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# CX

**MONTHLY TECH NEWS**  
entertainment & broadcast

CX 76, NOVEMBER 2012 \$5.50

**ROAD SKILLS!**  
Live Gig Roundup

**INSTALL ADVISOR**  
AV for classrooms

**MILL REPORT**  
From the  
studio frontline

ISSN 1320-5595



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**CX NEWS:**

- RIP Allans Billy Hyde
- Mackie reborn with CMI
- CX Roadshow Program
- Road Crew Reunion
- VCA ramps up tech courses

**GEARBOX REVIEWS:**

- EAW QX · Yamaha CL
- ProShop LED Quadbar
- Jands Stage CL LED control
- Ross Video Carbonite
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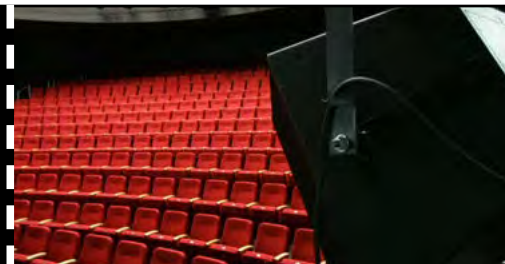
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## CX76 NOVEMBER 2012. # 76 . DIGITAL EDITION

### CHANGES FOR YOU!

Welcome Cat Strom's new Road Skills section. Cat has the best contacts in the production biz, since she's written about live production since before CX. Indeed we met when she was UK based. It's a pleasure to have her back in these pages after a dozen years.

Cat writes for a bunch of other publications, and has her own websites – check out [www.totalvenue.com.au](http://www.totalvenue.com.au) which is her flagship. She has also given a lot of voluntary time to ALIA, the lighting industry association.

Despite the quirky title, Road Skills is simply a roundup of live events and the mechanicals thereof. It makes complete sense to focus our coverage of music gigs into one department, kind of like how we brand all our reviews as GEARBOX.

### INSTALL ADVISER

While Road Skills is close to the foundation ethos of CX, our new Install Advisor section is a little on the sensible side of audio visual life. Each month we look at a flavour of installation and bring you the latest on what goes where and why.

It also serves an important stream of CX readership, since more than half the equipment sold in Australia ends up installed.

This issue we look at Classrooms – you think whiteboard and teacher, we think information delivery and student interaction. The universities are under the gun with MOOCs (Massive Open Online Courses) taking off, while TAFEs are being pillaged by cash strapped state governments.

Journey with us each month as Install Advisor distils the state of play. Next month a venue subject close to our hearts – Bars. We've already put in a lot of time on that one. Sadly beer appreciation does not get a run in Install Advisor.

### THE MILL REPORT

A third new regular appears this month, namely the Mill Report by Andy Stewart. We meet from time to time in Ackland street at a coffee shop and shoot the breeze. 'How do I write on studio for CX?' he asked.

"How about from your heart and workplace?" we replied. Since Andy is The Mill, an acclaimed commercial music studio outside Melbourne, it makes complete sense to write from a pure Mill perspective.

### TRAINING ENGAGEMENT?

Last year I joined the NPRG (National Project Reference Group) organised by IBSA (Innovation and Business Skills Australia) to replace CUE03 and design the new CUA training package for entertainment and events. In October a group of industry practitioners, educators and government signed off on the package in Adelaide.

After a year of sometimes heated meetings and consultation, a dozen of us met in Adelaide and nailed shut CUA, which will take training forwards for perhaps another decade. It was my first protracted committee experience. Vocational Training in Australia has become a complex mess, and CUA is an attempt to modernise the mess as it applies to theatre and events training.

CUA does a better job than CUE03. It will be harder for schools to deliver the Certificate III, which is a good thing as we know there are shortcuts available in CUE03 that have seen innocent kids over empowered by under qualified teachers. They come out all keen and green to our venues and production firms and get smashed by reality. CUA will help less of our beautiful kids get hurt.

If you were one of the many who engaged with IBSA on CUA, then well done and thank you.

- Julius



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# NEWS

## CX INDUSTRY NEWS

### Allans Billy Hyde RIP The end sees 500 sacked

**When Australian Music Group went under CX was flooded with information and theories. As potential angels like Guitar Centre, Lindsay Fox and Con Gallin fell by the wayside, the 24 stores liquidated stock.**

The group did \$109 million turnover, which included wholesaler Musiclink. Earlier in 2012 investment fund Revere Capital managed to buy the group from the National Australia Bank for a low \$8 million. NAB were owed over \$56 million at the time, and took a large loss.

Revere went on to plug another \$7 million into the group and called it a day when directors John Helme and Tim Mason requested several million more for Christmas stock. Mason told the creditors meeting that Revere had been funding the group with drip payments and their decision to pull out was a shock. Contrary to rumour, A.M.G. actually traded OK.

Guitar Centre examined the group and came close to a takeover but didn't like the high costs of retail - \$22/hour (Aust) -v- \$9 wages (USA) plus the retail rents in Australia are up to 4 times greater than the USA.

So it all came to an end, with far too many good people thrown out of work just before Christmas. A sad chapter.



**The former Allans Billy Hyde store on Lighthouse Square in Adelaide will revert to John Reynold's Music City. He sold out to Hydes around 6 years ago, and then watched as the suits in his words 'stuffed it up'. Now he is back.**

### Mackie Ramp Up CMI acquire distribution

**After some years of distribution by the now defunct Musiclink, Mackie will find wider distribution by CMI. Mackie, Korg and Line 6 were the main brands handled by Musiclink, Korg has also transferred to CMI.**

Mackie had a high profile under previous distributors Australian Audio Supplies, which was acquired by Hills

SVL. Musiclink then promised greater sales by preferencing Mackie at all Allans Billy Hyde stores.

This in turn saw Mackie sales fall away at the other 100 prominent music stores around Australia, where the sentiment was to not support a brand distributed by a competitor.

Mackie gives CMI a very broad range of pro audio lines, headed by Adamson and including DB Technologies and HK Audio.

## Crew Reunion

If you were in a working road crew on or before 1982,  
email Ian 'Piggy' Peel because there is a reunion planned for  
late November at St Kilda Bowlo.

Ian Peel: [ichibantuna@hotmail.com](mailto:ichibantuna@hotmail.com)



A busy Monday at JPJ Audio Melbourne recently

## Jands add lines

### Jands will now distribute Aurora Multimedia video control products

“Good technical support is essential when dealing with control systems and our experience so far with Aurora has left nothing to desire. Aurora design and manufacture the majority of their products in house in the USA, and maintain a well-resourced online support forum and knowledge base, so help is available 24/7 anywhere in the world.” said Jeff MacKenzie, Jands Technical Resource Manager.

Jands were also appointed as the exclusive distributor of Gator Cases in Australia.

“Gator is a perfect fit for Jands” said Paul Mulholland, Jands Managing Director.

“I cannot think of a single Jands customer who would not purchase on a regular basis a product that could be supplied from the Gator catalogue. They are undoubtedly the world’s premier full range casing company, totally committed to quality and with an aggressive product development strategy”.

## CX Roadshow finalized

18 firms will show new equipment on the  
CX touring tradeshow next

February in six capital cities. 2 master  
classes with Richard Cadena will teach  
show electrics and show control, and  
2 industry summits – one on stage and  
event safety and the other on training  
will run through the day.

14 manufacturer seminars and loud and  
bright demo sessions will round out the one  
day event which has exactly the same program  
in every city. A tech trivia quiz and beer appre-  
ciation session completes the day on the trade  
floor, which is free to attend.

More details at [www.cxevents.com.au](http://www.cxevents.com.au)

## 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.



Stage Lighting Basics  
Mon 7, Tues 8 January

Stage Sound Basics  
Mon 14, Tues 15 January

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# Melbourne Production School Ramps Up

## Stronger Focus on Employment drives VCA

BY JULIUS GRAFTON

Theatre and event technology courses are scarce in Australia, not counting the thousands of places at private colleges and TAFE's that churn out 'audio or studio courses' with no job prospects

In Melbourne VCA, better known as the Victorian College of the Arts at the University of Melbourne, has tightened its course structure this year by requiring students to specialize at the time of enrollment in either of Tech, Design or Stage Management.

Across three years, students do a Bachelor Degree in production, which at VCA has managed in recent times to retain most of its enrolled students through to graduation.

Head of production is Kym Williams, who has been with VCA for 26 years. "What's changed? Everything has changed, it's like the next day I'm in a new job. But funny enough the students are kind of the same", she laughed.

"We train that productions could range from La Mama (small theatre) to the Olympic games - with all in between".

Kym gets that a stage manager – the school trains a dozen at a time – is not going to walk up to a theatre gig. "It could be calling the grand final, events, festivals, the private sector. They come from school, and at school stage manage-

ment usually means being a crowd wrangler".

Stage Management students at VCA do the first year of their three year degree with the tech students, learning to operate AV and be savvy. They are encouraged to learn to read music, so they can follow a score if they want to work in musical theatre. Not all do that, but the emphasis is on generalist skills, not narrow.

Performance Technology coordinator, Joseph Mercurio teaches lighting at VCA, with a dozen students in each year. Joseph is a lighting designer who taught at WAAPA for five years.

He moved his family to Melbourne to take up the position with VCA, and has assisted with the updated specialization stream for technical production this year.

Final year student James Lipari will graduate this month. He will be looking for lighting work after having a summer break. He knows this may involve rolling and tagging cables at a production firm. "I won't complain about that – not at first", he jokes.

CX asks him about his pay expectations. "I don't want to live off cat food for the rest of my life. It's niggling in the back of my mind. You do look at jobs and wonder about the pay". He is realistic about his chosen vocation.

### But is he blooded and battle ready?

"They can't abuse us here. There is no swearing or denigration like I know happens at some (work) places", he says, looking wary at what may come later. James knows the industry can be hard on graduates, because most people already working don't have a qualification and some can be brutal with graduates.

"It's bullying, and it is not acceptable", says Kym. But a bigger problem is retaining them in third year – they do a



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JAMES LIPARI AND JOSEPH MERCURIO

secondment and then they have to come back and complete their degree.

“We had a girl on a show and they bribed her with a coffee mug – can you believe it? I said ‘look you have to finish off with us, leave the show’. At first she was mad, but later on she thanked me for it”.

The secondments are the best part of the three year degree, according to James. He got lucky: his main interest is dance, and he emailed lighting designer Damien Cooper who was gracious enough to actually reply and accept James into his production of the Australian Ballet’s Infinity season at the State Theatre.

“I was quite blown away, he was very generous. We met up and had coffee and talked. He was Sydney based, but he kept me in the design loop, sent me draft cue synopsis and we had chats about the change to the vision. He was working with Graeme Murphy at the time.”

“I want to make this course hum”, says Joseph. “We teach on the tools, and do the university expansion of mind thing. And VCA is expanding, with better equipment, and a variety of projects”.

“The main agenda, is that when they (students) leave, they are the first employed in the queue. It’s about reputation, and understanding, and then getting snapped up.”

These days VCA students learn crew work, middle management, and how to do design. Technical students do sound, lighting and video. “We make really employable people”, Joseph asserts.

## MIXED SKILLS

At VCA they teach set building in the stage design degree, and costume making. There are workshops, and there are enough studios and venues to carry the heavy load of productions they stage with students from the theatre and dance schools.

In year one, tech students are taught what the thing you hit nails with is called, and how it works. Strangely these days some very smart school leavers have never put a hand on a hammer, and can’t identify a shifting spanner. Blame the schools for that one.

They have to learn Adobe products like Photoshop, Illustrator and Dream Weaver. Later they will need to master Vectorworks, for CAD designing. Initially they do old fashioned paper designs, on actual drawing boards with actual pencils.

“We don’t go heavy on high tech, but we do get movers and LED fixtures from Res X – I need to get a plug in for them because they have been great to us”, says Joseph.

Five different lighting consoles are available for students to master – Camsys, MA PC, Vista and ETC Gio and Ion.

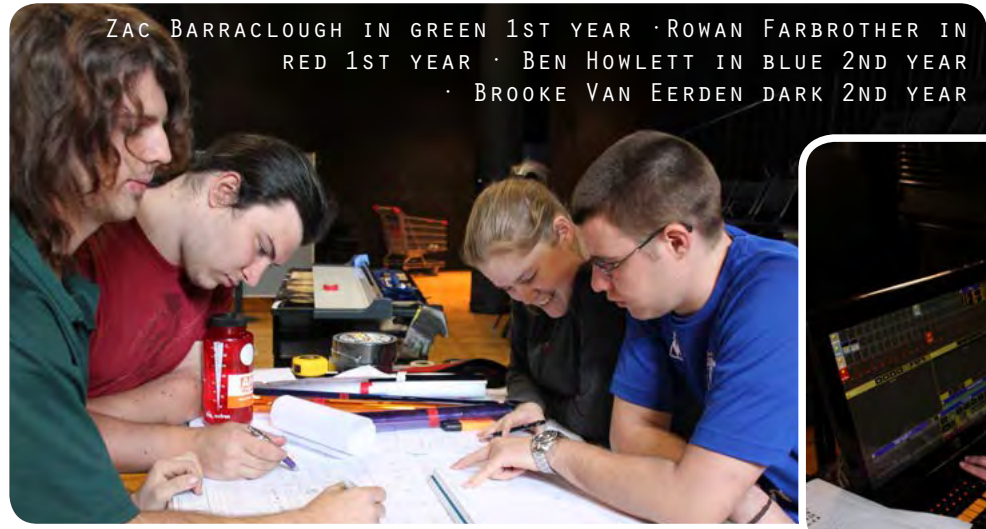
The college has a lot of conventional lighting equipment, and cabling. Some spaces require that cables be run, others have patches. All students learn the basics and all students have to actually roll cables. “Over and under, starting at the plug”, Joseph insists.

“Plus there is the background stuff: concepts and creativity – the history of theatre, the big overview. We also do this with the year one kids in dance and drama. They may not think it’s important, but it is! I teach them how theatre was lit was gas, and that’s why we had safety systems before anyone knew what safety was. 300 people died in a theatre fire in the 1800s in the US”.

“We get kids up to the digital world, but we don’t ignore the fundamentals”.

Reflecting on things, Joseph says he always taught – “even at high school, I went to different schools and helped out. I got an Advanced Diploma in Stage and Studio Techniques in 1984 at Perth Technical College under Andy Ciddor. That is the college that became WAAPA.”

“We are open for business, we are growing and expanding here at the VCA. New audio, lighting and vision equipment ensure that we are at the forefront of performance technology.”

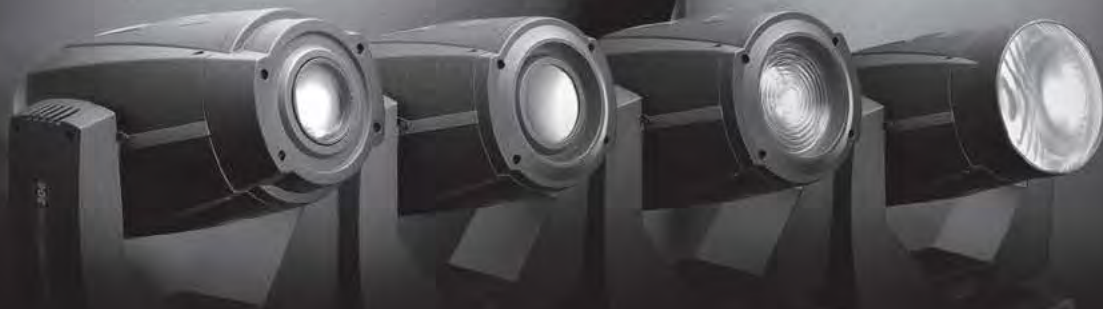


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## GO CASE PAR CAN/MIRROR BALL CASES

GO CASE have released a range of premade strong utility cases with riveted aluminium angle, riveted steel components and finished in a textured black laminated 10mm panel for both mirror ball and par can lighting.

The cases are heavy duty, padlockable, full synthetic 5mm rubber lined and are produced with 4 heavy duty casters for maneuverability.

The mirror ball cases are made in 3 sizes suitable for 12"/16"/20" (30/40/50cm) mirror balls, while the par can cases are both 8 compartments suitable for either multipar or par 64 lighting.



## RADIAL Q4 PARAMETRIC EQUALIZER



The Q4 is a line level device designed to interface with balanced pro audio recording systems. It features four EQ bands with fixed low and high frequency shelving at 100Hz and 10kHz, plus two semi-parametric mid bands that span between 300Hz ~ 2.4kHz and 1kHz ~ 12kHz respectively. Each mid band is also equipped with choice of wide or narrow Q. All frequencies are set with up to 12dB of boost or cut. The EQ may be bypassed to compare the pre and post effect.

## GRASS VALLEY T2 iDDR

Grass Valley has released a newly designed and improved T2™ family of intelligent digital disk recorders (iDDRs) suited for live event production, post production, and video-on-demand applications. With increased format support and faster signal processing, the new T2 iDDRs streamline manual processes and automate key capabilities to improve a wide variety of file-based workflows.

The new T2 range all include faster signal processing, generous storage capacity, and secure 2.5-inch HDD or SSD storage drives that allow users to work faster and smarter, supporting more native file formats and compression codecs, including those from Grass Valley and a variety of third-parties.

Depending on model chosen storage capabilities range from 600 GB (or 8 hours) of full 1080i HD content storage using SSD up to 1 TB (or 14 hours) of full 1080i HD content storage, with even more storage for 720p HD and 480i SD formats.



