through the 58. Everything sounded good. As a PA system (or a foldback system) the STX800 gear we tried is extremely workable, and easy to get good results out of. It's user friendly, and aside from a distinct lack of handles on the 815M (there's only one) it's all generally very nice to deal with.



**STX815M has recessed NL4 and bi-amp switching**



The sub has a threaded pole mount on top.



BRAND: JBL  
MODEL: STX800 SERIES  
RRP: STX815M - \$2695 INC GST.  
STX818S - \$2145 INC GST  
PRODUCT INFO: WWW.JBLPRO.COM  
DISTRIBUTOR: WWW.JANDS.COM.AU



Avid Venue Profile



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Barco FLM-HD20



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JVC GY-HM790



Vuepix P18 LED



Ring Screen



Panasonic HS410



Lightware Modular Matrix



d3



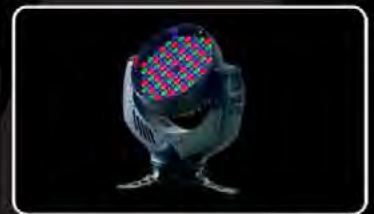
Vari-Lite 3500Q



MA Lighting  
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ColorBlaze 72



Hazebase Base Hazer Pro

# Riedel CCP-1116 Commentary Unit

## Lots of I/O and lots of options.

BY JIMMY DEN-OUDEM

If audio assistants (like me) understood football there'd be no need for commentators, and commentary units would look very different. But we don't, and that's okay because we have commentators. Since they're busy knowing about how the game is going (and indeed what kind of sport is happening), it only makes sense to make the equipment they have to use as easy as possible to understand.

For a long time, commentary units were a simple 2-button affair. "Cough", and "talk to director" (a.k.a. "sneaky talk") were the available functions. But sports coverage has become more complex than it once was. 7 camera shoots are now 17 cameras. Analogue is now digital. Cables have been replaced with fibre. Since the smarts are all in place, giving more people access to them is a relatively easy way to add value to existing infrastructure. Thus we see a new breed of comms devices, including the CCP-1116.

First thing about the CCP-1116 is that it's big, and it's heavy. I weighed it at 5.3kg, which I reckon is ideal. It's light enough to carry up the stairs to commentary at SFS, but heavy enough that not even the most enthusiastic commentator will easily budge it on the desk when the home team scores (or misses) a goal. The rubber feet help. The front panel connectors for headsets (mic in XLR, headphone out TRS, and 4 pin XLR headset connector) ALL lock so there's no danger of stuff getting unplugged.

The CCP-1116 is designed to accommodate two commentators, so logically enough there are two sets of "on-air" and "mute/cough" buttons – one at each end of the unit. Each user can individually adjust into the headset volume, as well as volume for a variety of local additional auxiliary line inputs and their co-commentator's volume. The panel has an inbuilt speaker, as well as a threaded microphone socket for a gooseneck mic. Shift, Headset, Option, and a couple of function keys sit adjacent to the speaker volume encoder. The centre section of the panel comprises 16 OLED keys with rotary encoder / buttons for each. These keys are traditionally used to control communications function, and can be programmed to do the same things as they would on normal Riedel Artist 1100 series key panels. The keys are notionally numbered 1-16, but it's easy to split them into two banks of 8 in the setup software – one for each user. The OLED displays are brilliant. Bright and clear, the resolution is good enough to display not only text but also icons and complex Asian characters. The internal power supply accepts 90-253V, so it really is a device for the international market. A 4 pin XLR accepts 12V input for power supply redundancy.

Round the back of the unit are all the expected connectors and then some. Each mic channel has an "AIR" output (post on-air switch), and a "DIRECT" output. The MUTE key dis-



EASY KEY COMBINATIONS LET YOU SEE  
DIAGNOSTIC / SETUP INFO



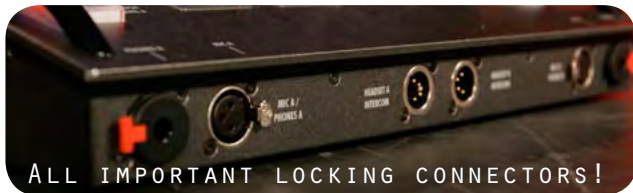
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**CX** GEARBOX

54 | [www.juliusmedia.com](http://www.juliusmedia.com) CX75

BRAND: RIEDEL  
MODEL: CCP-1116  
RRP: \$8687.00 INC GST  
PRODUCT INFO: [WWW.RIEDEL.NET](http://WWW.RIEDEL.NET)  
DISTRIBUTOR: [WWW.RIEDEL.NET](http://WWW.RIEDEL.NET)





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ables both outputs while pressed. There's also a mixed "AIR A+B OUT" as well. The outputs are transformer balanced which is nice when you're interfacing to lots of devices over distance. All these are on balanced XLR, as are the two AUX and one LINE inputs. A 5 pin XLR provides GPIO connectivity, and connection to an Artist matrix can be done via BNC on coax, or RJ45 on Cat5. The RJ45 has an EtherCon housing, so you can even lock in your Cat5 cable.



BACK PANEL CONTROLS

A dazzling array of switches appears on the back panel, but on closer inspection most of them simply exist to control routing of the various signals to each connected headset. There's a 20dB pad, plus phantom power switch and gain pot for each mic input. Round the back is a good place for this stuff – the commentators will never touch it but when you need to swap from a lip ribbon to a headset mic quickly it makes the process fast. Metering on the front panel also allows you to set optimal gain quickly during bump-in. By itself, the CCP-1116 is a nice piece of gear. You could connect it up using analogue inputs and outputs and treat it like a dumb panel. But that would kind of be a waste – it's capable of much more. Linking the panel to an Artist frame only requires one cable – straight away this is a win over analogue which uses at least four (assuming common program and comms feeds). Once the system is linked to a matrix not only can you perform all the usual audio routing functions, but you can program keys on the CCP-1116 to trigger GPIs, or even send RS-232 commands from the matrix frame. This allows you to interface to routers and such, so in effect you could give the commentators the ability to switch camera feeds to their monitors, listen across ref mics, and of course talk to other stations in the comms system. It's a lot of flexibility, and in fairness it does require a bit of planning to implement well. But it's all possible.