## CHYRON IP

ChyronIP is a real-time HD/SD 2D and 3D character and graphics generator that brings data-driven 3D graphics to NewTek TriCaster live production systems. ChyronIP delivers key and fill signals via the TriCaster network interface, which gives producers two full HD or SD live full-motion channels of Chyron graphics without tying up any of the TriCaster's video inputs.

Ideal for sports, news, entertainment, and any other live production, ChyronIP allows TriCaster users to employ the same type of high-impact graphics typical of premier sports and entertainment broadcasts.

Because graphics data is delivered via a network connection, broadcasters can take advantage of ChyronIP for TriCaster without giving up any of the needed camera inputs that also are critical to live production. ChyronIP for TriCaster is a self-contained system that has a compact lightweight chassis. Users can simply plug it in and get to work.



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## CREST CLh 5000 & CLh2500 AMPLIFIERS

The new CLh Series are ultra-high efficiency, servo-controlled, Class-D 2-channel amplifiers. The CLh 5000 produces 2,500 watts/channel continuous at 70.7 volts, while the CLh 2500 provides 1,250 watts at 70.7 volts — all from a 13-pound package. The features include ACL™ (Active Clip Limiting) that automatically reduces gain at the onset of clipping; over-current and DC protection; remote turn-on; and a switchable low-cut filter.



## RADIAL PZ-DI ORCHESTRAL ACOUSTIC DIRECT BOX

The Radial PZ-DI direct box is designed to work with all types of acoustic and orchestral instruments by letting users optimise the input impedance to match the pickup or transducer. The PZ-DI will help eliminate feedback and resonance caused by low frequencies along with the interaction between the room acoustics and the PA.

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The PZ-DI can work double duty as a standard direct box with front panel ¼" input and thru connectors to interface with an electric bass and the stage amplifier plus XLR out to feed the PA. The PZ-DI employs 48V phantom power with a new internal switching supply that elevates the rail voltage while reducing distortion.



## MC2 AUDIO – S SERIES AMPLIFIERS

The S Series utilise the best AB bipolar output stages, combined with the MC2 current driven floating drive stage along with analogue level controls for minimal signal degradation.

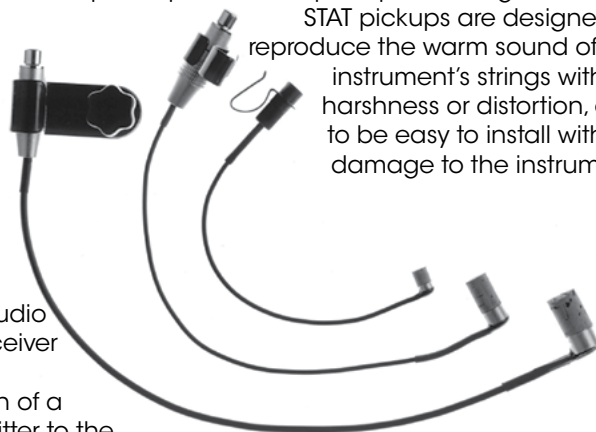
Sophisticated "side-chain" limiters prevent distortion and speaker damage, but are out-of-circuit until the onset of clipping so do not compromise the signal path under normal working conditions. A bespoke high fidelity shielded toroidal power supply combined with intelligently controlled low noise fans provide optimum conditions for the output stages, ensuring the only thing you will ever hear is your sound.

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The FP Series offers a comprehensive selection of system configurations with key wireless audio technologies and components. It provides the ability to capture crystal - clear audio with simple and flexible components, including a portable receiver and XLR plug-on transmitter. The FP Series allows for Automatic Frequency Selection, locating an open frequency at the touch of a button, Automatic Transmitter Setup instantly syncs the transmitter to the receiver frequency and allows up to 12 compatible systems simultaneously.



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**LINK DANTE MODULAR STAGE BOX**

Link's DGLink Modular Stage Box System is possibly the first multi-protocol digital snake system to implement Dante, Audinate's configuring, plug-and-play digital audio network that uses standard Internet Protocols. Dante is a scalable solution that works on both 100 Mbit/s and 1 Gigabit Ethernet and, coupled with Link's unique hybrid approach, offers the end user a distribution system that will improve audio quality and simplify setup.

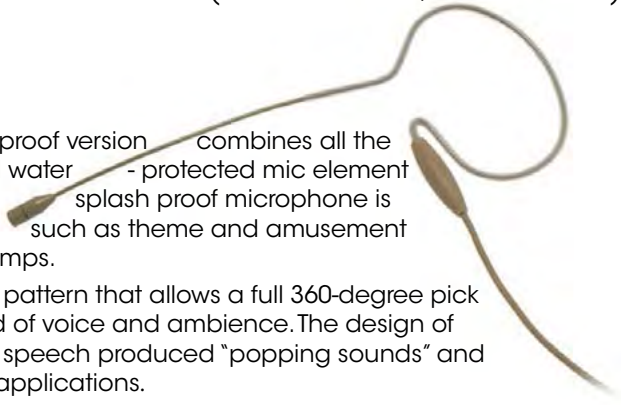


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**POINTSOURCE**  
**AUDIO CO-5w WATERPROOF EARWORN MIC**

The CO-5w is the waterproof version of the CO-5 mic. The waterproof version combines all the reliable performance characteristics of the CO-5 with a special water - protected mic element to make the CO-5w virtually "unsinkable." With 125dB of SPL, this splash proof microphone is designed for speaking or performing in outdoor environments such as theme and amusement parks, cruise ships, water parks, zoos, aquariums, or summer camps.



The CO-5w has an Omni-directional polar pattern that allows a full 360-degree pick up of sound providing a natural blend of voice and ambience. The design of the CO-5w lends itself to reduced speech produced "popping sounds" and voice overloads in close mic applications.



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## TS 400

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**dbx TR1616**

dbx's TR1616 is a 16 input, 16 output digital I/O modular building block box that allows you to create a digital snake or network to the size you need without any confusing addressing or programming required. It has the ability to add up to 8 boxes (256 channels at 48kHz).

Each channel has 60dB dbx preamp, a true 48v phantom power capability and a 20dB pad, polarity invert and low cut filter buttons, along with 4 segment LED metering. Inputs are available on 3pin XLR/TRS combo connectors with outputs on 3pin XLR's. The TR1616 is 3RU tall and has a 240vac power connector, plus 2 pairs of Neutrik Ethercon connectors on the rear for the Harman BLU-Link digital audio bus.



**KALTMAN CREATIONS IWxCPA ANTENNA**



The IWxCPA antenna is not like a traditional paddle or rod antenna commonly used with wireless microphone receivers and pro-audio antenna distribution systems. The antenna incorporates directional, Circular Polarization (CP) technology for both receiving and transmitting pro-audio wireless applications.

The IWxCPA antenna uses circular polarization, technology that produces a 'drop-out free' transmitter and receiver combination that is never out of phase. This technology, along with the antenna's directional attributes, helps to guarantee as reliable of an RF signal link as possible.

**JBL ALL WEATHER COMPACT (AWC) SPEAKERS**



AWC129 model shown

JBL's AWC Series of loudspeaker systems brings high fidelity sound quality and substantial sound level capability to outdoor applications. The wide-range, smooth frequency response and high sensitivity ensure high fidelity music reproduction and projection of clear, intelligible speech.

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## J.R. CLANCY SCENE CONTROL 5000

The SceneControl 5000 Stage Automation Control System is designed to provide a common control platform across the multitude of rigging machinery in venues. It will offer multi-level cueing, sub-master control, free and locked groups, and unlimited numbers of axes in a system. There are no restrictions on the quantity of cues in a performance, or on the number of stored show files or concurrent axes in motion.

There will be three models in the 5000 series: the SceneControl 5300, a compact, mid-level operator console that can serve as the main operator interface as well as a localized backstage console with a 15.1-inch capacitive touch screen; the SceneControl 5500 provides greater functionality via an added 24-inch, 1920x1080 resolution second operator screen; the SceneControl 5600 includes dual 24-inch 1920x1080 screens, redundant processing, a second joystick and a 15.1-inch capacitive touch screen on the desktop.



## HiQnet MOTION CONTROL™ iOS APP

The HiQnet Motion Control iOS app enables customised control interfaces in Harman's System Architect software platform to be imported on iPad, iPhone and iPod Touch devices for mobile system control.

iPad and iPhone sized templates are available within System Architect for the configuration of customised interfaces, which can be used to control networked devices from BSS, Crown, dbx and JBL.

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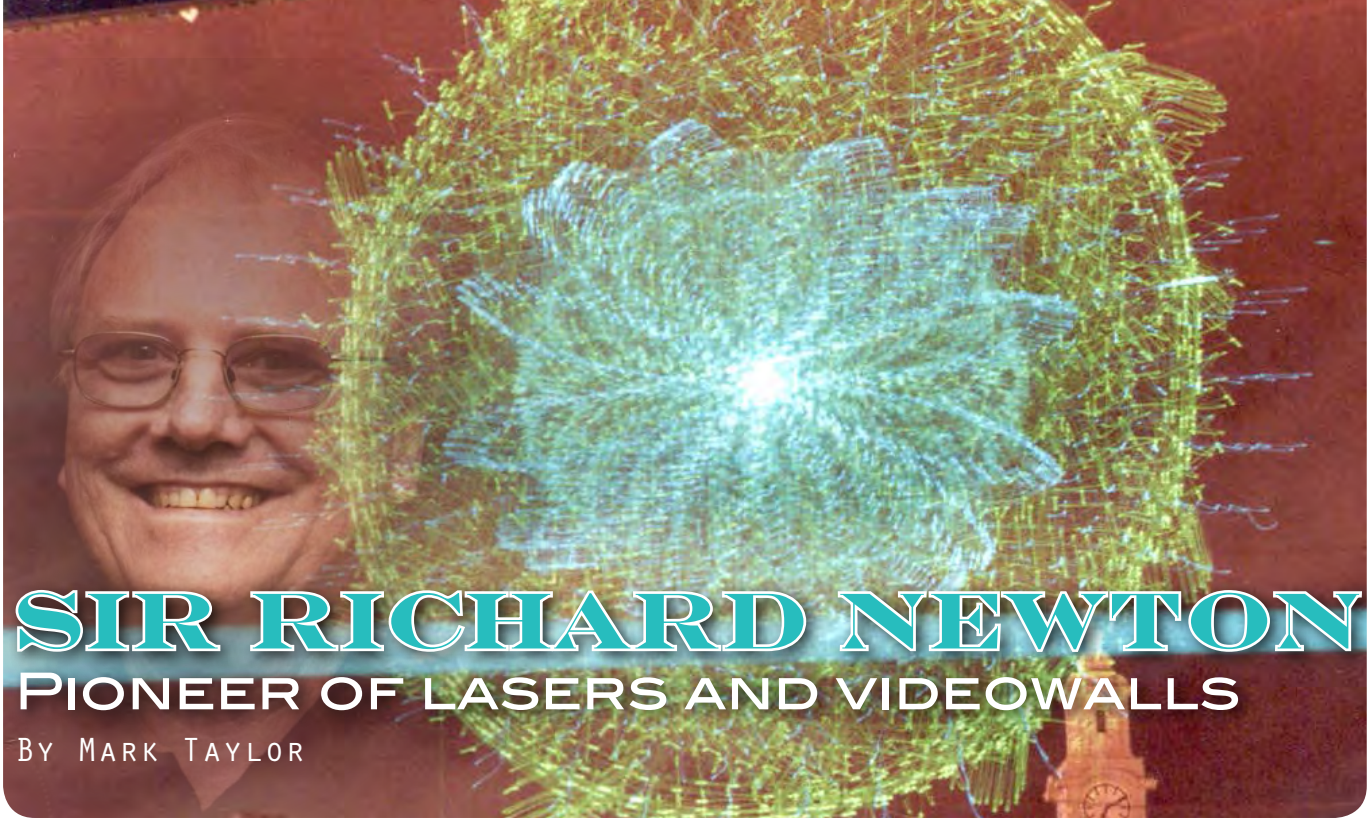


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# SIR RICHARD NEWTON

## PIONEER OF LASERS AND VIDEO WALLS

BY MARK TAYLOR

**THERE AREN'T MANY BLOKES IN THE INDUSTRY I'D REFER TO AS "SIR" BUT RICHARD NEWTON IS ONE OF THE KNIGHTS OF THE ROUND CABLE.**

Since he came over from Christchurch in the late 60's Richard's been a fundamental part of our scene. He started out on the classic computer mainframes of the 70's keeping clients' systems alive running PDP8 on Control Data boxes. This later led to gaming machine manufacture for Fortune Coin and brought in enough money to buy a couple of Spectra Physics lasers which would become the forefront of laser life here in Australia.

He then went on to introduce Videowalls in the mid 80's firstly for corporate promos & TV Stations and later for command and control rooms, malls and corporate headquarters here and in Asia.

The single most important thing about Richard is his agility. He's moved along with the trends and not been afraid



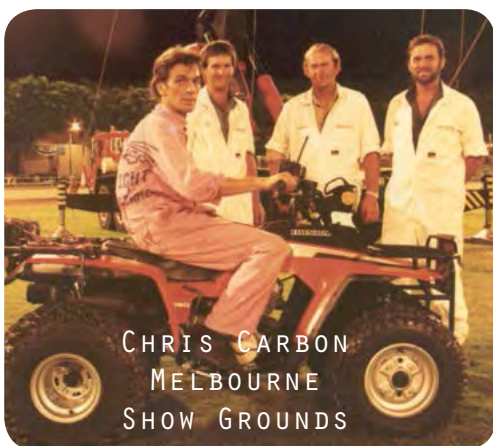
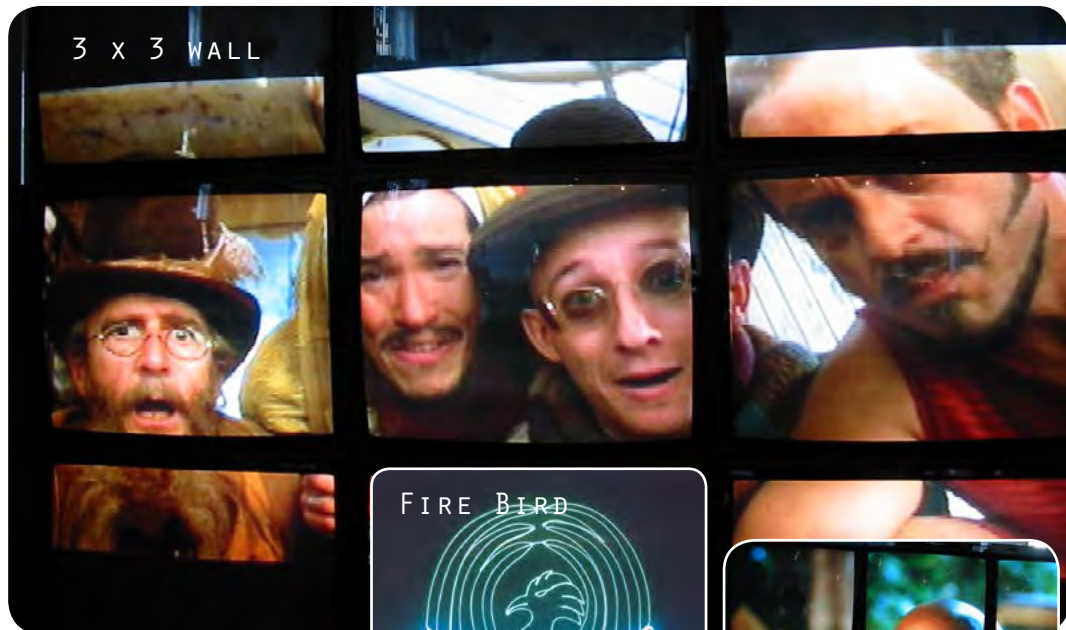
to push the boundaries. In the early days a laser show would painfully be plotted on a Northstar CPM [pre DOS] machine and it would take a week to get a single image right. You'd back the thing up on 5 and half inch floppies. Big lasers then were 25 watt machines but they needed 70 amps and 25 litres of water per minute at 7 bar going through them just to keep the buggars alight. Idiots like gardeners used to tie off the return pipe because 'water was leaking' and there would be tears as a \$25k head burnt up.

Richard has manifested some if not all of our most cutting edge laser shows which have brought us to what we are doing now in laser territory. He hasn't been alone doing that. Notably Geoffrey Rose was his principal partner & designer, Nick Bonham a creative director and Chris Carbon his production manager.

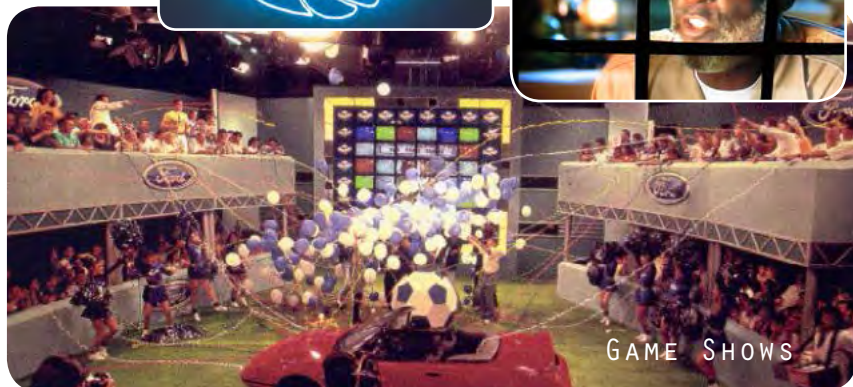




CHRIS CARBON



CHRIS CARBON  
MELBOURNE  
SHOW GROUNDS



**MT:** How was it working with Chris Carbon?

**RN:** If you ever had met Chris, you'd remember him. Carbon left us 2 years ago. The cancer he had didn't get him, the chemo did. Chris Carbon was a complete and utter scoundrel and always brilliant at pulling stuff off. He gave us the Stranded Nightclub in the early '80s and a host of other things. "The Carbon" loved blowing things up and was instrumental in our production relationships with Syd Howard, and later on we fully automated his firing system. This was for the Nick Bonham designed 'Skyshows' the FM stations used to do around the country, culminating with the bicentennial fireworks on Sydney Harbour. We striped one of the audio tracks with EBU timecode and synched it to the firing program.

**MT:** Tell us about the gaming machines and Fortune Coin.

**RN:** Without starting another Royal Commission I'd say that our machines were a bit more than your average Pacman. We designed them with 8086 chips on a 64k eprom. Everyone was happy for a while but the heat finally came and it was time to get out. We were one of the first to be licensed to manufacture, sell and service gaming machines in NSW.

**MT:** When did you get into Lasers?

**RN:** Towards the end of Fortune Coin. They'd just been seen overseas in shows and the trick was to develop a control

system for them. That's what we set about doing, using technologies we already had up our sleeve. Once we had what we thought was a show we took it out and showed a few people and it took off.

**MT:** How did you control them? Did they have scanners back then?

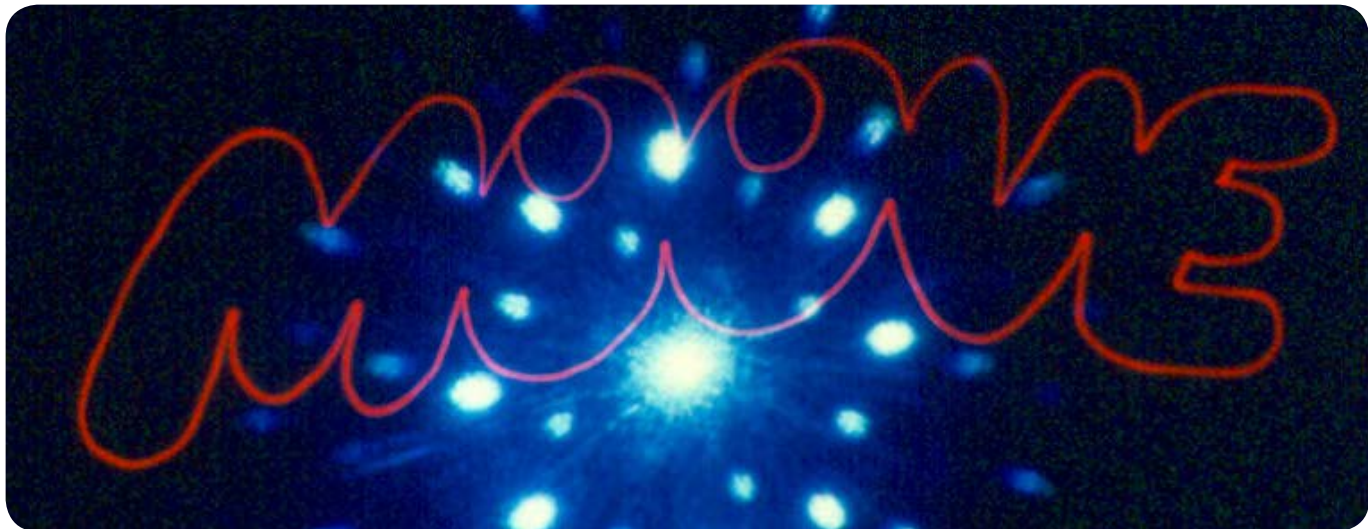
**RN:** The first scanners were a pair of 4" speakers with a mirror stuck in the middle. We'd hook them up to a sig gen and sweep frequencies and watch what happened. Repeating the effects off a 4 track tape machine was tricky, to say the least. Things did get better but it would take weeks to get a show written. Finally the scanners improved and later we hit a benchmark of control which took the time out of programming.

**MT:** Were you still writing the code on the same platform?

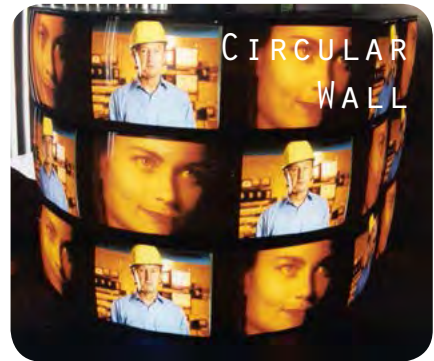
**RN:** No. We started using the Northstars but then we moved over to the DOS Portapak which were programmed by David Spicer here in Sydney. They were the first (pre windows) luggable laptops. They were an all in one unit just perfect for touring. They were also popular with the AV boys for controlling the Electrosonic gear hooked up to their stacks of Kodak SAV projectors.

**MT:** Where does Videowall Australia come into this?

**RN:** Well the lasers – and there were fewer of them then -



basically turned into hire items. Walls had been around for years but they weren't very good. But Seleco (now SIM2), an Italian company came out with a good looking Videowall monitor and Electrosonic released the Picblok wall processor. I jumped in and the rest is history. We were renting, selling and installing them. My salesman then was Gerry Wilkins. Gerry went on to be IDT and has just sold a share of it to the Midwich Group. We've had a great relationship





over the years. Gerry was a very successful salesman from Electrosonic in the States. At one stage Electrosonic had a stake in Videowall.

**MT:** I used to hate dealing with your Pioneer cubes.

**RN:** They were skin shredding beasts. Each one weighed 92kgs. Try building a 5 x 5 wall – the top row could take all night. And then you'd have to line them up.

**MT:** What did you do with them?

**RN:** I put some of them through a crusher. [Laughs] No, most ended up at MONA in Hobart. They're part of the installation inventory. We set them all up in a huge wall when we delivered them and after 8 years in their roadcases, they all sparked up. It took four 20' containers to get them and the rest of the kit down there. They can do some amazing things with them.

**MT:** Are Videowalls a walk in the park now?

**RN:** The technology is astounding and affordable. That's why they're everywhere. Mostly installation is simple. It's the clients and the timeframes that are the problem. They're also incredibly reliable – we hardly ever need to service our installs.

**MT:** Anything you'd think back about and say "That was a moment"

**RN:** Not that you could publish! No, we were doing one of the decade long run of Royal Easter Shows in Sydney one year and we'd just sparked up the system (3 x 25 watt lasers). A few minutes later as we drew max current we lost power. Turns out so did most of Randwick!

SO NEXT TIME YOU SEE A GAMING MACHINE, A LASER OR A VIDEO WALL WHEN YOU'RE OUT AND ABOUT, THINK OF SIR RICHARD NEWTON.  
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## Band Four

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4 x E110  
4 x E110A  
2 x EF45

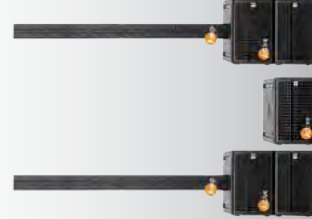


3,600w RMS



## DJ Three

6 x E435  
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2 x E110  
4 x E110A



2,700w RMS



## Acoustics Three

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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



# NOW LISTEN HERE

## Mixing main vocal effects

BY ANDY STEWART

The other day I was driving alone in my car listening to random songs on the radio, channel surfing to find something decent. In the space of about 20 minutes I'd heard three songs I'd recently mixed at The Mill (the studio where I work full-time) so my mind was already racing with production and mixing ideas... and a smattering of self-loathing. Then along came a song on JJJ...

Who the band was now I can't recall – someone current. What astounded me about this particular single was how badly the vocal had been mixed: low, dry and dull... not the most gratifying combo of attributes you'd have to agree, especially from a car listener's perspective. Now I don't know what these guys were thinking at the time, or what circumstances had led to this outcome, but to me the mix was the musical equivalent of Mexican food – brown mush. Vocals were far too low, the song was dull and the vocals even duller... I gave it three out of 10 before rapidly changing the channel. It set my mind racing and quickly reaffirmed what I'd had to say in last month's issue about main vocals: they're the key focus of any good mix, and driving them way back into a morass of instruments is a recipe for disaster.

The JJJ song was in desperate need of a new mix perspective... a good night's sleep might have done the trick, or better still, a week off. The vocal fader needed to be turned way up, the vocal tone addressed to contain some semblance of frequencies above 400Hz, and effects added to the equation

to make the singer sound like he hadn't been recorded in a dusty broom closet with his back to the mic.

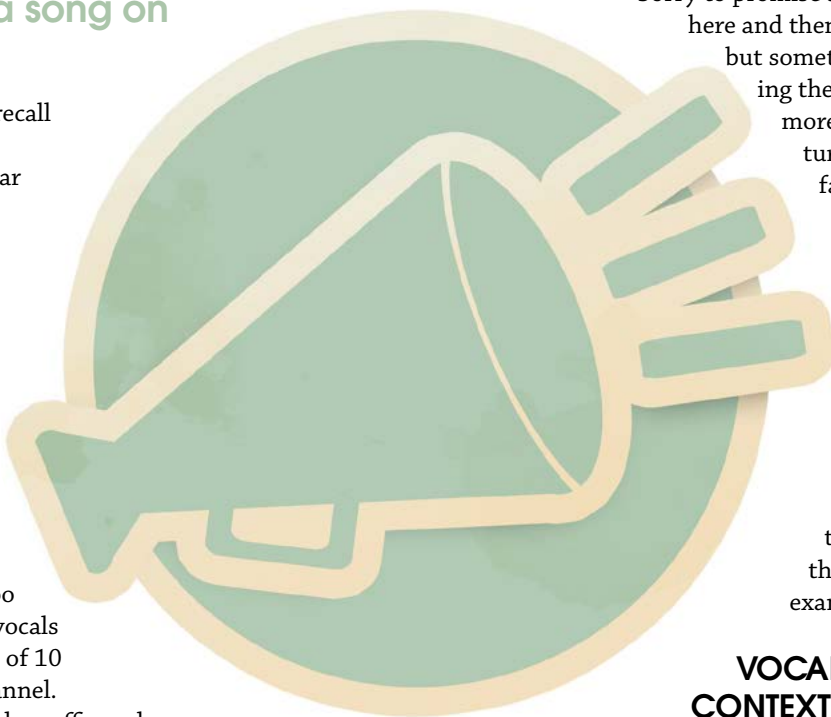
### MORE IS LESS... MORE OR LESS

One of the difficulties a studio mix engineer faces with vocals nowadays is that they're invariably competing with more and more channels of audio: be they instruments, random sounds or other vocals. Add to this problem the perennial issue of songs being squashed flatter than a tortilla and there's every chance fundamental mixing levels will occasionally be mishandled by even the most assiduous engineer. It's not that professional mix engineers don't know what they're doing nowadays – au contraire. It's simply that as any process grows more complex, elongated, and detailed, basics can sometimes get overlooked.

When it comes to main vocals, one thing I do on an almost hourly basis when I'm mixing – as mentioned last month – is pull the vocal fader down and listen to the mix sans main vocals, maybe addressing a few issues while I'm at it, before restoring the voice to the mix without looking at my previous mark. This technique can be applied to any sound of course, but it's particularly effective with vocals.

But not always...

Sorry to promise a magic bullet here and then take it away, but sometimes establishing the vocal level is more involved than turning a single fader up and down. Nor does hitting the same mark 10 times in a row necessarily prove the level is correct. Other things can be out of whack in a mix that skews the perception of the vocal – like, for example, its effects.



### VOCALS & CONTEXT

Often a vocal can end up too low in a mix simply because the effects being used to support it are inappropriate or insufficient. When a vocal seems to stick out too far, the first reaction of some mix engineers (and artists) is to turn the voice back down again, rather than question whether the effects around it might instead need to come up. The point here is this: getting the vocals to sit right is rarely just about the level of the vocal fader (or faders). It's about giving the vocal a sound and a context – in short, confidence. Without this confidence a vocal can quickly begin to sound 'stuck on', 'two-dimensional' or 'disconnected', and that's when the urge to turn it down quite rightly takes hold. But it's not always the right decision.

## THE EFFECT OF EFFECTS

Let's say you're mixing a basic rock song and the vocal seems too loud. You're trying to make the song sound BIG right, but the vocal level is fighting this perception; making the instruments sound small. Problem is, any lower and the voice starts getting lost in the cacophony of distorted guitars and drums, the words hard to follow. It's a bind.

One thing to consider at this juncture is whether the vocal could – perhaps counter intuitively – sound bigger! I know, I know... it already sounds too loud, but too 'loud' doesn't necessarily mean too 'big'. There's a difference, and being able to perceive one from the other is crucial to the mix outcome. Sometimes the vocal level seems wrong only because its context is wrong; in this case too dry for the big song around it. The vocal may be too 'close' – loud in the mix sure, but too small, intimate and dry somehow. The singer seems to be standing right in your face, while the band are 50 feet away in a big rock hall, going for broke.

## ONE SOLUTION

In this example, rather than turning the vocal down, which only makes it less audible,

“...the mix was the musical equivalent of Mexican food – brown mush.”

less compelling and less appealing, try adding some filtered stereo delays to the mix, and don't be shy with them. Try varying their tone too so they're not all the same. And as you do this bear one small fact in mind: in nature there's basically no such thing as an echo that returns with precisely the same tone as its source, so filtered delays will often sound more natural in a mix even though when soloed they may not. Make some of the delays very dull, others strong in the midrange, and see how they work in context. Try sending these to a hall reverb as well, so as they fade they also get wetter. Often these types of delays go all but unnoticed in complex mixes, even when they're up quite loud, yet they invariably give the vocal a context and help prevent it sounding 'stuck on'. If you're finding the effect of these effects hard to hear, use your good friend the mute button to hone your perception of them.

Now our main vocal, which previously seemed too loud, too dry and too close is out there rocking with the band. It's bigger sounding because the delays are alluding to a bigger space and providing the vocal with much needed three-dimensionality. It's less intimate and more in proportion with the big rock guitars and drums and our urge to turn it down has gone... and we've managed to achieve all this without ever touching the vocal fader.

## OPEN YOUR MIND TO THE SOLUTION

Obviously this is but one illustration of how vocal effects can alter the perception of a main vocal level. There are countless effects on offer these days and myriad ways to apply them to vocals. In the end it's up to the mix engineer to judge what's appropriate for the song. It's also up to the engineer, and anyone else involved in a mix, to remember that mixes can be complex and fragile and easily knocked off balance. When a vocal seems too loud or too soft think twice before reaching for the vocal fader in a knee-jerk fashion. Think carefully about the cause, and be prepared for it to be something other than the bleeding obvious. Otherwise your mix may end up sounding like that song I heard on JJJ... Mexican food anyone?

“Think carefully about the cause, and be prepared for it to be something other than the bleeding obvious.”

**Andy Stewart owns and operates The Mill in Woolamai, VIC. He has no quibble with Mexican food per sé, only the uniform texture of it.**



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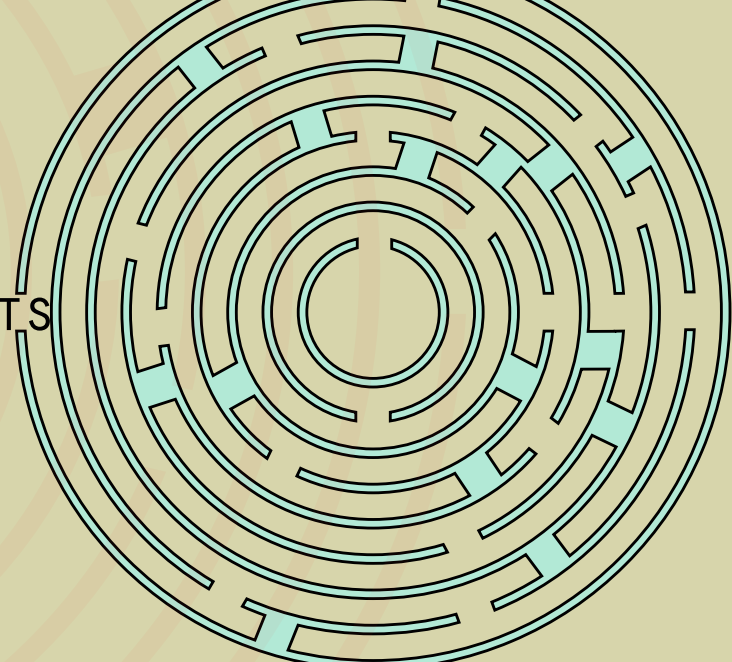
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# INSTALL ADVISOR AV SYSTEMS IN EDUCATIONAL ENVIRONMENTS

BY JIMMY DEN-ODEN



DE-REGULATION OF UNIVERSITY ENROLMENTS HAS SEEN INCREASED COMPETITION BETWEEN HIGHER EDUCATION INSTITUTIONS FOR STUDENT ATTENTION. BETTER LEARNING ENVIRONMENTS AND OUTCOMES COUPLED WITH MORE FLEXIBLE COURSE DELIVERY OPTIONS ARE A GOOD WAY TO MAKE AN INSTITUTION MORE APPEALING TO POTENTIAL STUDENTS. THE PROLIFERATION OF PORTABLE COMPUTING AND OTHER WIFI ENABLED DEVICES (SUCH AS TABLETS) IS ONE REASON STUDENT EXPECTATIONS ARE NOW HIGHER THAN IN PREVIOUS TIMES. SO THE QUESTION THEN BECOMES HOW BEST TO SATISFY THEM?