Perhaps the striking thing about the CCP-1116 is that it feels good. It was probably designed by an engineer, but there's clearly been some thought put into the visual and operational characteristics as well. I like it.

# C 414

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# Radial JDI mkIII

Anyone inadvertently stumbled over a plate reverb lately?

BY JIMMY DEN-UDEN

**Thought not... The past 10-20 years have seen huge developments in the world of pro audio. New consoles and speaker systems, high-powered amplifiers, and a world of digital processing. In some ways the sources we amplify are much the same – people still play guitars and drums and horns, and they still sing.**

Synthesizers and drum pads are capable of producing very wide frequencies, with wide dynamic range. Even the humble acoustic guitar has subtleties in its harmonics and transients. The accuracy with which modern sound systems reproduce them means that capturing the source accurately is more important.

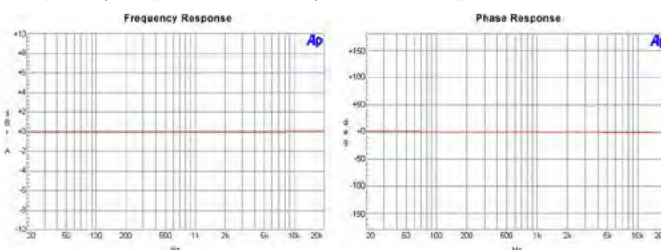
The JDI from Radial has quite a long heritage, with the original JDI first introduced in 1996. The original physical design resembled DI units from other manufacturers with the notable difference being the green exterior. While the colour was met with mixed response, clearly it's what was inside that mattered. The JDI is now in its third official iteration, with changes to the casing structure and replacement of the original toggle switches being the obvious differences.

Externally, the Radial JDI is built tough. Really tough. I reckon you could drive over it with a car and it would still sound the same, and look largely the same. You can definitely stand on it. The big rubber pad on the underside stops it sliding about when placed on top of things that rattle – like bass amps. The JDI is passive, which means no phantom power required. Translation: it won't go ka-bang when you unplug the mic lead from it.

Various pads are available on the unit – a 15dB line pad for high output sources such as CD players, as well as a 30dB speaker pad. The speaker pad allows the JDI to be connected in parallel with the speaker in an instrument amp, but be aware that the JDI is not a load replacement. You still need the speaker in-line! The trap with the 30dB speaker pad is that it only works when the 15dB pad is engaged – so check twice if using the JDI in this mode.

A phase reverse switch allows 180 degree phase flip of the output signal, while the merge function allows the IN and THRU terminals to become a set of stereo summing inputs. Perhaps most importantly is the ground lift function. Earth loops are one of the most common sources of hum when connecting unbalanced signals into a sound system. As the JDI is a passive transformer based device, deploying the earth lift function in effect electronically isolates the original signal. In other words, the JDI is very good at resolving hum problems – as are many DI boxes.

Perhaps what best distinguishes the JDI is its sonic virtues. The Radial spec lists extremely flat, full-range frequency response, and very near linear phase coherent



performance from 20Hz to 20kHz. See the graph from the Radial site. According to Radial, you can drive the JDI very hard without suffering the negative effects associated with active signal buffers. The internal Jensen transformer itself is shielded in a can within the JDI, which helps with rejection of external electromagnetic interference.

Not one to believe the hype, I had to try. I engaged the 15dB pad and punched a CD player at +4 into the DI. I gained up the channel and listened. Then I pulled the fader, dropped the pad out, reset the mixer gain and listened again. The signal hadn't lost anything – in fact it seemed to warm up a little in the low end. Perhaps it's transformer saturation, though I'd normally expect this to manifest as a loss in low end? Whatever the technical reasons, the JDI actually sounds nice when you drive it hard.

Musicians are often reticent to have a DI in-line with their instruments – especially (in my experience) bass players. They'd often prefer you take the direct output from their amp – which leads to two problems. First up your signal may be subjected to whatever EQ they've added in the amp, though this can usually be bypassed with a PRE-EQ switch. Secondly, if the amp fails (as I've seen happen on a live to air TV show) and the direct signal from it is the only one you have, you suddenly find yourself devoid of a rather crucial component of your mix. The reason behind the DI reluctance is most likely tied back to a shoddy DI affecting the sound of the instrument through the amp. Fair enough. Pleasingly, the JDI has an input impedance of 130kohm, which means its effect on the signal passing through it is effectively negligible.

**Ultimately, a good DI unit is worth its weight in reliability and audio quality. JDI is heavy on both.**



BRAND: RADIAL  
 MODEL: JDI MKII  
 RRP: \$279.00 INC GST  
 PRODUCT INFO: WWW.RADIALENG.COM  
 DISTRIBUTOR: WWW.AMBERTECH.COM.AU

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# Denon DN-C640 multi function CD player



CX finds unusual interface issues whilst on-air

REVIEWER JOHN MAIZELS

CDs will be around for a while yet in broadcasting and live production. A \$50 DVD player is a horrible thing to use on a critical gig, so when a very fully featured device like the DN-C640 comes along, it's time to sit up.

The DN-C640's biggest value proposition is the function that other devices don't offer; support for multiple codecs, network delivery, network control, serial interface, and inbuilt ripping. It's an impressive device in so many ways, but with... surprises.

The DN-640 plays standard CDs. It also plays data CDs that have files in multiple formats: WAV, MPEG1 Layer 2 (or "BWF"), MPEG1 Layer 3 (aka "mp3") and Windows Media Audio. Just to be tricky, it also plays those files from DVDs, and you could put three days or more of playback on a single optical disc. It has a serial interface which allows it to be used intelligently with installation controllers. Plus it can connect to a LAN and play files from a nominated directory on another PC or NAS device.

## Functionality

A familiar operational layout disguises that it's been thought out like a computer and not an appliance. From when you press the power on button until it will do something useful is 47 seconds. That's a LONG TIME, especially since it won't eject a disc until that time is up.

When the player is up, reading a disc is quicker than average - twelve seconds to read a disc and be ready. A disc with 451 mp3 tracks only took 15 seconds from insertion to ready, and I'm impressed with that.

Track selection is with the rotary knob but you quickly discover that if you turn the knob too fast, the player stops advancing. Once the track is selected, "cue mode" skips silence at the start of a track, so sound appears the instant that the play button is pressed. All the usual professional CD-deck functions exist, although it's missing a way to direct-select a track from the front panel.

To test playback, I loaded random files onto DVD-RW, with at least two of every file type that Denon claims to support. The deck loaded the disc and offered the same snappy read time as an audio CD, and it played the tracks. However it's very literal about formats: unrecognised files are "helpfully" skipped until it finds something playable. That was really confusing in a studio situation, and I found myself fighting with the deck to select anything at all.

Fortunately, network playback mode is pretty much the same as navigating optical media, so once you've learned how to handle a disc, you use the same technique and functions to play from a server. You can build a file structure on a network disk, test it, burn the entire tree to a CD or DVD, and play that on the DN-C640 with no changes in procedure. If you connect the DN-C640 to a network, you can use a browser to control the deck.

# dbx Just Sounds Better.

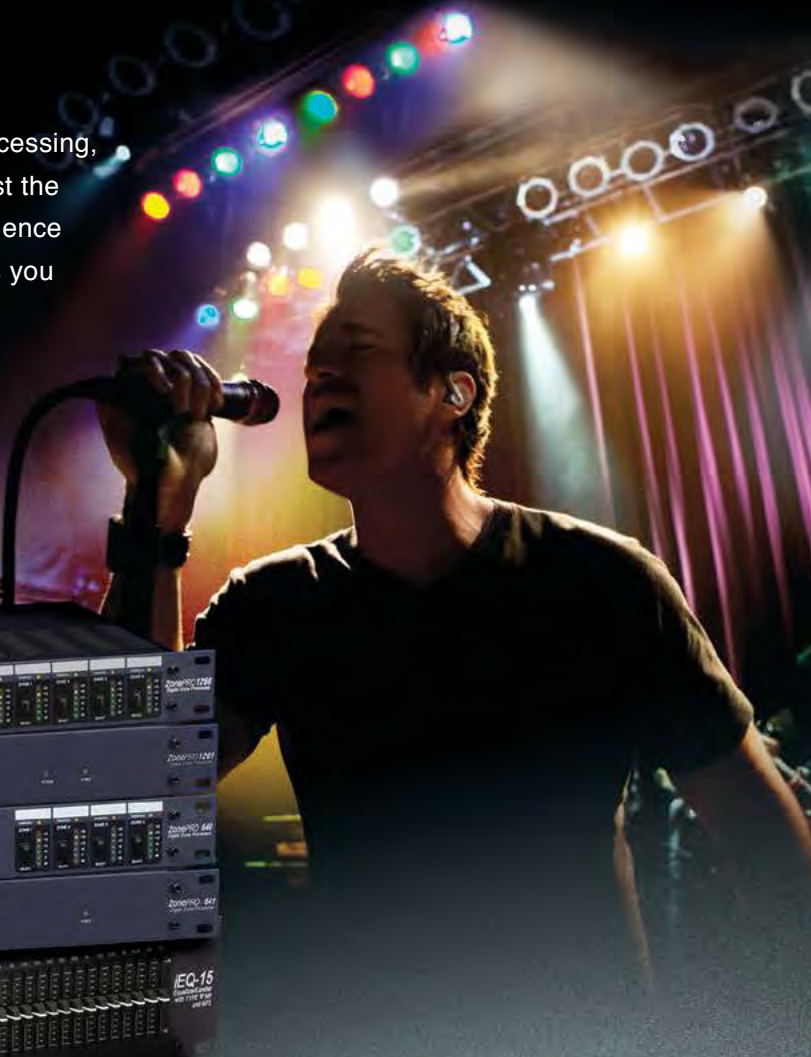
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*To hear the difference scan here.*





This bit takes a while...

Bootling.

A most interesting function is the automatic CD rip. Select either a track or the whole disc, press the start button and stand back. A copy of the audio appears as standard 44.1kHz/16-bit/stereo files, placed in a nominated network directory. But it's tortoise-like: about one-third real time. Possibly Denon engineers picked an extract rate compatible with a 10Mbit network, but it's too slow to deal with CDs that arrive at the last minute (Dance School spectacular any-one?). Twenty minutes to rip an hour of disc significantly kills the usefulness of an otherwise great feature.

We have no complaints about playback quality. Straight out of the box a frequency sweep was ruler flat and -14dBFS produced exactly +4dBm - as expected. I'm happy to believe all the other outstanding audio specs and it certainly sounds OK. AES and S/PDIF decoded correctly at 32kHz, 44.1kHz and 48kHz bitrates.

**The shock-buffer survived a heap of reasonable and unreasonable testing.**

## Not to like?

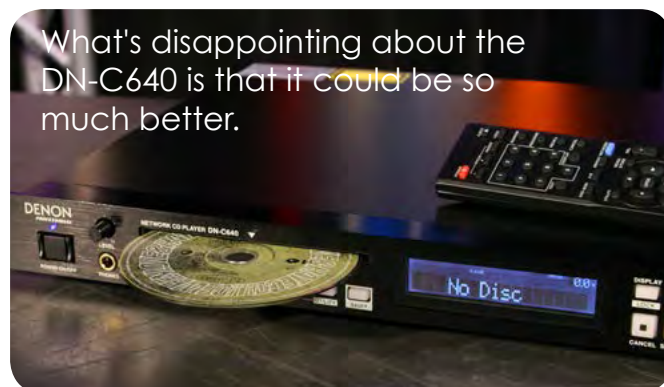
While there's nothing wrong with the audio performance, the DN-C640 is user-malevolent in ways that you wouldn't expect.

Settings can't be changed without stopping the player, so tough luck if you forgot to switch from single-track to continuous play before you started to air an entire album or directory. Allow 30 seconds of silence to make the change. Even more inconveniently, to change the network directory you have to power down and up again. Huh?