**CX spoke with Terry Coe, President of the Association of Educational Technology Managers (AU/NZ). Terry is Teaching and Infrastructure Services Manager at the University of Western Australia, just one of many Australian higher education institutions embracing new technologies in a world-leading manner. Similarly, the majority of AETM members are from tertiary institutions, with others from TAFE and places of secondary education. The nice thing about AETM is that everyone's welcome, and oftentimes members can help others with ideas for particular installations or challenges. Ideas can be recycled or adapted as needed. Check out [www.aetm.org](http://www.aetm.org) for more details.**

**AETM holds an annual conference for members, usually in a different city each year. The conference is hosted at a University, and participants are invited to venture to other local places of learning to see practical implementations of different solutions. They can get together and talk about the good, the bad and the ugly. What works and what doesn't.**

## RECORDED LECTURES AND DISTANCE LEARNING

Terry Coe from UWA says "We have been offering recorded lectures to students since 1999. At the moment every lecture is recorded". They're not the only ones, with probably > 50% of Australian mainland Universities doing the same.

The original intent of this practice was for students who missed lectures to have a way to catch up, but the distance learning opportunities it affords are obvious too. For a long time the only distance education options available to students in remote areas were the School of the Air, or correspondence courses. These facilities did an admirable job with the technology available at the time, but new options are always welcomed.

Better video capture and compression, and higher bandwidth connections mean it's now possible to stream video of the lectures too. Another key benefit of this practice is students can refer back to a specific lecture for revision. Terry said "the hit rate on the website skyrockets about 2 weeks from exam time" – so clearly it's working.

The advent of the MOOC (Massive Open Online Course) looks set to change the academic climate not only in Australia, but worldwide. But how much? Courses from Universities such as Stanford, Harvard and Yale are available on-line for all to participate in, and some users will no doubt enjoy the collaborative networked approach to learning that a MOOC offers. How such courses are accredited varies, and how such accreditation will be regarded by employers is yet to be seen. University degrees offer some of the interactive benefits of MOOCs, but with a recognised qualification at the end, and potentially a more structured learning approach.

## THE TECHNICAL ASPECTS OF IT

While it's all nice and good to see an image of a lecturer, it's more useful to see the content they've prepared for display during the lecture. Hence, most lectures are captured not with images of the presenter, but a video feed of their presentation. This is great, since the image only need update

when the slide changes, so you can get away with 2 or 3 fps rather than 25 or 30 for full motion video. A number of platforms exist to facilitate this process, one of the most popular having been developed in Australia and then sold to an overseas company (and now in use around the world).

The technical aspect of the process is remarkably simple. The lecturer dons a radio mic at the start of the session, and their laptop video output is routed via a splitter to the display device, as well as a capture device. The capture unit converts the PC images and radio mic signal into an encoded video file, which is then transferred via building IT network to a central server. Content can be delivered in low and high quality formats to the end viewer, depending on the bandwidth of their internet connection. The roll-out of the NBN will make high quality content delivery available to more users, so it makes sense to capture it that way to start with.

The recording process is "scheduled" via the same system academics use to book a lecture room, and speakers have the option to hold their content for review or edit prior to publication on the server. At University of WA, the capture devices are capable of locally caching recordings for several weeks. This means that in case of a LAN problem, the content is still captured and can then be uploaded when the LAN problem is resolved. Redundancy is good in an environment when equality of access is important.

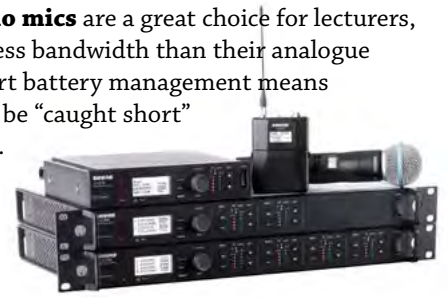
## CX SUGGESTS:

**Echo 360** is a system designed to capture and publish lectures on-line for later reference by students. The hardware is simple, lecture recordings can be scheduled or started on-the-fly. Captured content can be edited and even captioned before being published on-line. [www.echo360.com](http://www.echo360.com)



**Shure ULX-D radio mics** are a great choice for lecturers, since they occupy less bandwidth than their analogue counterparts. Smart battery management means lecturers will never be "caught short" with a flat beltpack.

[www.shure.com](http://www.shure.com)



**The Roland VR-5 video mixer** is ideal to switch between a couple of cameras and a computer source. Inbuilt USB conversion means it can feed video and audio from an internal mixer straight into a computer for live streaming.

[www.rolandsystemsgroup.com.au](http://www.rolandsystemsgroup.com.au)



**Room acoustics** have more bearing on intelligibility than you might think. Julian Treasure suggests we need to start designing with our ears as well as our eyes.

Catch the talk at [on.ted.com/ArchitectEars](http://on.ted.com/ArchitectEars)

**ListenPoint** is an evolution of Soundfield, which can mix sound from multiple audio sources. The wireless M1 Mic/Media Interface brings voices into the room and can also be a user interface for things like volume control of the M1 levels or other audio sources. Instructors register with each system, allowing them to move easily from room to room for the ultimate in team teaching. The C6 version allows integration with VoIP systems, such as Skype.

[www.listentech.com](http://www.listentech.com)



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The advertisement features a collection of black metal 19-inch rack enclosures and accessories. On the left is a tall, open rack. In the center is a smaller, closed rack unit. To the right is another tall, open rack. In the foreground, there are several drawers and a horizontal bar with a handle. The background is a light blue gradient.

## INTERACTIVE PROJECTION SYSTEMS

The humble blackboard has evolved significantly since the days when bashing the dusters together was punishment for acting up in class. The advent of the dry erase whiteboard made the whole process a lot cleaner. Electronic whiteboards provided the ability to print hard copies of whatever was written or drawn on the board. Now the interactive whiteboard affords further capabilities. Interactive projection systems are most prevalent in the K-12 market, and this is leading to student expectation of the same in tertiary environments.

The basic principle of an interactive projector is not unlike that of a touch screen. Several technologies are available which allow the user to interact with the projected content using either their finger, or more commonly a stylus or electronic “pen”. Resistive technologies require the user to physically press on the projection surface, with this touch being triangulated by a conductive backplate with which the screen surface makes contact. Other systems include electromagnetic and ultrasonic technologies, however more common in recent times are those built into interactive projectors. These rely on a small camera mounted within the projector detecting the interactive pen, and converting this into computer input – usually via USB connection. Typically the computer will require a device driver to be installed, allowing the projector to act as a human interface device.

A computer connected to an interactive projector can run normal software packages to display content such as presentations and video, but many projectors ship with software which allows the system to be used just like a normal whiteboard. The advantage here is the ability to save the content of the whiteboard as a “page”, which can later be recalled, printed, or converted to PDF for distribution to students.

Whereas traditional projection technology requires the projector to be placed at a distance from the screen, most interactive systems rely on short or ultra-short throw lens / mirror combinations to achieve results. This means that the user is unlikely to be standing in the way of the projected beam of light. Less interference with the screen makes it easier for viewers to see images unimpeded, and no projector shining in the eyes definitely makes the job more comfortable for the lecturer or teacher. Furthermore when the projector is located near to the computer feeding it, less video distribution infrastructure is required.

## INSTALLATION CONSIDERATIONS

The enemy of every projector is ambient light. The more surrounding light there is, the brighter the projection needs to be in order to be visible. For this reason, placement in the classroom should be carefully considered for each installation. Windows, doors, fluorescent lighting can all impact on the quality of projected images. High contrast ratios are only a real benefit in dark environments. The point here is to plan the installation so as to install the projection screen in the darkest area where people can practically view it.

A common mistake made when installing flat panel screens is that people mount them far too high – they treat them like paintings. This only leads to discomfort during extended viewing. The same deal applies for projection screens – assuming you’re sitting on a chair at floor level, the bottom of the projected image should sit about 1.3m above the floor.

It’s important to know that while interactivity is relatively easy on a small scale installation, larger rooms bring greater challenges. At least one Australian University has commissioned their own interactive software to deal with these.

Short throw projectors bring many benefits, but due to the lensing technology used the alignment process is much more complex than on long throw models. When installing a short-throw projector, ensure you first check the required throw distance on the specs. This will change depending on screen size – generally to adjust the image size you need to physically move the projector. Proper centering over the screen is critical, since rotating the projector left to right causes massive keystone shifts.

Networkability and external control options are another consideration. If you want to be able to remotely start and shut-down the projector or find out how many lamp hours it’s clocked up, you’ll need to choose a model capable of doing this via an Ethernet or RS-232 port. The benefit of Ethernet based models is that they can connect straight into an existing data network.

The final thing to consider is how signals are input to the projector. Sometimes a VGA/DVI input plate on the wall or lectern may be enough, but better options now exist to foster collaborative environments. Various options exist which allow multiple users to connect their laptop wirelessly to the display device. Multiple users can interact simultaneously in the same way they would using a traditional whiteboard.

### How big should the screen be?

THIS DEPENDS ON THE SIZE OF THE AUDIENCE. GENERALLY SPEAKING, THE NEAREST VIEWER SHOULD BE AT LEAST TWICE THE DISTANCE AWAY AS THE IMAGE IS HIGH. THE FURTHEST SHOULD BE ABOUT SIX TIMES THE DISTANCE OF THE IMAGE HEIGHT. DO THE CALCULATIONS FROM THERE. BRIGHTNESS OF THE PROJECTOR IS IMPORTANT TOO, AND EASIER THAN EVER TO SATISFY DUE TO THE FALL IN PROJECTOR PRICES. GENERALLY SPEAKING, A SMALL ROOM (10-30 STUDENTS) WILL REQUIRE AROUND 3000 ANSI LUMENS, WHILE LARGER VENUES (100+ STUDENTS) WILL NEED SOMETHING IN THE ORDER OF 6000-10000 ANSI LUMENS.

## CX SUGGESTS:

### Grandview Smart Screens

can be controlled via Contact Closure, RS232, IR, 12v and Manually as standard. They are available in all popular formats including the education favorite 16:10. Each Grandview screen is fitted with the ultra-reliable and quiet Somfy motor, and carries a 3 year warranty. [www.herma.com.au](http://www.herma.com.au)

**Wow Vision Veos** allows content to be shared wirelessly between tutors and participants and installed AV system. In its simplest form, the Veos provides a wireless connection - from the tutor's laptop to the room video and audio systems. Team Veos adds to this by providing a collaborative platform which groups of participants can work on. [www.wow-vision.com](http://www.wow-vision.com)



**The Optoma EW675UT ultra short throw projector** includes two anti-theft measures - PIN code protection and a Kensington lock slot. All input connectors sit behind a grille which is secured in place with a screw to deter tampering. [www.optoma.com](http://www.optoma.com)



### STICKY FINGERS - MINIMISING THEFT AND FAILURE DUE TO TAMPERING

I learnt years ago that if someone really wants to steal something, nothing you can do will stop them. The best you can hope for is to deter them, or slow the process down long enough to catch them in the act.

With the aforementioned fall in projector prices, many would-be thieves now just buy one rather than risk the consequences of stealing a unit. For those who still take the low road, a good offense is the best defence. Make it hard to steal the gear. A projector mounted 30 foot in the air is unlikely to go missing, but if you can stand on a desktop and reach it then security is more of a consideration. Many projector brackets have facilities which allow the projector to be locked in place, or they require a special tool to remove the projector. Projectors commonly include a security feature, whereby a PIN code is required to use the projector once power has been disconnected and reconnected.

Gear failures excluded, a well designed AV system will continue to operate reliably and predictably so long as nobody tinkers with the settings. Installing mission critical equipment in locked cabinets or racks not only deters theft, but it prevents people modifying settings which can affect how the system works, or indeed if it works. The basic rule of thumb is to make accessible only the things which actually need to be.



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[www.riedel.net](http://www.riedel.net)

## Get humans involved in the process

SOME FACILITIES EMPLOY VIBRATION SENSORS ON PROJECTORS, WHICH ARE LINKED TO A BUILDING MANAGEMENT SYSTEM. IN THE EVENT MOVEMENT IS DETECTED, THIS TRIGGERS AN ALERT IN THE CAMPUS SECURITY OFFICE, AND MAKES A VIDEO FEED OF THE ROOM AVAILABLE. THIS ALLOWS SECURITY TO QUICKLY DETERMINE THE NATURE OF THE SITUATION, AND RESPOND ACCORDINGLY.

### CX SUGGESTS:

#### Vogels PPA310 anti-theft projector housing

is designed for small to medium sized projectors. It will deter or slow down would-be thieves in environments where projectors are easily accessed.

[www.vogels.com](http://www.vogels.com)



#### Middle Atlantic DLBX Series lockbox

is a wall-mountable, lockable rack enclosure. While it's designed to house DVR units, it could easily be used in educational situations to keep prying fingers at bay.

[www.middleatlantic.com](http://www.middleatlantic.com)



#### Kensington ClickSafe Laptop locks

will help secure any device with a Kensington Lock slot.

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[www.kensington.com](http://www.kensington.com)



### TEACHING THE TEACHERS

Commonly, academics and other educators are employed to deliver knowledge in their field of expertise. Rarely their expertise involves AV Systems. They just want to get into the room and start teaching, without the rigmarole of having to learn how to operate a complicated system. What this means is that regardless of the complexity of the AV system, the end user interface must be as simple as possible.

A number of options exist which facilitate easy operation of complex systems. From a simple lectern mounted keypad which triggers infra-red command "macros", through to complex IP based control systems with touch screens. The right interface for the job depends on how much gear needs to be controlled, the level of control required, and ultimately the available budget.

In the same way wired microphones are more reliable than wireless mics, so too with control systems. An RS-232 or Ethernet control interface will generally be more reliable than an Infra-Red emitter placed on the device. One of the

most common failures of such devices is that the emitters fall off the device. Sunlight and other light sources can also interfere with IR signals. Hard-wired control interfaces are usually more work to get up and running initially (at least where new devices are involved), but the long-term reliability is better. Many control protocols allow the control device to interrogate the status of the device being controlled. So for instance, an IP based control system can find out if the lamp in the projector is on or off, and which video input is active.

When specifying an AV system, it's well worth checking out how easily the various components can be externally controlled. It's no use having a brilliant piece of gear in the system if nobody knows how to use it. Remember the mantra "KISS". It doesn't matter how complex the back end of the system is, so long as what the end users see is straightforward and intuitive. Better yet, try to establish design practices such that there is consistency in operation of different systems across the campus.

### CX SUGGESTS:

#### The RTI ZRP-6 remote control processor

has 6 multi-purpose IO ports, 3 relay outputs, as well as voltage sense inputs and an Ethernet port for network programming. It can trigger complex command sequences from a single button press on a compatible RTI remote, and it can be easily wall mounted.



[www.rticorp.com](http://www.rticorp.com)

The Kramer RC-63A is a 6 button room controller with volume control for small multimedia rooms. The unit can function on its own with one RS-232 control port, one IR port and two Relay Contact Closure ports. The RC-63A has 6 programmable buttons which can carry out multiple commands with a single press of a button, and it can interface with Kramer's SL room control units via K-Net connection.



[www.kramerelectronics.com](http://www.kramerelectronics.com)

Many control processors use proprietary output connectors, necessitating custom cabling. The Jaycar PA0906 D9 to RJ45 adapter allows you to quickly build serial cabling with custom pin-out configurations – no soldering required, just use Cat5 cable and RJ45 connectors.

[www.jaycar.com.au](http://www.jaycar.com.au)



#### The Clipsal 5104BCL Bus coupler

is a GPI interface for C-Bus lighting systems. It allows four separate group addresses to be triggered across the C-Bus network via simple contact closure input.



[www.clipsal.com.au](http://www.clipsal.com.au)

## CAMPUS-WIDE CONTROL

Terry Coe explained to CX that whereas traditionally his facility would require five full-time staff to maintain & troubleshoot the various AV systems in the campus, they do it with only two. This is thanks to technology which allows people to work smarter – not harder. The whole campus is connected to the help desk, with IP based control systems allowing a central operator to control or shut down AV facilities remotely.

Maintenance is made easier, with the control system notifying the operator when consumables are due for replacement – projector lamps and radio mic batteries can all be reported on. This means no manual logging is required, and failures can be avoided before they actually happen.

Several products exist which allow for campus-wide control, however the fundamental principal is quite basic. Each room has its own mini control system, with user interface and Ethernet capability. This connects to the facility IT network, as does a central monitoring computer. How much local and remote control is afforded depends on the system design and programming.

Add to this mix IP based PTZ cameras, which allow the help desk operator to see what's actually going on inside a lecture room. This makes the troubleshooting process a lot easier, as the operator can see what's actually going on inside the room.



## CX SUGGESTS:

### Crestron RoomView

enables a central operator to see what every Crestron system in every connected room is doing at any time. Complex systems can be remotely monitored and controlled, and user difficulties quickly resolved. Select AV devices are now natively compatible with the system, which runs via Ethernet. [www.crestron.com](http://www.crestron.com)



### Extron's MLC226IP

is an 11 key wallplate controller allowing serial, IR, relay and remote network monitoring and control options. It can be linked with Extron's

range of MediaLink switchers for more extensive equipment requirements, and an iPad app is available for wireless classroom control. This and other Medialink controllers can be remotely monitored and controlled via Extron GlobalViewer software. [www.extron.com.au](http://www.extron.com.au)

**The Sony SNC-RS44P rapid dome IP camera** has an 18x optical zoom, and supports H.264, MPEG-4 and JPEG compression formats. It also supports composite video output and has selectable white balance modes. HD models are available for users with high end requirements. [pro.sony.com.au](http://pro.sony.com.au)

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## LIGHTING A LECTURE THEATRE

In addition to relevant building codes and architectural specifications, lighting for a lecture theatre must also take into account a third and most important consideration; practicality. Sure a bunch of fluorescent lights gives great ambient room light, but it becomes a problem when this starts washing onto the screen. Total darkness yields great projection but presents difficulty for anyone in the audience trying to take notes on paper. There's a fine balance which needs to be achieved, and the best way to do this is by having sensible lighting which can be controlled in zones.