Many high-use functions require you to press the SHIFT button first, but then immediately unpress the SHIFT so that you can do the next step. For instance, to change a directory, the sequence is press SHIFT, press INDEX, press SHIFT, turn track knob. One mistake and you change the pitch of what you're playing instead. There's a good chance that the DN-C640 won't notice if files change on the network drive. Surely not. It's so obviously a computer, and

what computer can't tell you that files have changed? No, Mr Denon, just not good enough.

This was a really difficult review to write. I can't ever remember getting so frustrated with a product that I really want to like, and not because I've just put four of them into service on-air. I know a major broadcaster which has put over 200 of these into service, and you'd think that would be a good recommendation. Unfortunately, it isn't, because this is a device in a rapidly shrinking market and there's pretty much no alternative.



What's disappointing about the DN-C640 is that it could be so much better.

**John Maizels has been playing tracks in radio studios professionally since he was twelve, and that's an embarrassingly long time. He knows something about how CD players are used in live situations, and has the burn marks to prove it.**

BRAND: DENON  
MODEL: DENON DN-C640  
RRP: \$1600 INC GST,

PRODUCT INFO: [WWW.HILLSSVL.COM.AU](http://WWW.HILLSSVL.COM.AU)  
DISTRIBUTOR: [WWW.HILLSSVL.COM.AU](http://WWW.HILLSSVL.COM.AU)

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## Reasons for optimism in a month when pessimists might rule.

The news that cannot be ignored this month is the likely passing of the once all-dominant Australian Music Group, more widely known by the names of its trading entities: Allans, Billy Hydes, MusicLink and its associated wholesalers. As it stands today it looks like these businesses will fade into history as the receivers have seemingly failed to find a buyer.

**A business that has, in various forms, proudly existed for decades now comes to an end. It truly is the end of an era and whether you sold to them or bought from them, loved them or loathed them, it's a sad development that deserves a few moments of quiet contemplation.**

Whilst not all ACETA members did business with the group, the ripples of its fall will be felt across the music and entertainment sector beginning with the 600 people, many with significant skills and experience in the music industry, that are now out of work; consumers have been unable to use their gift cards; and many suppliers have lost money on goods supplied but not paid for. There will also be the disruption as the stock in the stores and warehouse is cleared and the brands find new homes.

May I take this opportunity to remind us all that we are always decrying the lack of skilled staff in our industry, so now might be a good time to consider hiring some of those former AMG employees and we hope they find new opportunities sooner rather than later.

A perhaps less obvious loss as a result of the failure of AMG is the loss of a significant promoter and sponsor of music making and music makers which helped drive the entire market, and the loss of an organisation that over many years helped train and shape many of today's industry leaders. Even more than the value of the business itself these losses will take time to replace.

On the basis of Newton's laws of motion, that all actions have an equal and opposite reaction, we are sure to see a raft of changes flowing on from the loss of AMG. The negatives are the easiest to see in the short term, but positives must surely also come. For example, the brands will need to find



### Australian Commercial & Entertainment Technologies Association

new homes, which should strengthen the existing wholesaler structures. And until the announcement of the receivership was made the theme of this month's ACETA article, it was to be about change and optimism, though the concept of change was not intended to be quite so immediate nor optimism quite so difficult to comprehend.

Two articles hit my desk this month, both from IBIS World Chairman, Phil Ruthven, a leading futurist and social commentator. The first was about the likely impact of the NBN and the second on the shifting structure of our industries.

I have to say the NBN hadn't really impacted on my thinking much. It doesn't come past my front door and it just seems like an impossibly large amount of money to get it built. But Ruthven is a strong supporter of the investment arguing that it will increase the productivity of key industries and enhance the capabilities of many others including some of the key sectors in which ACETA members undertake their business such as education, entertainment and communications. Ruthven says the Infotronics Age began in the late 1960s and is now gathering pace to create a new golden age for Australia.

**According to Ruthven:  
10% of Australia's 509 industries sectors (accounting for 23% of the nation's revenue) will not function without this new utility. The NBN is seen to have transformational benefits in areas such as professional and technical services, education and training, health care and public administration and safety; a further 17% of industries (representing 23% of the nation's revenue) will use it to drive step changes in their business 70% of the industries (accounting for 54% of revenue) will benefit from generalised productivity gains.**

Of course, where there are winners there are losers and he listed 21 industries which could be considered to be under threat. Many of these will be no surprise and include re-

corded media, publishing, cinema, free-to-air TV and video rentals. Ruthven also sounds the alarm for the traditional wholesale model, which he believes will eventually be cut out of the equation. Currently the consumer is cutting out the middleman, but Ruthven believes in due course the new utility will enable producers to target end consumers without the need for middlemen. The question has to be: if he's right (and he almost always is) and you are a wholesaler, how will you adjust to suit the new NBN-enabled world?

While Ruthven forecasts that the Infotronic Age to run until 2050 the NBN is here already for some and for most of us in the metro areas it's now only a handful of years away.

Continuing his theme of, 'the best is yet to come' in a second article Ruthven asks why it is Australians are whinging about their lot because the facts do not support a pessimistic view.

For example, Australia has 1.1 million more jobs in 2011 than it did in 2006. The focus is always on what has been lost and not what has been gained. Some industries are, indeed, threatened and motor vehicle production is the first example that springs to mind. Do we have such short memories? It was only the 1980s when we were similarly agonising over the fate of the textile, clothing and footwear industry, but the economy barely noticed and the workers have largely been snapped up elsewhere. Ruthven argues that the focus should be on new skills and not trying to sustain uncompetitive industries, though I have to add a note of pragmatism here and ask what politician would be foolish enough to say that and risk being pilloried in the press? It's much easier to dish out a subsidy to a declining industry and earn the applause of the media. Economists believe that 5% unemployment is in fact full employment, so by this measure we currently have full employment. Which also explains why so many of our members say how hard it is to find good staff. The power in the job market is with the candidate, not the employer.

Adding to this, the creative industries sector where many of our members operate or supply into, has seen sustained employment growth, higher than average wage rises and increasing industry value. According to government figures, this sector is now valued at over \$31 billion. And a quick aside: much of that value could not exist without the products that our members distribute or manufacture.