The first "zone" should be general room light. Fluorescent, high-bay, whatever. It's the light by which people find their way to and from their seats. The second "zone" should be for note-taking lights. These need to be directional downlights, which illuminate the audience area without washing out projections. Note-taking lighting should generally run at a pre-determined minimum level to avoid eye-strain. Thirdly, the presenter will require light by which to work. This can be a gooseneck lamp in a lectern, or an architectural style zoom spot mounted on the ceiling. Just remember that the harder it is to reach, the less likely it will stop working due to someone fiddling about with it.

It's nice if the lecturer has control over these three primary lighting zones. That way if they want to speak in the dark, they have the option. Fluorescent fixtures are not normally dimmable (though such models are available) and high-bay fixtures never are. This means these units need to be controlled by a relay or contactor (sometimes several). Note-taking lighting can be incandescent or LED based – for both of which DMX controlled dimmers are available. The same control applies to the lecturer's work light.

A number of architectural lighting dimming systems are available on the market, and generally these run their own

control bus protocol. Interface options for such systems include RS-232 as well as basic contact closure. Probably the easiest system to control would be one where contact closures are used to trigger predefined lighting states: "Entry/Exit, Lecture, Blackout, Cleaning Lights". Control points should be available at the entry to the room, as well as at the lecture position. In larger theatres where a bio-box exists, additional control will be required there too.

The increase in affordable high-quality LED product has opened up new options for room lighting, using recessed LED strips. These can change colour for aesthetic effect, however keep in mind that psychedelic LED chases during a lecture could be quite distracting. Keep it subtle, people are there for the lecture.

As with AV systems, remotely controllable room lighting is a great idea which allows an operator to shut-down unused facilities remotely, thereby saving power. Terry mentioned that some of the rooms in his facility have timed shut-downs, while others are now being retro-fitted with PIR sensors. PIRs detect movement within a room, and after a preset period of inactivity they will turn off the lights to save energy. Such sensors can be tied into the AV control system, and used to shut-down AV systems in the same manner. It's more reliable than a "please turn out the lights" sticker on a lightswitch, and across a large facility the energy savings quickly add up.

### CX SUGGESTS:

**LSC EKO Installation Dimmers** are available in 6, 12 and 24 channel models and can run in DMX, architectural or auto-switched dimming modes. They can be remotely monitored via LSCnet using Houston software, and the EKO series is designed with ease of installation in mind.

[www.lsclighting.com](http://www.lsclighting.com)

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**Coemar LEDko Reflection** is an LED powered profile lighting fixture. The cold beam and choice of colour temperatures make it ideal for lectern lighting. It's DMX controllable, and compatible with ETC SourceFour lens tubes.

[www.coemar.com](http://www.coemar.com)

#### **Littlite L-LED Lampsets**

are low voltage, run cold, and have a red only output mode. For smaller situations these are the ideal way to give a lecturer control over their own worklight.



The IS#3 model allows desktop mounting with the supply cable exiting through a hole beneath the base.

[www.littlite.com](http://www.littlite.com)

### INDUSTRIAL STRENGTH WI-FI AND NETWORKS

The Wi-Fi capacity of a facility needs to be approximately three times the number of connections as there are people. If you think that seems like a lot of headroom, consider that most students will have a laptop, a smartphone, and a tablet. All of which need Wi-Fi. So better make it three times, and then some.

Obviously domestic network kit doesn't cut the mustard on range, quality of service, or number of concurrent connections allowed (commonly > 6000 at a Uni!). While small installations with only a few users might get away with entry-level kit, most will require an enterprise level solution. We're not going to delve deeply into the intricacies of network design, but the important point is to get involved, and make sure new infrastructure includes accommodations for IP based control systems, AVB and any other IP based audio/video routing and control applications to be implemented. If you need data points in the ceiling of every classroom, make sure they're requested. Then, make sure the request is actioned.

IT FOLK CAN BE SUSPICIOUS OF ANYTHING BEING ATTACHED TO "THEIR" NETWORK THAT ISN'T A NORMAL COMPUTER. STRANGE DEVICES RAISE EYEBROWS. THE BEST WAY TO ENSURE CO-OPERATION FROM IT FOLK IS TO KEEP THEM ON-SIDE, AND BE OPEN ABOUT WHAT AV SYSTEMS REQUIRE FROM IT. BE READY TO ANSWER QUESTIONS ABOUT HOW THEY WILL INTERACT WITH OTHER DEVICES ON THE NETWORK - THIS MIGHT REQUIRE SOME READING!

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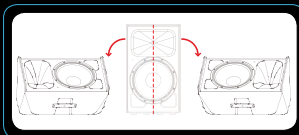
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\*The prices set out in this advertisement are recommended retail prices (RRP) only and there is no obligation for Yamaha dealers to comply with this recommendation. Errors and omissions excepted.



# EAW QX

## EAW gets straight to the point

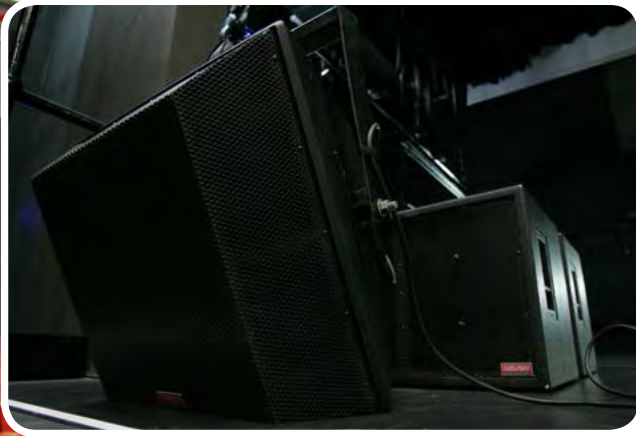
BY JIMMY DEN-OUDEM

**We see a lot of line source PA systems in a lot of environments – sometimes they're good, sometimes not. The point source cabinet is often a more valid choice - because of the absence of weird phase interactions associated with multiple sources....**

The QX from EAW might be the weirdest looking speaker box I've ever reviewed. It's definitely one of the most serious. The cabinet itself is an install box, so there are no handles – just a whole lot of flying points. It's not the kind of box you tour in and out of a venue, but the type you pick and order in response to the specific requirements of your environment. This is good, since without handles it's a bit hard to move it about the place. The spec sheet doesn't list weight, but our chain motor registered 73kg load including the chain and bracket. Trolleys and chain motors help.

Nominal coverage of the QX594 cabs we auditioned is 90 by 45 degrees (HxV), however other patterns are available. We tested a pair of QX594 cabinets, matched up with some SB2001 dual 21" subs for good measure. To give the system a fair go, we got out of the office for the day and took it to The Concourse Theatre at Chatswood, figuring it for a better environment to test what is fundamentally a large scale PA system.

QX cabinets use four 12" LF drivers, arranged in an up/down left/right configuration. At the centre of this arrangement is a waveguide to which is attached a MF/HF driver combination. The MF/HF is passively crossed over inside



**QX with  
SB2001 behind**



the box, but the cabinet as a whole runs in bi-amp only configuration. You can power the 12" drivers all in parallel or in pairs – just change the links on the back of the box to alter the configuration. There are no NL4 connectors on the QX – just a barrier strip. This makes perfect sense in an installation context. Power handling on the cabinet is something ridiculous, as is the maximum SPL it can produce – the calculated axial output limits on LF and MF/HF sections are 136dB and 133dB respectively. "Operating range" is stated at 55Hz – 19kHz on the spec sheet, as is a lot of very useful tech info including horizontal and vertical polar data from 100Hz up to 16kHz.

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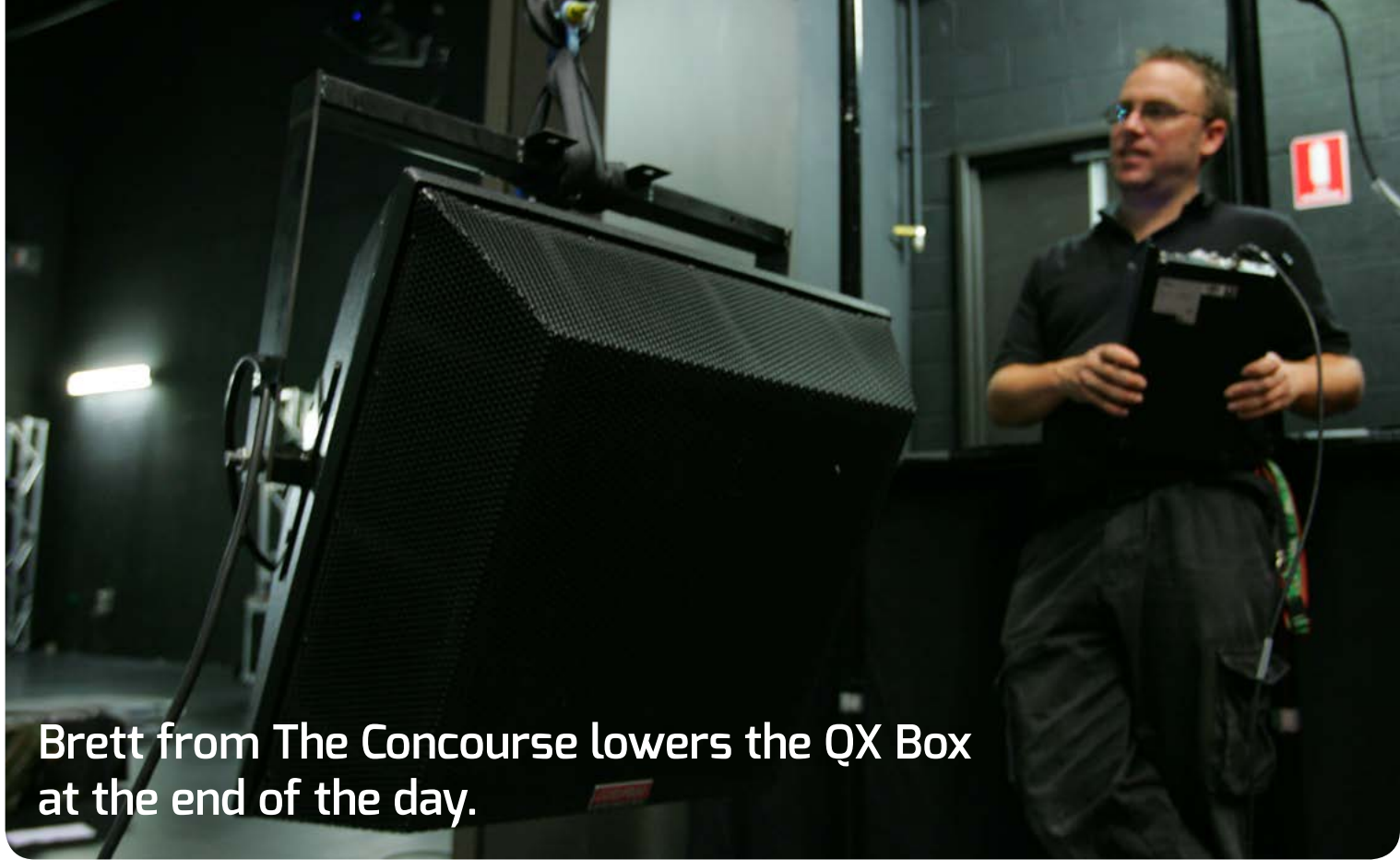


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**Brett from The Concourse lowers the QX Box at the end of the day.**

**The setup**

Very simply, we flew the QX boxes to about 4.5m above the stage just forward of the proscenium. The SB2001 subs sat directly beneath. The system was processed on an EAW UX8800, and phase alignment done for us by Ben Clarke of Production Audio. Powersoft K10 amps provided the requisite grunt for subs and LF on the QX, with a K3 on HF duty.



**Just a little bit of drive gear!**

**The results**

Initially we listened to the system with no subs, and the QX boxes running full range. We tried various vocal mics as well as a bunch of tracks from CD. The first big thing about the QX system we noticed was the pattern control. It's very good right down to about 200Hz, where frequencies just become hard for anyone to steer. Pattern control in the vocal range (approx 300Hz-3kHz) was excellent, and this means you can use these cabinets to send sound to where the audience is – rather than bouncing it off surfaces where they're not. This is a big win for intelligibility. As a vocal PA alone, QX would be superb but probably a bit of a waste. Straight out of the box, tonality and overall frequency reproduction was pleasing. I don't think it's quite flat, but it certainly doesn't deviate from neutral in an unpleasing or harsh way. Noise rejection off the back of the box is awesome.

Adding in the subs, we dialed a 60Hz HPF into the QX boxes and the system really came alive. It was definitely capable of providing way more level than the 500 seat theatre could ever hope to need – without the amps breaking a sweat. Even the chunkiest electronic tracks didn't worry it. Then we listened to a couple of acoustic tracks with very wide dynamic range – these were perhaps where the system really shone the most. Everything was clean and present, but none of it overbearing. The system doesn't come with eye melting sibilance, but if you want to dial that in then the horns are certainly capable of obliging. I think it's better without.





Coverage across the venue was pretty good considering we should have been using boxes with wider vertical dispersion. Within the expected coverage area the overall level was very consistent, with little change in tonality across the space. The stereo image also seemed to improve with the subs running. We did find it necessary to change CD players with the subs on as the first one kept skipping due to vibration. The subs also wanted to go for a walk on their own.

In so many cases, the limiting factor in sound reinforcement is the room or the PA. In this case, the source was the limiting factor. The QX system was good enough to tell the difference between a good source and a not-so-good one. Hearing such levels of fidelity in a concert grade PA system is pretty impressive. Whatever you put into this system is exactly what you can expect to get out, so make good sound!



BRAND: EAW

MODEL: QX SERIES

RRP: ABOUT \$9K FOR

QX594. THE FULL SYSTEM AS WE TESTED IT INCLUDING BRACKETS, SUBS, AMPS AND PROCESSING RUNS ABOUT \$60K

PRODUCT INFO: [WWW.EAW.COM](http://WWW.EAW.COM)

DISTRIBUTOR:

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# Yamaha CL5

## Definitely not just another M7CL



BY JIMMY DEN-OUDEM

### Though it's hard not to draw comparisons between the two...

For a very long time, the only way to mix more than 48 channels on a Yamaha digital system was to A) get a PM1D, or B) use a pair of DM2000s. Neither was a very practical touring solution. The first thing to know about the CL5 is that it's capable of mixing up to 72 channels and 8 stereo returns into 24 mix busses, 8 matrix busses and L/R/mono busses. That's 35 mix busses all told (plus monitoring!). Straight away this puts it into the same ballgame as the larger consoles from DiGiCo, Soundcraft and Midas. The second big thing is the introduction of Dante. Yamaha digital consoles have traditionally had the IO built into the desk, with the Ethersound M7 being the obvious recent exception. Ethersound had some limitations so it's been dropped in favour of Dante, which sees the introduction of two new remote IO "Rio" boxes. Dante will run over an existing Ethernet network, so you can even patch it via existing building network infrastructure. Just remember that latency will increase with every hop you make through a network switch. Anyhow, it's nice to know 72 channels of copper core can be replaced with a single cat5 cable. The system can run daisy chain mode, or you can run two independent Dante networks for redundancy.



Custom fader layers and  
16 user  
defined keys.



## I go to Rio

Rio boxes come in two flavours. The big one (Rio3224-D) has 32 analogue inputs, 8 analogue outputs and 4 AES/EBU outputs), while the baby model (Rio1608-D) is 16 in 8 out – all analogue. To get the full 72 inputs on the CL5, you need to use two 3224-D boxes plus the 8 omnis. The system runs 44.1 or 48kHz sample rates, and while you can clock it externally it's probably not going to do you any real favours.

In my mind, the M7CL was the console on which Yamaha absolutely nailed user interface – its predecessor the PM5D was great at the time, but let's face it; it was something of a pig of a thing to use. The CL5 makes sense in the same way as the M7 – everything is exactly where you expect to find it. It took about 3 minutes for me to feel comfortable enough to take it out on a gig – any gig. To get up and running, you plug the Rio boxes into the console using a cat5 cable and switch everything on. That's it. There are some one-off settings you need to do for the Dante setup, but with that out of the way it all just goes together and works beautifully.

Using multiple consoles with common IO presents some questions about who controls the gain stage. With the CL5, everyone can get to the analogue gain stage. Once you turn on gain compensation (doing this on one desk automatically does it on all), adjustments to the analogue pre-amp are compensated with a digital gain stage which sits immediately after the analogue stage in the Rio box. So any analogue changes don't result in wild level shifts on the consoles picking up the signal from the Dante stream. Each console can then individually trim the signal locally without affecting the others in the system. You can have up to four consoles running in tandem.



Behind the console we find mostly familiar connections, plus the pair of Dante ports

## On the surface

The CL5 has lots of faders – a bank of 16, then the centralogic bank, then another bank of 8 plus a pair of masters. You can get to any of the mix input channels or 16 DCAs from the left bank of 16, and any of the output busses from the right bank of 8. The centralogic bank of 8 faders lets you access everything. In addition to this, each bank allows you to build custom fader banks which can include inputs, bus masters, or DCAs. The centre bank has one custom layer, while the outer banks have several. Building the custom layers is easy enough to figure out (do it through user preferences), though it's not a fast process. I'd like to see a facility to assign multiple faders sequentially.

Inputs are assignable from either the local Omni inputs on the back of the board (there are 8 of them), or any of the connected RIO boxes, which can number up to 8. Each channel can have a colour assigned to it, which shows up above the fader next to the LCD scribble strip. The LCD is a big change, and spells the end of sticky tape labels. Channel processing functions are largely the same as on the M7, with some subtle differences in how they're displayed. If you insert a rack over a channel, you can now jump straight into the rack from the channel home screen.



Rio-3224-D box provides 32 analogue in, 16 analogue out and 4 AES out

The CL5 has 16 DCAs, which is 8 more than an M7. It has 16 EQ rack slots, each of which can run full 31 band or dual flex 15 band EQs. Another 8 rack slots support Yamaha effects, or further GEQs. On top of this 8 “premium” effect rack slots are available for 3rd party processing including Portico 5033 and 5043 EQ and compression. I really like the dynamic EQ. The premium effects are included on every console, so you’ll never run into a missing license problem when loading up a guest engineer’s file.

3 YGDAI slots on the back mean you can use your existing Lightpipe, Aviom and other Yamaha cards, and word has it there’s a Lake processing card on the way too. 16 define keys add to the functionality, with the welcome addition of 4 user define rotary encoders. The encoders above the channels can serve multiple purposes, toggled with a button adjacent to the bank. The LCD strip shows you what the encoder will do when you turn it. There’s a 2 track USB recorder built in which is nice, but not as nice a multi-track recording. That just got easier too, with the Dante virtual soundcard driver included with the console. In other words, plug in your laptop via Ethernet, and you can record straight off the Dante stream. That’s going to make a whole pile of people really happy!



The CL5 sports 16 GEQ rack slots, plus 8 Yamaha Effects Rack slots



PLUS up to 8 premium effects

### Experiential thoughts

I don’t intend to describe how the CL5 works. If you know how an M7 works, then you know how to use a CL5. It works like it should.

Yamaha has a lot of video on their website about the CL5. It’s clear that it’s been a long time in the making, and they’ve consulted with many people on different aspects to try and get it just right.

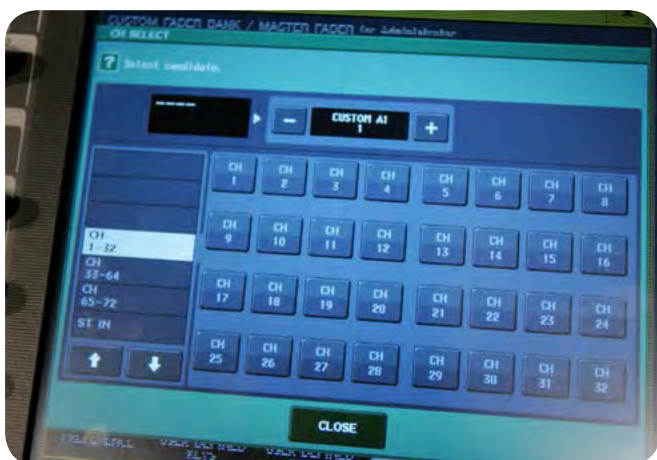
Marketing guff aside, I do think they’ve succeeded. This is the best console Yamaha has ever produced. I love how it sounds, I love how it looks and feels, and how it works the way I expect it to. There’s just something really inviting about it, which makes you want to use it.



BRAND: YAMAHA  
 MODEL: CL5, RIO-3224-D  
 RRP: \$50,500 FOR A SYSTEM INCLUDING CL5, TWO RIO-3224-D UNITS, AND CONSOLE CASE.  
 PRODUCT INFO:  
 WWW.YAMAHAPROAUDIO.COM  
 DISTRIBUTOR: AU.YAMAHA.COM



Gain Compensation button



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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)  
MCK Metals Pacific. Strength and resistance load testing, November 2006  
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# ProShop LED QUADBAR

Tour or install, or maybe both?

BY JIMMY DEN-OUDEM



LED has done a lot for not only stage but also architectural lighting. We see a lot of LED movers here at CX, so this month we've decided to get back to basics. The ProShop LED Quadbar is a relatively simple fixture, but one with which you can do quite a lot.

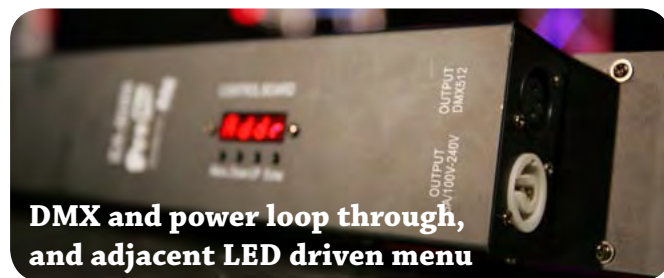
Physically it's close enough to dead on a metre long. It's quite narrow, and spaced evenly along the front fascia are 18x 4 watt RGBW LED modules. The mounting brackets allow rotation through 180 degrees on one axis only. They're narrow enough that you could install multiple Quadbar units seamlessly adjacent to each other. Building a wall of these Quadbars might seem like kind of a strange idea, until you stop to consider that for the price it would be kind of a cool (if not extremely bright) way to do some basic low res video mapping.

RGBW parameters for each LED module can be individually controlled, resulting in 72 DMX channels to run the unit. If this is a bit too much of an ask, 4 channel and 7 channel modes are also available which offer less individual control, but instead preset effects and the like. In these modes you can still do RGBW control over the bar as a whole. We tested the Quadbar in front of a camera, and even when dimmed to very low levels there was no flicker evident on the video image.

Power input and loop output are on opposing ends of the fixture, and run PowerCon connectors – you can comfortably



**DMX and power inputs on 3 pin and PowerCon respectively**



**DMX and power loop through, and adjacent LED driven menu**

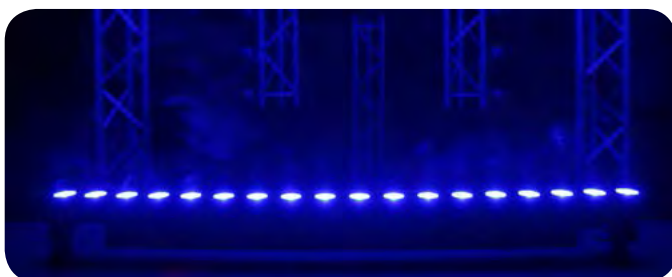
cascade several units from a single 10A circuit. DMX input and loop output are 3 pin XLRs, so please resist the temptation to use mic leads instead of real DMX cable. Address setup and other functions are accessed via the 4 digit LED display driven menu system. It's not exactly user friendly, and some settings are a bit cryptic. This said it is possible to figure out what most of it does with a little experimentation. There's an eyelet on the back to attach a safety wire, and a grille for the constant velocity centre mounted cooling fan. Even with the fan running the fixture gets appreciably warm, but then 72 watts worth of LED ain't exactly a small amount of power so some heat is expected. At least the fan is quiet.

The standalone modes are okay but not brilliant, with the sound activated mode being the most convincing. You can link several fixtures together in standalone mode so they track each other. It's better with a good controller attached though – we used a Martin M2PC which happened to be in the building at the time.

Because the Quadbar is nice and lightweight it would be easy to tour multiples of them in a single roadcase. Even 8 units to a case would probably be okay, though you'd want wheels on it. Because every cable can be detached there's nothing to snag on case lids. This said, the fixture would be equally at home in a permanent installation – either venue or architectural. You can use it as an eye candy style fixture, or to illuminate surfaces. For some reason I expected the beam to be kind of like a slice of light – in reality it looks more like a par beam. Considering the LED modules are round this makes more sense.

All told, the Quadbar isn't a really top end fixture, but then for the price it's not really claiming to be. It's a simple fixture, designed to do what it does competently.

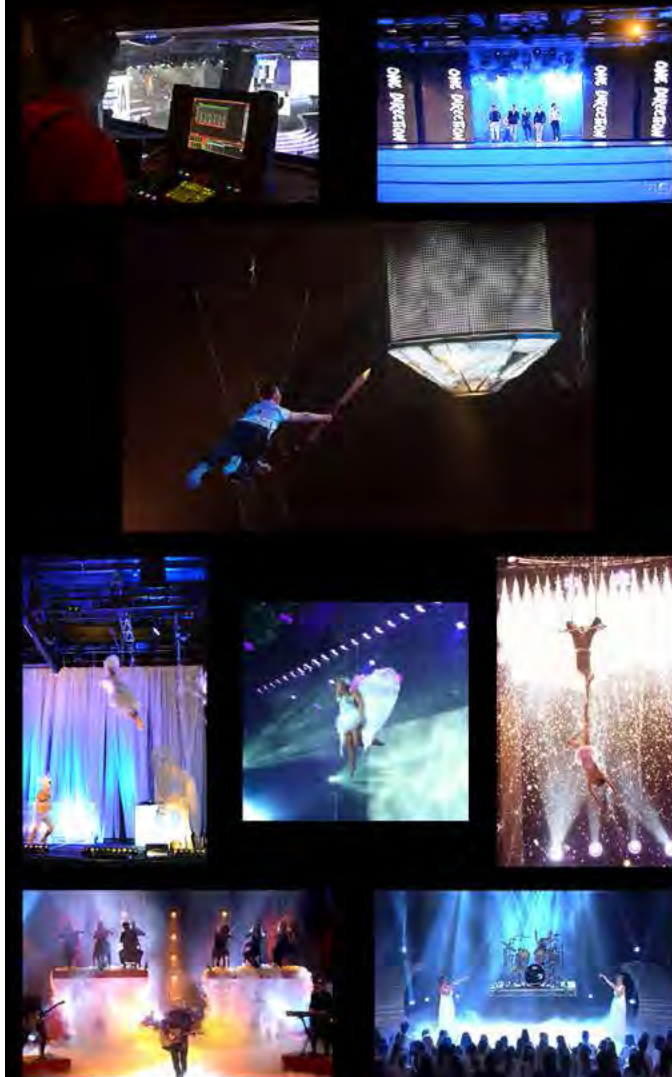
**The Quad bar has 18x RGBW LED modules**



BRAND: PROSHOP  
 MODEL: QUADBAR  
 RRP: \$799 INC GST  
 PRODUCT INFO: [WWW.SHOWTECH.COM.AU](http://WWW.SHOWTECH.COM.AU)  
 DISTRIBUTOR: [WWW.SHOWTECH.COM.AU](http://WWW.SHOWTECH.COM.AU)



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# JANDS STAGE CL JUST THE RIGHT AMOUNT OF CONTROL

BY JIMMY DEN-ouden

**THE STAGE 12/24 FROM JANDS WAS A GOOD EXAMPLE OF A SIMPLE THING, DONE REALLY WELL. THE STAGE CL FOLLOWS IN ITS FOOTSTEPS, YET AT THE SAME TIME IT'S LIKE A BIGGER BROTHER IN THAT IT DOES MORE.**

The popularity of affordable LED fixtures has answered a lot of questions for many users, but at the same time it's generated another, bigger question. How to control the darned things? Typically people have gone down one of two paths – they use a standard 2 preset console which leads to confusion about which channel is intensity, and which channel does what colour, and so on. This sucks, but so does the alternative of buying a big moving light console (way more console than you actually need for a few LEDs) and only using a fraction of it. Stage CL represents the middle ground, and it answers the above question.

Physically the console is a bit of a deviation from the traditional Jands engineering we've known and loved, but that



**Back panel includes kensington lock slot**



**Mimic LEDs show you what's going on for each channel**

doesn't mean you won't love it. The underside is made from red sheet metal, and the top panel is black plastic. So are the buttons, encoders and faders. The back panel has a 5 pin XLR DMX output, Ethernet port for ArtNet, USB connectors for memory (you can save your show to a USB key for later recall), and 12 DC power input. The power connector should to my mind be a locking 4 pin XLR, but at least there's a cable restraint for the DC socket.

Using the Stage CL is extremely easy, and this is reflective of its intended market. Turning it on, boot-up takes a little longer than expected but it's certainly within acceptable limits. Patching is a simple affair, done using the touch screen and rotary encoder adjacent. A large bank of fixtures exists in the library, and making your own fixture is really easy. I made a profile for some cheapo LED cans without even referring to the destruction manual, and it worked first go. Big props there! Each fixture (or group of fixtures if you duplicate DMX addresses across multiples) is represented by a fader for intensity, and a pair of rotary encoders above which control hue and saturation. Pushing the encoder downward causes a jump through values (colour, and fully saturated/white). Think of it like a channel strip on a mixer. Selecting multiple channels by using the select buttons above faders, you can make the same change to multiple fixtures simultaneously using any of the selected "channel" encoders. Conventional dimming is covered too, with just the fader used to represent a dimmer channel. Team it up with a 4PAK-D and some LEDs for a low power show anyone can operate – even driveway hire clients!

If simple colour changes isn't enough, the Stage CL has

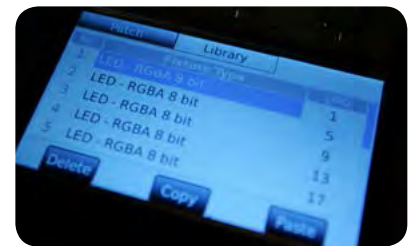
a bunch of inbuilt colour patterns and chases – you get to these from the “colour” page on the main screen.. Chases and colour patterns are applied to whatever fixtures you’ve got selected. Getting back to the home screen at any stage is easy – push the home button beneath the screen. You can record states to a bunch of places – the faders can act as submasters, there’s a cue list, 4x scene recalls and 4x chase recalls. Record is a 2 button process – hit record, then the thing you want to store your scene in. Fade time from step to step is controlled with a dedicated knob which has a pop-up showing the time in seconds (up to 1000 seconds). A similar knob adjusts chase speed in BPM. Multicolour mimic LEDs above each channel show a representation of the channels output colour. It’s possible to get into cue lists and chases and see an on-screen representation of what each channel is outputting step by step.

Probably the nicest thing about the Stage CL (aside from the price) is the operability – it’s been designed with novice users in mind and in all fairness there’s not really a lot you could do to screw up a show on this console. The lighting brainiacs will no doubt figure a way to make it control basic

moving head functions (I did), but that’s not what it’s about. It’s targeted at schools, nightclubs, community venues and anyone who doesn’t have the experience and/or budget for a bigger console. It’s a fun console to use, and beyond just the target market I think it’s likely to land in the hands of more experienced users, and moreover gain their respect.



**THIS IS THE HOME SCREEN**



**THIS IS THE PATCH SCREEN**



**AND THIS IS ONE OF THE COLOUR PATTERN SCREENS**

BRAND: JANDS  
 MODEL: STAGE CL  
 RRP: \$1995 INC GST  
 PRODUCT INFO: WWW.JANDS.COM.AU  
 DISTRIBUTOR: WWW.JANDS.COM.AU

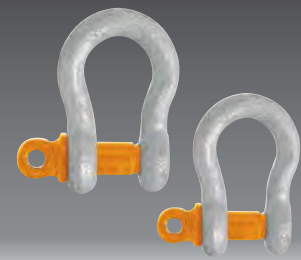


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## We look at the advances in HD vision switching

# Ross Video Carbonite

BY JIMMY DEN-ouden



**I've installed a few vision mixers into facilities over the years. I remember them being pretty big units – in one case the power supply alone weighed in at 50 odd kilograms and pulled 20A at 240V. The frame of said mixer occupied the remainder of a full height rack.**

Carbonite is different – the frame of our test unit is 2RU high and you can pick it up with one hand. Obviously technology advances over time, but this is a particularly elegant example of just how much difference a decade can make. The Carbonite range of switchers might look compact and even cute, but rest assured it's serious production gear. The frame and panel both have redundant power supply inputs, and the frame can be referenced to an external source. The Carbonite frame is a 2 MLE device, with 4 keyers per MLE. The keyers can run luma, linear, chroma, and DVE key types, and there's an additional 5th keyer built in which can be used for animated transitions such as RTDs. Adding audio to these is as simple as putting a file into the system via USB with the same name convention as the graphic associated with the wipe. A clean feed is available for each MLE, and there are 2 UltraChrome chroma keyers available. The chroma keyers are really nice – they yield very clean results and are incredibly easy to use.

The Carbonite frame hardware includes 24 SDI inputs and 10 SDI outputs – all fully routable. The frame can run SD or

HD, and there are 6 framesyncs / format converters which can be assigned to any input. Depending on your choice of frame, either all 24 or only the first 16 inputs are available in the system. Basically the 16/24 input hardware is identical, you just purchase the extra input capability and it's activated with software. The Carbonite Plus frame has more keyers and framesyncs / format converters. A frame with composite and HDMI inputs also exists.

Additional connectors on the back include D37 connectors for GPIO and Tally, so you can wire these facilities up in the same way you would other mixers. If you're using a Ross Video graphics generator, you can also interface to this via one of the Ethernet ports using the RossTalk protocol. This is more complex on "programming", but a lot simpler than wiring a D37 connector!

The Carbonite frame has 2 inbuilt multi-viewers, which are fully customizable. You can select from an array of different screen layouts, then choose what content is displayed in each box. Even the way tally is displayed on the multi-viewers can be customized. Because all the outputs are fully routable, Carbonite will work well in small scale situations such as OB trucks – you could route your main PGM feed to several of the frame outputs in lieu of using an external PGM distribution amp.