Others measures should leave us equally optimistic. Home interest rates are currently around the long term average, incomes are up and increasing by around 1.7% per annum to an average of \$144,000 per household while the costs of housing in much of Australia are coming down, not going up. As a home owner, you may not like that last idea, but it makes housing more affordable and drives construction, stamp duty receipts and much more.

Add to this that our savings rates are rising, our share market and super funds are recovering, and our population is growing. Savings growth might be frustrating because people are keeping the money in their banks and not putting it in yours, but the levels of spending were getting unsustainable as Australians spent more than they earned, so a correction had to happen, but the stimulus of the NBN is drawing near and according to Ruthven the time is right for a more positive outlook from the community at large.

He is a firm believer that the economy and business confidence are inextricably linked. The economy never recovers as long as business confidence is low.

Ruthven quotes research which shows that at the beginning of 2012 there was an almost equal number of optimists and pessimists in the community. Ruthven's view is that, 'its all going to get better during the remainder of this decade and for the decade following'. This means a more optimistic outlook for us all.

So back to where we began. As a sector we have the right to be disappointed and pessimistic about the demise of Allans, Billy Hydes et al at least for this week or perhaps this month, but with any loss we need to turn and face the future...with optimism and armed with facts. We have to look for the opportunity and, whilst offering our sympathies to those affected, we need to not waste our time and energy bemoaning what we can't change. Australia is in a good position compared to the rest of the world. We need to remember that and use it to drive our energies and planning, and be optimistic not pessimistic. After all; the NBN is almost here!

**NB: If you want to subscribe to Phil Ruthven's free bulletins just go to [www.ibisworld.com.au](http://www.ibisworld.com.au) and sign up for the Industry Insight newsletter. It's well worth it.**

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This month we'll look at something that is shrouded in confusion: Safe Work Method Statements (SWMS) or Job Safety Analysis (JSA). They are basically the same thing, just a different name, serving the same purpose.

**Under current WHS laws a company must maintain a safe place of work, and be able to prove that it has done everything within its power to achieve this. If you run a warehouse or factory that is quite simple, you set up your safe work systems, document them and make sure they are followed.**

**It gets a little more complicated in our industry when you go out on site.**

**You still have the same obligation but now you share your workplace, the venue where the event / concert / exhibition / worship is held, with a lot of different people. Enter the SWMS. These documents should explain to the unsuspecting event organiser what you are going to do in their, and your, workplace and if there are any risks identified, what you are doing to control them. And at the same time it serves as a reminder for your crew, full-time or casual, how you want them to do the job. Just because you put them in a truck and send them somewhere doesn't mean you are no longer responsible for them. As you may not**

**always be on site with your crew, the SWMS is an excellent way to show how you want them to do their work safely.**

### **How do you prepare a SWMS?**

There seems to be some confused ideas that a SWMS should be prepared by someone with a PHD in OH&S. Wrong. The SWMS is designed to help you think through the hazards and risks involved in the job, and to choose effective and practical control measures. And who understands the job and the risks better than anyone else? You and your crew, not some guy in an air-conditioned office.

**Preparing a SWMS is really not the drama some people make it out to be. There are four basic parts:**

- 1 - Work through the job step by step.**
- 2 - Identify the risks (can someone get hurt)**
- 3 - Rate the risk (how bad does it get)**
- 4 - Show what you will do to prevent this risk from happening.**

That's all there is to it. Let's go into a bit more detail for each part.

#### **1 - Work through the job.**

Normally that will start with unloading the truck. Then get all the gear inside and unpack the cases. Then you set things up, connect it together and power it up. Do the show and reverse the process at the end of the day. First time round, write down everything you do during the day, later we'll cull the unimportant bits.

#### **2 - Identify the risks.**

Back to step 1 – unloading the truck. That often involves a lot of manual handling which can be a risk if done incorrectly. Also things may have shifted during the trip and could fall out when you open the truck.

#### **3 - Rate the risk.**

This is the only bit where it gets a little technical. The easiest way is to use a risk matrix, like this one. On the left hand side is the likelihood that a risk will happen. Then at the top how bad will it get if it does happen.

The consequence rating is roughly as follows:

**Papercut = 1, Bandaaid = 2, First Aid = 3, Ambulance = 4, Death or amputation = 5.**

Take the number from the Likelihood and multiply by the number from Consequence and there is your rating. But what does that mean then? Look at the matrix and match your score. Green is 'low' and won't need much attention. Yellow is 'medium', not top priority but keep an eye on it. Orange is 'high' and you will need to do something about it. Red is 'extreme' and is an unacceptable risk level, stop everything until you have sorted it.

**Risk Matrix**

Consequence		Insignificant	Minor	Moderate	Major	Extreme
Likelihood		1	2	3	4	5
Certain	5	5	10	15	20	25
Likely	4	4	8	12	16	20
Possible	3	3	6	9	12	15
Unlikely	2	2	4	6	8	10
Rare	1	1	2	3	4	5

**4 - Now back to the list and look at all the risks that are rated 'high' and 'extreme'.**

How are you going to minimise the chances of that happening? And this is where it is important to talk to your crew. If the risk control is stupid or unrealistic then it is not going to happen, is it? This is where you have to make sure the controls are practical and the crew understand why it has to be done that way.

And that is basically all there is to it. Of course there are situations where things get more complicated and some outside help may be required, for instance if things are covered by Australian Standards or other legislation.

The most important thing about it though is what it contains and how it is explained to the crew. No point in having done all this just as a paper exercise, it is all about sharing the information and preventing people from being hurt, because that person could be you.

For more details and templates just have a search on-line. There is a lot of good information available to help you with this.

But always remember the  
KISS principle  
'Keep It Simple Stupid'!

Information here from Event Safety Alliance Australia is general in nature. Specific assessment of your situation should be undertaken. Do not rely on information supplied here alone.

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



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OR SCAN HERE TO ENTER





One of the empty bank buildings turned into Studio 301 in Sydney, where Tom Mi\$ner delighted in showing off the safe they left behind. CX's accountants bought one as well, mostly off the fees we pay them. (Just kidding....) But by and large, purpose built premises remain just so.