The Carbonite 2M-24 panel supplied for our review matches up nicely with the 24 input frame. If you're using a smaller panel (there are a range available), the 2 MLEs can be selected via keys on the AUX row. For now though, ours had a button for every input. If you want to playback stills, or



The tiny 2RU frame packs a pile of processing in to not much real estate



The frame supports 2 multi-view outputs, both fully customisable



The panel requires only power and a cat5 connection to the mixer frame

cascade the MLEs, or assign Aux busses to the cut rows, it's simple to assign those functions, and still get to displaced sources via the shift key. And for maximum flexibility, there is a 32-button panel.

The panel is light enough to lift easily, but solid enough that it won't slide around during use. It links to the Carbonite frame on a single cat5 cable. When you change between aux, keyer and custom control functions the cut-row buttons change colour, so straight away it's obvious what the button you're about to press does. The custom controls are nice – there are 4 banks of 24 of these, and the best way to think of them is as macros. You can build switching, keying, routing and GPIO functions all into a custom control. You can even build other custom controls into custom controls. It's pretty cool.

The panel itself is director friendly, and the LCD scribble strips above the cut-row buttons are clear and easy to read. These auto-map as you assign crosspoints to the buttons, and assigned sources appear in the same position on both rows. You can even assign an aux output to a cut-row input. To the uninitiated, Carbonite might seem like a pretty pricey piece of kit. Reality is that it's not. To do what Carbonite does 10 years ago wasn't possible. 5 years ago it was 6 times the price. We think this makes Carbonite a pretty good deal.



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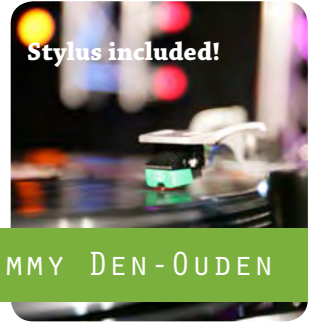


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# AUDIO TECHNICA LP-1240 TURNTABLE

BY JIMMY DEN-ODEN

## THE KING IS DEAD. LONG LIVE THE KING

**Kind of appropriate really since in Elvis' time vinyl was sort of the popular way to buy music, and this is a story about a turntable. Forgive the obvious comparison which follows, but it's virtually impossible to write this without referring to arguably one of the most dominant products ever.**

For years the Technics SL-1200 was the industry standard for DJs who played vinyl. It was a battlehorse piece of kit – it weighed a ton and cost a bomb. Only recently was it announced that Technics would cease production of the SL-1200 – the Tokyo Reporter printed the following statement from Panasonic: “Panasonic decided to end production mainly due to a decline in demand for these analog products and also the growing difficulty of procuring key analog components necessary to sustain production”. Fact was, it looked like the end of an era. Apparently Audio Technica saw it differently, and to keep the DJs of this world happy they've released several turntables – the latest being the LP-1240.

The LP-1240 is at the core just like an SL-1200. It's heavy built to avoid skipping and feedback. There's a crazy strong direct drive motor for virtually instant startup. There's variable pitch control. But just doing the same thing wasn't enough for AT. They've put more in, and they've made it cheaper.

Phono signals are much lower level than consumer line level, and they require a special RIAA equalization curve to be applied in order to sound right. In other words, a phono pre-amp is required. No big deal, except for the heap of gear which is now produced with only line level inputs. The LP-1240 has a switch on the back which allows the RCA output to run at phono or line level. As if this wasn't enough, there's an adjacent USB socket which means the unit can be plugged directly into a computer. Perfect for anyone wanting to sample loops off vinyl, or indeed even the home user wanting to digitize their extensive collection of Neil Diamond and Gene Pitney records (Mum, this means you).

Initially when I plugged in the USB output my Mac found the driver and selected it with no problems, but there was no audio. Some experimentation revealed the USB output requires the switch on the back to be in the “line” position. Fair enough, but it should really be labeled “phono – line/usb”. Output level seemed low on the meters while recording, but listening back it was clean (unlike the record we used). The back panel has an IEC power input socket, and in

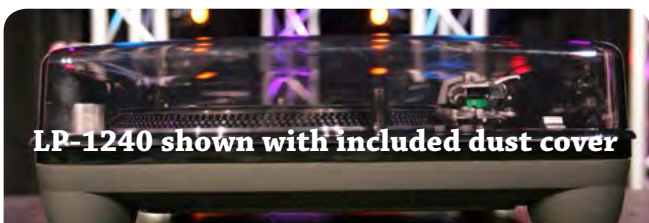
fact all cabling can be unplugged from the unit. This is kind of appealing, since damaged output leads were one of the most common problems affecting the SL-1200 units.

Similar to the controls now seen on pro DJ CD players, the LP-1240 has variable speed for acceleration and deceleration. So you can have it slowly ramp up to speed, or hit the go button and it will get there virtually instantly. The pots for these are compact and out of the way, and right next to the button which lets you make the thing spin backward. Direction change is smooth and fast. The cue light is an LED unit, so it will never fail in the same way as an incandescent bulb. It can be removed, revealing an RCA mounting socket. Probably not the best choice of connector, but then there are consoles with 3 pin XLR desk light sockets so I won't labour the point.

Sonically, the LP-1240 is good. I loaned it to a mate of mine who's a mad record aficionado, whereupon he promptly compared it to his multi-thousand dollar Rega unit. He reckons the Rega eats it, but then I told him the price. His final verdict was that for the money, the LP-1240 is EXCELLENT.

The turntable platter itself is reasonably weighty, and can be lifted off to reveal the guts of the DD motor beneath. Watching the platter spin our test unit seemed to exhibit a little up and down movement. Not much, just enough to notice. I expect this is probably a reflection of manufacturing tolerances at this price point – that or someone just dropped something heavy on one side of the platter before it reached us.

The LP-1240 turns up with a smoked grey plastic lid, which is not hinged on the unit but rather completely removable. This and the second start/stop button is a good indicator AT expect the scratching DJ crowd to adopt the product. It's probably a fair assumption too – in a market with relatively few choices the LP-1240 sits on the upper end for build quality and performance. I'd definitely rate it more as a “pro” product than some of its counterparts now on the market. This said, USB and line outputs will make it appealing to home users and weekend warriors, as will the price.




LP-1240 shown with included dust cover

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MODEL: LP-1240  
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NOVEMBER  
2012

# ROAD SKILLS

STEEL PANTHER

SCISSOR SISTERS

HOWARD JONES

MÖTLEY CRÜE + KISS + PITBULL

PAUL SIMONS + FAT BUTTER

BY CAT STROM  
PHOTOGRAPHY - TROY CONSTABLE

## Scissor Sisters

### 'Magic Hour' Australian Tour

New-York glam-queens The Scissor Sisters made a whirlwind trip to Australia keeping to a tight schedule that saw them play three back to back shows in September: Brisbane on the 25th, Melbourne on the 26th and Sydney on the 27th followed by Jakarta on the 29th and Dublin on the 30th!

"It was brutal," commented a rather tired Fraser Elisha who was in charge of the Paul Normandale designed light show. "We arrived into Dublin just in time to go to the load in."

Fortunately the lighting rig was kept fairly simple mainly for budget concerns with Martin MAC700's and MAC301's



## SCISSOR SISTERS

delivering most of the show. In fact as there are not many moving light fixtures, they have to work darned hard during the show.

"I've used MAC700's for along time as they are a reliable workhorse but we're about to start a European tour and Clay Paky have given us some of the new 800's to try which should be interesting," added Fraser. "The MAC301's will be replaced by Auras but one constant is the MA2 for control."

Ana Matronic is in charge of all the visual aspects of the show and spent a lot of time with Paul and Fraser ensuring the lighting was spot on. Fraser admits the lighting is maybe a bit more colourful than he would normally choose but keeping the client happy is foremost! Throughout the tour Ana has regularly added visuals to the projection which is a key element to the show.

Consequently when the projector at the Sydney Opera House gig pooped itself just prior to doors, there was a mad scramble to get a replacement and the show was delayed for well over an hour.

"I have to say that over the years I had heard many bad stories about working in the Opera House but all of the crew that I met there were very helpful and accommodating," said Fraser. "It was a real pleasure to work there. The band was over the moon to play there and was on an amazing high after the show."





## Howard Jones

Stephen Askins backstage with Howard Jones



Howards Tour Manager - Simon Bettison with Stephen Askins



## HOWARD JONES 2012 AUSTRALIAN TOUR

For years Stephen Askins has been the house audio tech at venues such as Fairfield RSL and the Evan Theatre at Penrith Panthers, fussing after the touring techs for a wide variety of international and local acts. However, early this year he was approached by the promoter of Howards Jones 2012 Australian Tour to see if he could spend a few weeks being the touring guy instead of the house guy.

“As I had mixed Howard on one of his previous tours and liked the man and his music, I decided to take two weeks off from my day gig as an audio designer with the Sydney based company, RAV Industries, and hit the road,” revealed Stephen. “How hard can this be I thought? They are bringing in their own audio and lighting operators, tour manager and the band is only a three-piece. I then received the tour specification and tour dates and realised what I had let myself in for!”

The first thing Stephen noticed was the first four dates of the tour were over four consecutive days in four different states starting in Perth, then Adelaide, Melbourne and Brisbane! A few days off and then a run of four Sydney dates and it was all over. Then he noticed that whilst the band was pretty self contained and toured with most of their own backline and audio mixer, in ears etc, they still needed to hire a very grunty projector and screen for every gig as well as Howard’s main keyboard, a Roland Fantom G8.

“Logistically, the projection system and Howard’s Fantom was a bit of a nightmare as the minimum sized projector specified was a Barco 10,000 ansi lumens model which weighs a poo load,” commented Stephen. “Likewise with the Fantom, the damn thing weighed about 60kgs in its road-case. It was soon apparent that we would need a company in each state to supply and install the projector and screen as we would not have the time to rig it and set it up, especially as we were going from the airport straight to the venue for the interstate shows.”

It soon also became apparent that there are not many Fantom G8s in Australia so Stephen had to pinch the one he hired from Lounge Backline in Perth and air freight it to Adelaide, Melbourne and Brisbane.

“We were OK once we got back for the Sydney dates as there were a few available but the interstate dates meant that each morning after dropping band and crew at the airport with their 38 pieces of luggage and roadcases, we then had to dash around to Virgins freight handlers, Toll Air Express, and dump the Fantom so they could then go back to the airport and load it onto our plane,” Stephen said. “We have to say, if you are a touring act, the Virgin/Toll combination is hard to beat as both companies did their best to help us keep our costs down on the tour.

The band and crew had been touring with this show world wide for some time so were pretty self contained and travelled with their own small Roland audio mixer which handled both FOH and monitor duties. This was linked to various other Roland devices via a data network with the end result that each of the three musicians had their own stage box and own personal sub mixer so they could mix their own in ear monitor mix.

“This greatly reduced set up time for each show as all we had to do audio wise for each gig was give the house audio tech three feeds from our mixer, left, right and sub,” explained Stephen. “No fold-back speakers were needed on the tour and the only speaker on the stage was a small powered sub that sat behind the keyboard player so he could feel the low frequency energy of some of the sequencers.” Speaking of sequencers, some “electronic” style bands are bound by the programming of the beasts and cannot vary from what has been programmed previously. This is not the case with Howard’s show thanks to twin Novation Launchpads to trigger the sequences; if Howard did want to extend a verse or chorus, a simple nod of the head and they could easily change the song.

During setup and soundcheck at the first gig it was soon apparent why such a largish projector and screen was required. As Howard was recreating his first two albums and playing both in their entirety, bespoke video footage had been created for each song that was to be displayed on the projection screen behind the band. Given the amount of stage lighting, only a powerful projector would create an image that is visible. How the video footage was triggered was interesting; basically a data cable was run from the keyboard rig via to a computer that usually sat next to the lighting director. This then triggered a program in the Macbook that sent the in sync images to the projector.

“The end result was quite stunning and what was initially referred by me in the planning for the tour as the “stupid effing projection system” actually turned out to be one of the key elements of what was a brilliant show from an audio, video, lighting and musicianship perspective,” remarked Stephen, who is now in recovery.

# Howard Jones



## BIG SHOTS BUT KISS PLAY SECOND

Mötley Crüe and our own Motley - Lighting Director Sean ‘Motley’ Hackett - look set to tour Australia this summer in support of the rock industry’s most profitable franchise, Kiss. With more farewell tours under their belt than John Farnham, Kiss always headline which really makes the dual billing into just something polite.

Plus CX has a firm estimate that Motley Crue shoot 450 pyro’s while Kiss trump them with over 600. So there.

We hear the 400 moving lights used in the USA will be trimmed a little for Australia, with PRG to supply a rig. The tour is a Clair account, so JPJ will doubtless roll out the loudest line array that Kiss are prepared to pay for.

Speaking of pay, the band do not one but TWO meet and greets at each gig, one without makeup. Expect to see Paul Simons fly out to FOH, and the drum riser to rise on a scissor lift or two.

No word on whether the strippers are still on the payroll. Time to dig out the spandex.



Sean ‘Motley’ Hackett Kiss LD

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# Steel Panther



## Steel Panther 'Penetrating Down Under'

**Billed as the hottest band out of Hollywood since Motley Crue, Guns N' Roses and Poison ruled the Sunset Strip, Steel Panther have finished a sold-out tour of Australia which parodied the glam metal music and lifestyle of the 1980s. With their Facebook page listing their interest as Chicks, Boobs, Vagina, Pussy, Blow, Metal, Alabama Hot Pockets and their last album entitled Balls Out, you know a Steel Panther gig is not for the faint-hearted.**

The satire carries through to the audio with the stage stacked with 'dead' speaker boxes and even pretend speaker boxes painted onto the risers. JPJ Audio provided the gear for the tour except for the monitor rig that travels with the band. In house PA's were also used except in Brisbane when a V-Dosc system was brought in.

At FOH is Nick Rucker who was disappointed not to be able to get his hands on dummy cabinets anymore having to use the real thing.

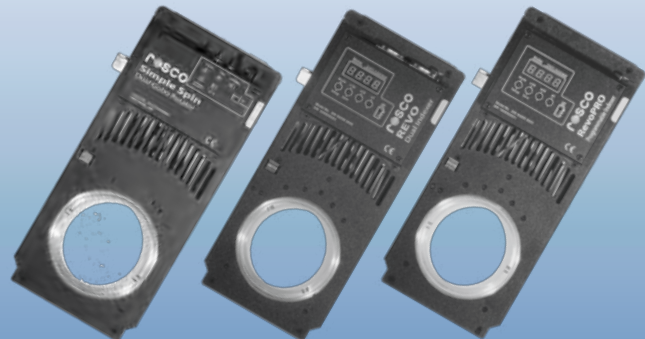
"I actually only use one live cabinet for each guy and everyone is on ears," admitted Nick. "I have the drummer on Porter and Davies BC2 - a much better version of the butt kicker piston device that you put in the bottom of the drum to give that kick directly to the drummer's body. The BC2 is completely dynamic and is absolutely amazing. It takes the place of a PA system behind the drummer, it is really that powerful."

A special moment in the show is when the band insists they can see a woman in the audience with such a large vagina, they could rehearse in there. As the lights go dim and the band pretends they are in the vagina, Nick hits the reverb on the vocals so the band echo as they try to locate each other.

The audio crew is lovingly brought in to many of the jokes and regularly abused in the most unprofessional manner by the band during the performance.

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# Pitbull's uncontrollable hips

**That energetic little Pitbull headlined a tour supported by Taio Cruz, DJ Havana Brown and Timomatic. Not since the last Tom Jones tour has a singer been led by his groin in such a night of frenetic hip-gyrating and thrusting.**

The Mandylights boys lit Taio Cruz in style ensuring he didn't suffer from lack of impact in the visual department as so many support acts do. Using Pitbull's movers, Richard Neville added some JARAG towers and lasers to great effect.

You knew it was time for Pitbull to take the stage when his LD Justin Geiger turned up wearing a sharp suit and the console area was flooded with Latino lovelies who looked like they had just stepped off the set of a Spanish Days of Our Lives. What followed was a high energy ninety minute set that turned Allphones Arena into a massive dance club.

Pitbull was dressed to perfection in his trademark black suit, black shirt and black sunnies and he set the fast-paced and high-energy tone of the show from the get-go. Unfortunately his big entrance at the Melbourne show was ruined somewhat when the curtain got stuck and didn't come down.

With no two songs ever the same night to night, Justin was kept on his toes flipping through a selection of cues and stacks. His tools, supplied by Chameleon Touring Systems, were VL3000 spots, VL3500 washes and Clay Paky Sharpys controlled by a grandMA which also triggered video cues via Catalyst.



## Fat Butter

**The start of the festival show season began early this year for Entertainment Installations with Fat As Butter, a multi-stage event on The Foreshore at Newcastle. Having done this event for several years, this one went off without a hitch for EI who supplied four stages of audio / risers / backline / crew (Fat Stage, Fabio Stage, Butter Stage and Melt Stage) plus lighting on the Fat Stage all with a combination of pop / rock + indie bands and DJ's.**

The main stage used their Martin W8LC Line Array and according to Neale Mace, the sound guy for the headlining act Good Charlotte said it was one of the best PA's he's heard. An AVID Profile at FOH and Yamaha PM5D/RH on monitors rounded out the main components.

A smaller number of Martin Audio W8LC's were flown on the Fabio stage, with a Martin Audio W8C / WSX system ground stacked for the Butter Stage and a Dynacord Cobra 4 for the Melt Stage.

The Fat Stage saw EI debut their new Clay Paky Sharpys along with an assortment of Martin MACs.