## **SOME HURDLES WHEN LEASING A WAREHOUSE OR HQ FOR YOUR FLEDGLING ENTERPRISE:**

- Check the power provision – a new sub station can cost north of \$100k.
- Check the power BOND, the suppliers like to charge you for the most extreme anticipated usage, and it could be a very rude surprise.
- Is it subject to a 'solicitor's lease', and what are the anticipated legal costs and stamp duty fees? Could be rude.
- Do they slug you for 'outgoings', and how much are these?
- Hidden extra's, like lawn mowing and fire inspections?
- Is telecommunications going to happen on time and on budget? Rude surprises often await you.
- Do you need a Development Application to use the thing? This annoys CX very greatly. Often we hear a simple change of use requires a 3 month paper chase - with you paying for an empty building while it happens!
- What and how is demanded by whom, (owner / council) before you put up a flipping sign outside?
- Is the street parking about to be turned into a No Stopping zone, or are time limits about to be applied so all your staff get fined every day?

BLOGBOX

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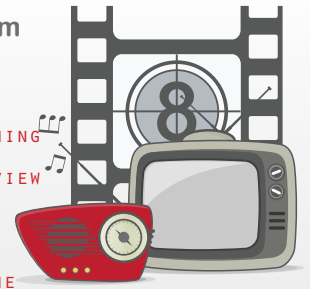
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- How hard will it be to add air cond to the office?

*Really at the end of the day, the hassles you go through running a business can drive you nuts.*

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# LIVE PERFORMANCE AUSTRALIA

## 'GREENER LIVE PERFORMANCES' PROJECT

Greener Live Performances is Live Performance Australia's project to provide sustainability support via online resources, case studies, identification of funding avenues and training and assessment tools for the live performance industry. The project is intended to support the entire live performance industry – including performing arts companies, producers, promoters, festivals, venues, touring coordinators and suppliers.

**The Queensland Department of Environment and Heritage Protection (EHP) is funding LPA to undertake this project through the EcoBiz Business Associations program. LPA has engaged Lisa Erhart from Dynamic Eco-Solutions to undertake key aspects of the project, including “on the ground” training and assessment with LPA members.**

### OBJECTIVES OF THE PROJECT

The project deliverables are:

- Embark on an industry engagement program to best understand “How can we support Greener Live Performances?”
- Undertake an eco-efficiency pilot program with a diverse trial group of live performance businesses.
- Utilise the findings from the eco-efficiency pilot program to develop a suitable education program supported by online materials for all LPA members
- Identification or development of an industry accreditation scheme that offers a standard process for adoption of sustainable business practices draft

### WHAT HAS BEEN ACHIEVED SO FAR?

A number of successful outcomes have been achieved with the project thus far:

- Lighting Designers / Technicians; as part of the project LPA has hosted two lighting design forums inviting project participants and industry to come together to discuss what can be done to improve electricity consumption associated with lighting a show. Both forums have been well attended

with over 30 representatives at each meeting. A number of key issues were raised and continue to be researched. Forum notes can be found on the Greener Live Performances webpage.

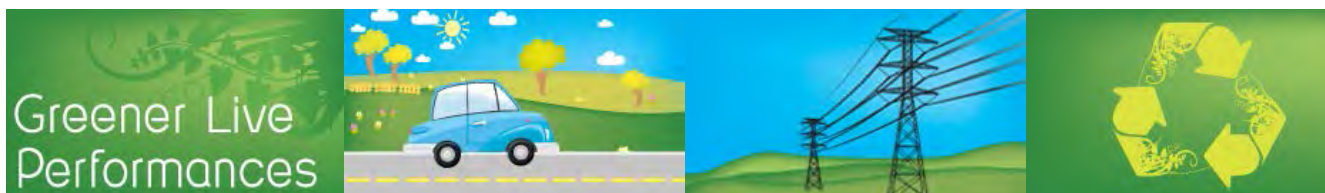
- A Green Stage Design forum aimed at theatre designers and production managers was hosted by LPA in July with a number of industry representatives in attendance. The most significant aspect of set design is physical material use and waste product to landfill. In Queensland fire safety standards prevent some materials being used without fire retardant which can then limit recyclability. Through this forum the industry has committed to identifying suitable materials that can be recycled and meet fire safety legislation. LPA has proactively engaged with the sector to determine the need for training and professional development in support of greener live performances. An online survey distributed to LPA members and the broader industry nationally has quantified an overwhelming interest in access to subsidised training.
- National and international networks have been established with Broadway Green Alliance (New York), Green Theatre Network (London), Greening Our Performances (VIC), Green Arts Project (NSW), Sustainable Event Alliance (Australia), providing links to support improved sustainability.

### WANT TO STAY IN TOUCH?

The ‘Greener Live Performances’ project will run for 18 months concluding in February 2013, during which time LPA would like to further expand its work in this area nationally.

Our aim is to provide industry with meaningful support mechanisms that relieve pressure in an already resource poor environment. We can only fulfill this aim with industry involvement and collaboration. We encourage you to check out the range of resources which have already been added to the Greener Live Performances webpage.

Suzanne Daley, LPA's Director, Policy & Programs is managing this initiative. If you want to stay in touch with the project, subscribe to our eNews by emailing Suzanne at [greener@liveperformance.com.au](mailto:greener@liveperformance.com.au)



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BY PAUL MATTHEWS

WHAT MOST OF US UNWILLING BOSSES REGULARLY IGNORE IS HOW MUCH TIME OUR EMPLOYEES ACTUALLY SPEND HELPING US RUN OUR BUSINESS. ON AVERAGE WE ALL SPEND AROUND A QUARTER OF OUR LIFE AT WORK. THAT'S A BIG COMMITMENT. ON AVERAGE WE SPEND MORE TIME WITH OUR WORK COLLEAGUES IN LIFE THAN WE DO WITH OUR FAMILY MEMBERS – AND YET IN RELATIONSHIPS WE CONSIDER THE LATTER TO BE FAR MORE IMPORTANT THAN THE FORMER.

Problem is, not everyone has the same appreciation of money. In fact some don't appreciate it at all while others crave it. Increasingly, a well educated workforce is discovering the fact that spending years of your life doing a job you hate - just so you can make more money (and for that matter, pay more tax) – doesn't necessarily result in the kind of life experience you want.

One of our best, most reliable employees who has worked for us continuously for eight years now has worked this out. Overtime – often craved and considered essential by some – is despised. He makes enough to pay the bills, keep the barbie stocked and buy the weekly beer. So the merest suggestion that extra time should be spent at work making more money is met with confusion as to why anyone would prefer to work in time which should be spent relaxing by the barbie sipping beer with mates.

On the other hand, we recently had to let someone go who

was very capable at their job and who we had no problem with at all – except that they kept deciding not to come to work! In the end the disruption this guy caused every day he ended up being a “no show”, caused all sorts of problems for everyone else – often making their day unfairly longer and harder.

It's no use busting your guts searching, advertising, screening and interviewing prospective employees if weeks or months later you have to do it all again.

When employees leave, it costs

business dearly. They walk away with invaluable experience and knowledge we can't replace. Business sinks or swims on it's assets and the most valuable ones are it's employees.

How do we retain people in our business? Well.. over and above all other things, what we're trying to do (as a boss) is give someone an excuse to get up in the morning and actually come to work. For pure “labouring” jobs at the bottom of the ladder, the reason is going to be limited to either money, fellow workers or a combination of both.

Labouring and production line jobs are generally uninspiring and very repetitive. We can either have a “work hard, party hard” character who lives for the weekend and needs his pay cheque every week to fund it. Or we can get someone who couldn't care less about the money and simply comes to work because that's where his mates are. They can yell at each other, call each other “you bastard” all day and somehow feel more wanted and useful than they otherwise would feel if they were still at home in bed.

Pay scales at this level tend to be fixed. The only way we can retain good labourers is to deliberately create a work environment where our workers feel needed and appreciated. Whilst handing out beers at work is definitely no longer a option, consider carefully what rules you do impose on your employees at work. At this level simple things like what radio station they listen to (and how loud it is), what clothes are worn and how easy you make a job to complete – are very important. Labourers really don't like to “labour away” when they can see an easier way of doing something which “the boss” won't consider just to supposedly save a few bucks.

A good way of retaining “labourer” grade employees is to make their job just that bit easier by listening, observing and focusing on results rather than methods. Does it really matter if someone runs off every hour for a 5 minute fag outside the gate if the work they are doing is still “all good” and it's getting done on time? Is it really necessary to make everyone wear steel caps if they're just soldering XLR's in a newly carpeted venue?

Employees really hate things that “don’t make sense”. That can be hard for you as a boss because in some cases you know some things you do will never make sense to your workers. For bosses who were once labourers (a dying breed), you generally know what makes sense and what doesn’t so it’s all OK. An increasing proportion of “bosses” out there rely on their workers to do their job without actually knowing how or what the workers are doing. If you’re in this category you’re going to have to polish your ability to listen and communicate.

Modern OH&S literature has “boss talk” to describe these things. Terms like “toolbox talks”. You don’t necessarily need to set aside time on site to sit on tool boxes. All you need to do is arm your workers with simple paperwork for a job that tells them what is going on. Then take the time to explain where they fit into the bigger picture. It works to make them feel like part of a valued team. Who knows, it might even make your work place safer!

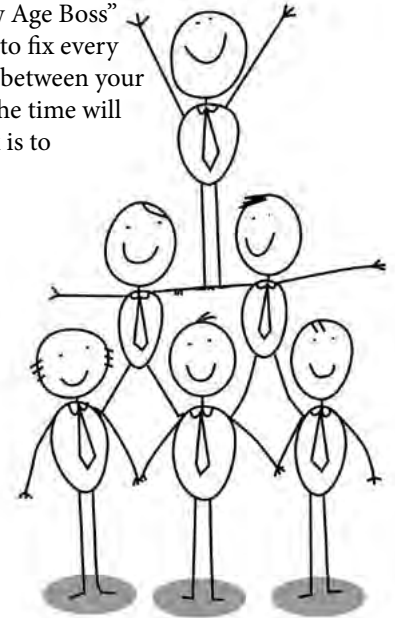
The best place for a PA contractor to start up a conversation about a job is in the truck, on the way to the job. You’ve generally got your employees sitting there captive, still and quiet. All ready for them not to just listen to your rant, but for you to take time listening to their reply. When you pull up at the gate it’s out of the truck and straight into the work. What could be more efficient than that?

Flexibility with start and finish times is something else which can win over an employee and keep them in your workshop. Just remember to draw clear lines on where that

flexibility ends. Be respectful when someone needs time off and make it clear that respect is a two way street.

If your employee expects you to bend for them occasionally then they should expect that sometimes you’re going to need them to bend your way too. More often than not that’ll be at 6pm on the final day of commissioning a big install which is due for handover at 7am the following morning.

Most of all, don’t be fooled into thinking that as a “Sensitive New Age Boss” you will always be able to fix every problem you ever have between your employees. Inevitably the time will come when the only fix is to write out that dreaded “notice of termination”.



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## TELEPHONE BLUES...

## IS THERE ANYTHING THE IPHONE WON'T DO?

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In the early 80s artists who were performing to a backing track used to come up to the mixing desk with a cassette tape for you to play. Professionals (or those who intended to become one) would have a good quality tape, clearly labelled Side A and Side B, cued up, ready to go with the tracks they wanted.

Amateurs (or those who were destined to become one) had a different way of looking at it.

They would hand you a cassette with no labels at all, and tape that was virtually transparent, with the texture of a crinkle cut chip.

"Which side, mate? A or B?" you would ask.

"Jeez I dunno, but we were just playin' it in the car."

"Which song?"

"Ummm, I can't remember the name but you'll know it - it's the one that goes da da da da. Just have a flick through it and you'll be able to find it."

"WTF? Look mate, I've got a lot to do here. You go back to the car and have a flick through it, and then bring it back to me ready to go. OK?"

And off they would shuffle, grumbling and complaining. So now it's your fault!

You'd think that things would get better when recordable CDs arrived, but that often made things even harder. You could be handed a CD so scratched it looked as though the dog had been chewing it in the car on the way to the show. Or worse, a brand new one that won't play; in fact the CD player won't even recognise it and keeps popping it out saying 'no disc'.

"But I just burnt it for you last week."

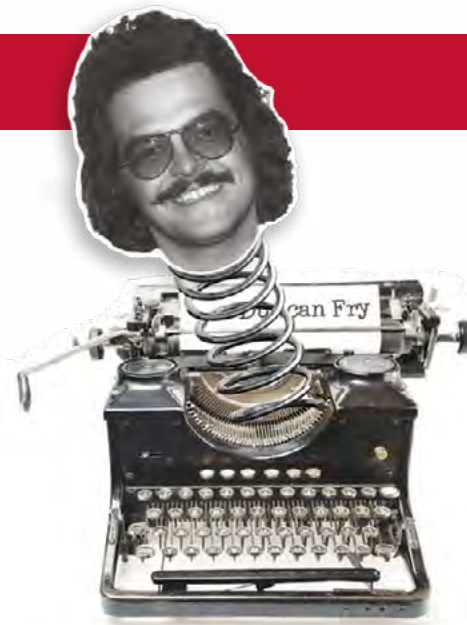
"Did you burn it as an audio CD?"

"Yeah, it's a CD."

"But an Audio CD?"

"Huh? What do you mean - it plays fine on my computer."

"Yes I'm sure it does, but if you want it to play on a CD player it's got to be in audio CD format. This is a data CD"



"Huh..? But it's a CD. Is your machine broken or something?"

Goes back to friends - "His shit CD player won't play it."

Once again it's your fault!

Or how about this, as happened to my mate Les Marton, engineer of choice to the aurally impaired. He's often mistaken for my missing twin brother, separated at birth and sold to the Hungarian gypsies. The only difference is that an audio mixing career has given him even less tolerance for

dickheads than I have. And that's saying something!

He's at the desk for a big charity night, and during the soundcheck a 'stage mother' fronts up at the mixer with a CD containing the backing track for her daughter, an opera singer.

Les pops the CD in, it starts playing and the daughter suddenly says "Stop, stop - this is in the wrong key!"

Mum turns to Les and says "You can change the key, can't you?"

With admirable restraint, Les just says "No!"

Mum glares at him because now, as you've probably guessed, it's all his fault!

The daughter says "Wait - I've got a copy on my ipod." So mum dashes out to the car, and comes back with it. Les plugs it up and the mum starts to walk off.

"Hey, where do you think you're going?" Les calls out, "You'll have to find the track and cue it up ready to go."

"Can't you do it?" says mum. With somewhat less restraint this time, Les replies "Look, I've got fourteen other artists to look after as well; if you want your daughter to go on tonight, you'll be cueing it up, not me."

The mum rolls her eyes and says with some asperity "You know, it's very common amongst top end productions for people to provide backing tracks on an ipod these days."

"Yes" agrees Les, "But it's also common for them to bring it to me cued up ready to go, and to be prepared to start and stop it. So that's what you'll be doing."

Luckily they didn't come to blows in the car park, and the show ended up going smoothly.

**THE ONE THING THESE THREE  
INSTANCES HAVE IN COMMON IS,  
NO MATTER WHAT THE PROBLEM  
IS, IT'S ALWAYS YOUR FAULT.**

Now there is something else for the poor harassed guy at the mixer - that's you, btw - to contend with. Yes, it's the iPhone; or any other smart phone for that matter.

iPhones are great units - I've even got one myself. It's the

first Apple product I've bought since the Apple Newton (look it up you youngsters!) about 20 years ago, but it still has the trademark concept of total control – you do things Steve Jobs' way or no way. But they are very handy, even if, as I do, you only want to make phone calls or send texts with one.

So I was most surprised when, setting up at a recent gig, the guitarist and the singer handed me an iPhone and said they wanted to do some classic crooners' songs – Frank Sinatra, Dean Martin, Bobby Darin; I'm sure you know the stuff – it's the full big band scenario.

**“AND WE'VE GOT THE KARAOKE BACKING TRACKS HERE ON THE IPHONE!” THEY BEAMED AT ME IN ANTICIPATION.**

Holy crap. As a multimedia playback device FOR AN AUDIENCE, not for you in your bedroom, smart phones are risky things. How often have you jabbed a button on the touchscreen and nothing has happened? Lots, I bet. And then you jab it again and it either does what you want twice or something completely different, especially if your big fat thumb has been ever so slightly over the edge of the button.

I wouldn't say I have particularly big hands, although they have been compared to five bananas arranged around a T bone steak! Yet it was these hands they wanted to operate the iPhone without making any mistakes. As a wise man once said to me, 'It's got f\*\*k-up written all over it!'

Anyway I'm quite happy to have a crack at most things, so off we went.

However, at the soundcheck they were halfway through a song and suddenly there's an ear-bleeding ringtone through

the PA and monitors, and a voice saying “Dad, dad – mum says can you pick up some milk on your way home tonight?” Oops!

All I can say is we were lucky to discover this before the show started.

So the first rule when using a smartphone for Live audio playback is: Remember it's a phone! Switch it to airplane mode first of all!

The second thing only became obvious after the show started. All the songs were in a playlist, but there was zero seconds between each song. So I had to be really on the ball to stop the song as soon as the last note was played, otherwise the next song started straight away.

If that happened I had to stop the new song, go back to the playlist, de-select the track, then re-select it, otherwise it started off where it originally left off.

That was OK, but most people leave their iPhones on the default screen setting of about a minute or so; after that it goes dark and then turns the display off! You can go into Settings /Auto-Lock and then change the screen lock time to Never, but that screen sucks up a lot of juice and you might not have enough power left in the battery to get to the end of the set. So I left it alone, thinking I'd be OK as long as I kept an eye on it. Hmmm.

You can imagine what happens when it's just coming up to the end of the song. You're just about to stop the track; suddenly the screen goes black, you have to jab the button to get it back on, then try to stop the next track from starting, usually too late. So then you have to stop and re-start the next track, while the audience stands around looking bewildered. Chaos. And this time it really is your fault!

*It gives a whole new meaning to the saying 'How was the show? It was OK but they were just phoning it in!'*

**“DAD, DAD MUM SAYS CAN YOU PICK UP SOME MILK ON YOUR WAY HOME TONIGHT?”  
OOFS!**

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