## Fat AS Butter Festival





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# BIZ TALK

## Gettin' Hitched The Business Merger Try to avoid early divorce!



By Julius Grafton

**Must be spring – we've been asked about mergers several times. Not for us – CX is a merger free zone as there is nothing else in media that we can be attracted to. But for retailers, production firms, and suppliers out there – joining with a former foe can be attractive.**

**A merger isn't a takeover or a buyout – it's where the two become one. Just like when you marry. All the goods and chattels, including the baggage, go into one abode. The bank account becomes shared. But getting divorced can be easier than breaking up a company.**

**First make a list of all the good reasons to merge.**

The top five are:

- **Better efficiency running two businesses as one**
- **More profit (see above)**
- **Better margins by removing competition**
- **Better suppression of competitors (see above)**
- **Better survival prospects**

On the list of things that go wrong, most often, are:

- **Failure to achieve better efficiency**
- **Failure to achieve better profitability**
- **Badly matched expectations of partners**
- **Different styles of partners**
- **Customer defections**

CX has watched with fascination dozens of mergers in and outside the entertainment biz, and see the really successful versions working because the partners were and remain committed to the merger.

There's two kinds of mergers. With, and without payment. Which means equal or unequal shareholding, because no two businesses are worth exactly the same at the moment of merger.

You have to apply the same method of valuation for each business. Start with the assets which should be clear book value, meaning the accuracy of the accounts and the integrity of the accountant are important.

Then calculate profitability for each, using the same benchmarks. Leave off owner drawings, since these distort the underlying operation. Most private firms (like CX) draw a mixture of salary and dividends – the less salary, the greater the profit in the company. Owner's drawings can be foggier than a balance sheet will reveal. Remove all the director and shareholder drawings from the accounts, for valuation purposes. If there are a bunch, like a family, working in one business and one owner in the other, then you could add back a fair wage for each worker to compensate.

To get to the valuation stage, some major forensic accounting must be done, after reaching legal agreement.

This means signing a heads of agreement that spells out the valuation process and the merger terms; a shareholder agreement for if the deal proceeds; a confidentiality deed; and a break agreement that says how both sides will not exploit the info gained if the deal falls over. Just agreeing on all that is a big deal, with some serious legal and accounting fees for each side.

Then you need to value the profitability of each side. If one earns 4% net and the other 8% net, (after removing or equalising all the owner drawings or wages, see above) then the profit needs to be reflected in the merged value.

If the merger is designed to give each side a half share of the new business, then someone is going to need to be paid the difference between the merged value and a half share holding. For our example, check out the chart. Firm A had clear assets of \$600k and makes 4% net on turnover of \$900k, or \$36k profit.

Firm B has \$550k of clear assets but makes 8% profit on turnover of \$910k, which is \$72.8k.

We took the net profit of each, called it EBIT (Earnings Before Interest and Tax) and applied a multiple of 4. You should average the EBIT over the previous 4 years as well, to iron out any creative accounting.

The two mobs looked identical at the beginning, but there is a clear difference of value – firm A is worth \$744k and

	FIRM A	FIRM B
ASSETS	\$600,000	\$550,000
TURNOVER	\$900,000	\$910,000
NET PERCENT	4%	8%
NET PROFIT	\$36,000	\$72,800
EBIT MULTI	4	4
EBIT \$	\$144,000	\$291,200
FIRM VALUE	\$744,000	\$841,200
COMBINED VALUE OF MERGE	\$1,585,200	
NUMBER OF SHARES	100	
VALUE PER SHARE	\$15,852	
FIRM A SHARE HOLDING	47	
FIRM B SHARE HOLDING	53	

firm B \$841.2k. Add these together, then divide by number of shares to find a share value. Then divvy up the shares.

If the merger is without cash, then the owner of firm A will hold 47 shares and the dude at firm B will have 53. Sometimes this is perfectly OK, but when they are this close it is common for the under holder to buy up so each party is 50/50.

In a true partnership, 50/50 means you have to work out your differences for the common good. If one side has control (like 51% or more) then they really do have power – power to fire directors, power to wind up the firm, power to go crazy with power.

This merger needs Firm A to pay Firm B for 3 shares, or 3 x \$15,852 = \$47,556 to adjust for the difference in merger value of the two firms. This is a merger with money.

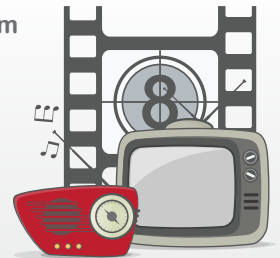
If Firm A was always a lot smaller than Firm B, a merger without money would see owner A holding many less shares than owner B. That's a merger without money.

**Next month we will look at how the merger will be structured.**

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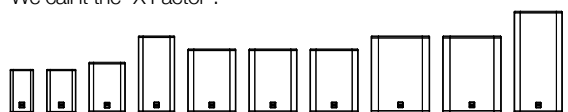


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## THE MILL REPORT

## COMPUTERS REMAIN UNRELIABLE

IF YOU Clocked UP ALL the HOURS PROFESSIONAL RECORDING STUDIOS LOSE TO UNFORSEEN, INEXPLICABLE OR OUBTRIGHT BAFFLING COMPUTER ISSUES, MULTIPLIED THIS FIGURE BY A COLLECTIVE HOURLY RATE, the AMOUNT WOULD EXCEED the COMBINED debt OF SEVERAL THIRD WORLD COUNTRIES. DO WE REALLY need to SEND SOFTWARE MANUFACTURERS a BILL before they STOP adding UNRELIABLE new FEATURES, and start REPAIRING the ONES they HAVE?

BY ANDY STEWART

Studios – yes they still exist. Despite the standard quip to the contrary, recording studios are alive and well. Sure, there aren't nearly as many enormous, heavily capitalised commercial facilities groaning under the weight of consoles and tape machines as there were back in the '80s and '90s – most of those are now extinct.

But the fact is more music is being recorded now than ever before and it's being captured just about everywhere there's access to a power point. Music the world over has exploded in popularity – where isn't music being played or recorded I wonder – and nowadays everyone wants to be a rock star. To that end, technology has made so many aspects of the recording process cheaper that there's now a genuine risk that there will be no-one left to act as a willing audience participant. In fact, I can see it now – the new video game – Audience Member. "Being in a band is no longer cool... Audience Member gives you the experience of what it's like to be JUST ANOTHER FACE IN THE CROWD!"

### ALIVE & TRACKING

Recording studios aren't dead. Bloody hell,

just about everyone I know has one! The next time someone says studios are defunct, ask yourself this question: "Did that person sell gear into commercial studios 20 years ago, and/or are they abusing their prescription medication?" Frankly, it's usually the people who used to make \$100,000 every time they sold a console that typically spout this sort of nonsense.

Over the next few issues – provided there's no reader backlash or mutiny at CX – I'll be writing a series of articles from the perspective of the modern day studio owner/operator. I'm not sure where these articles will take us or what may pop up in our conversation, but I hope to expose a bit about what really goes on day-to-day in a 'typical' recording studio. I'd like to be able to assert that The Mill (my studio) is 'typical' of the sort of recording studios trading in the 21st Century, but in truth, it's not. 'Typical' – there's no such thing. People are recording in sheds, bedrooms, planes and buses, in car-parks, up trees, out in remote deserts landscapes and on tropical islands... Some have budgets of \$100, others \$100,000. Suffice it to say, if there's a spare room and an ego yearning to be boosted, there you'll find a modern-day studio. And what do they all record onto? Computers.

### 'PUTERS 'PUTERS 'PUTERS!

That's the phrase one of the old techs at Studios 301 in Sydney used to wander around screaming every time one of the computers broke down in their main control room. They were unreliable then, they're unreliable now.

To get this series of articles rolling then, let's consider one thing all recording studios have in common: computers. No matter who you are, what skill level you possess or generation you're from, chances are one, or several, of your key recording, mixing or mastering tools are run by a computer. At The Mill I have about three Apple computers running at any given time, and the programs they drive are quite standard: ProTools, WaveBurner and WaveLab to name a few, and these are orbited by countless external plug-ins and peripheral programs that I use to record, mix and master music. I also have a Neve console, countless pairs of studio monitors and a significant array of classic vintage outboard mixed into this equation. Things are generally well maintained, organised, and mostly, things just work...

But then a day will inexplicably dawn – and you never know when the next one will appear on the horizon – where the wheels fall off the computer and you're left on the roadside (often with the client) with the bonnet open and steam pouring out of the plug-ins, while a rag-tag band of Mad Max bikies bears down on you. It's at this point that you'd happily trade every new option your programs have



ever offered for just one: reliability. Co-incidentally, it's at this point that every software manufacturer on the planet typically runs for their lives.

**THE CUSTOMER IS ALWAYS WRONG**

Computers are like cars really: we all know how to start them, drive them, and fill them with fuel, but beyond that our understanding of what makes them tick is commonly nil. Sure, we all know a few tricks – some of us know how trash preferences or ensure that hard-drives don't get too full... things like that – but in reality very few of us know how to fix one when it breaks down. Almost none of us know how to maintain and service our computers, and in many cases we have no idea when a 'service' might be due, or even what the word 'service' means in this context. But most unlike the software industry, car manufacturers don't habitually blame their customers when something goes wrong. They simply have an infrastructure in place to fix the problem. One day soon I hope software developers start acting like grown-ups and dispense with their policy of denial and indifference, and start taking responsibility for faulty products. Car drivers aren't forever held responsible when their vehicles break down – why should computer operators?



**RELIABILITY IS KING**

If only computer manufacturers and software developers could get it through their noggins that the most fundamental requirement of any studio computer is reliability. I couldn't give a rat's arse whether, for instance, my WaveBurner 1.6.1 software is capable of drawing out glitches on the waveform editor (oh, but hang on, it can't anyway because it's a terrible program). I simply want it to be able to perform its most basic function – burn a disc without clicks – day in and day out. When it can't do that, it's less than useless to me. And on that day I don't expect to be told it's my fault, or worse, be unable to find anyone in the company who knows how to fix it or has ever encountered the problem before. One of these days computers will get reliable and we can get on with making music.



**Andy Stewart works and runs The Mill in Victoria. His credit list includes Gotye, Paul Kelly and The Whitlams and he can be contacted at: [andy@themill.net.au](mailto:andy@themill.net.au)**



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# Vale Neville Thiele



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**On Monday evening the 1st of October 2012 Australian audio industry icon (Dr Albert) Neville Thiele OAM passed way, aged 91.**

Within the audio industry he is best known for the Thiele Small loudspeaker parameters developed and published with his colleague Richard Small.

To this day the much acclaimed parameters are used worldwide by virtually all loudspeaker producers and are an essential part of the industry vernacular. However the parameters are but one element of a career imbued with immense achievement.

Neville lived life to the fullest. He never stopped working and gave generously of his time, particularly in the dissemination of knowledge. He authored numerous technical papers, often published by the Audio Engineering Society.

He was a nurturing teacher and until recently lectured on loudspeaker design at Sydney University, he loved his students and they adored him. For most of his life he kept a daily journal of his work, many would view this archive as an industry treasure and maybe one day it can be used to perpetuate Neville's memory.



I experienced his skill when he designed the filters for the Grover Notting critical listening systems. We found his energy and enthusiasm boundless and he was 88 years of age when this work was performed, his mind was razor sharp. He consistently encouraged and took particular pleasure in the achievements of our project, relishing news of progress, such was his positive demeanor.

Those who knew Neville would agree his disposition was under-stated; he was innately modest and generous. He was a husband, father, friend and mentor to many, and our thoughts are with his family and friends at this sad time.

It is indeed true Neville, you will be sadly missed, but be assured, never forgotten.

**Neville was a hero to some and an inspiration to many. He spent his life in research and development, and very few could match his accomplishments in creating and improving audio/visual entertainment and industrial technologies.**

**Frank Hinton  
President Australian Commercial  
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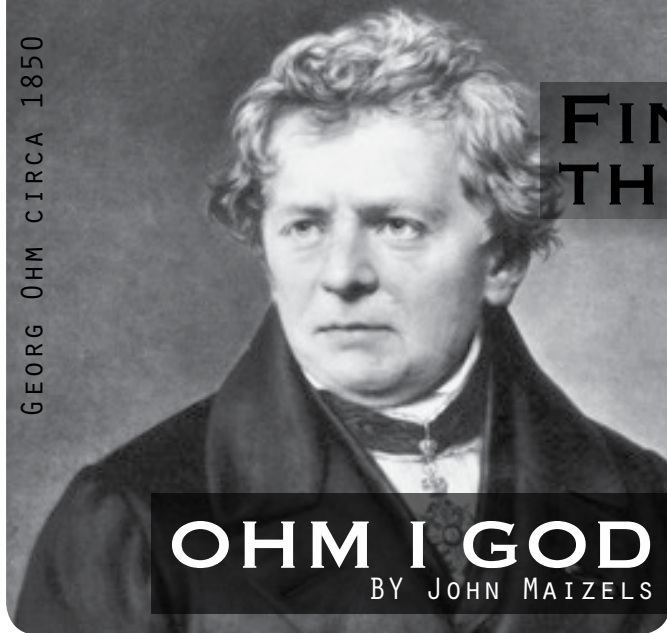


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## OHM I GOD

BY JOHN MAIZELS

HOW MUCH TECH DO YOU NEED TO KNOW? IT'S A FREQUENTLY VISITED (AND DISMISSED) TOPIC AT THE BUNKER. THERE ARE THOSE WHO THINK THAT THEORY OF ANYTHING IS A QUICK TRIP TO BOREDOM. OK, HERE'S A TEST: "OHM'S LAW". HAVE YOU STOPPED READING YET? CLEARLY NOT. OHM'S LAW CAME FROM THE GERMAN MATHEMATICIAN GEORG OHM IN 1827, WHO MADE A NAME FOR HIMSELF DOING ELECTRIFYING THINGS WITH FROGS LEGS, METAL PLATES, JARS OF ACID, AND BRATWURST. WHILE OUTWARDLY IT WAS THOUGHT THAT HE WAS SEARCHING FOR ELECTRIC TRUTHS, IT'S ALSO WIDELY BELIEVED THAT HE WAS TRYING TO INVENT THE ENERGISER BUNNY. WHAT HE DID DISCOVER WAS RESISTANCE, THUS PAVING THE WAY FOR HUGH HEFNER WHO WOULD LATER ESTABLISH EXACTLY HOW MUCH RESISTANCE AN ENERGISED BUNNY HAS.

Ohm built battery after battery, using nothing more than parts. He connected all kinds of objects together to see if they would light up, and finally made the big discovery for which he's best known:  $I=V/R$  pronounced "eye equals vee over arrrh". Sounds more like something that a pirate might say, and that's another story. The formula says that current (in a circuit) equals volts divided by resistance. I could have discovered that on a quiet day between gigs, and then you'd all have to say "Maiz's law" which is harder to say and sounds like a curse. So let's give a pat on the back to Ohm.

One of the things they taught me in high school maths is that this type of formula is obscenely simple to solve. If one of the values is kept constant, then the value goes up and down proportionally with the third. They are locked together. Hold that thought.

Last October I was in a Hollywood setting with a Gaffer and his lighting electricians – the so called Best Boys. I looked with a mix of awe and amazement at the accepted Hollywood lighting protocols, which involve bakelite and

# FIND YOUR WAY THROUGH THE MAIZ

wood, and exposed connections. Open live copper holes everywhere, just waiting to show that Ohm was right and do rather more than excite a frog's leg. It struck me that in a million years the authorities in Australia would never accept US plugs, sockets and practices. But nobody appeared to be shocked or needing treatment, so I figured all was well until a conversation with one of the Best Boys went, so help me Julius, like this:

**Me:** "Isn't that wiring really unsafe... with all those exposed connectors? They'd never approve those connectors in Australia."

**BB:** "Actually, this wiring would be way safer for you guys down under".

**Me:** "Huh?"

**BB:** "You guys have 240V, right?"

**Me:** "Sure".

**BB:** "So when you grab hold of the wire, only half the current flows compared to 120V".

Well, that certainly stopped my heart for a few beats. A Best Boy is the second highest person in the lighting chain (after the Gaffer) and would be expected to have a serious idea of his or her craft. I'd sort of assumed that included knowledge of Ohm's law. The conversation made me reconsider that - was there a possibility that this bozo had obtained his electrical ticket by opening a box labelled "Kellogg's"? In which case, I hoped it had come with CPR training. Mr Best Boy had demonstrated the problem that comes from half-learning a useful piece of theory: someone had told him once that double-the-volts means half-the-current. Which would be true if you're talking about, say, 100 watt 240V light bulbs compared to 100 watt 120V light bulbs. Mr Boy, showing that his brain might have been constrained to only a few watts itself, missed the obvious point. Where resistance doesn't change, double the volts means double the current. A warm body in the southern hemisphere still has the same resistance as a warm body in the USA, so double the volts means a more rapid transition to dead. BANG. Do not pass go.

The moral is that a solid piece of tech theory is a very good thing, and a little bit of rote learning can cause great harm.

Homework for today: How many badly-educated US sparkies can you connect in parallel across a 240 volt circuit before they learn the difference between current flowing in a lamp and current flowing in a human body? First correct entry opened gets this month's special prize, which is an open-circuit ELCB.

### SMPTE13: the word is out.

There's been lots of talk about trade shows recently, but not about the biggie that happens but every two years. I can now reveal the theme of next year's SMPTE show: SMPTE13: Delivering the Personalised Content Experience.

One thing that the SMPTE shows do quite well is provide a forum for discussion of technology, and a large part of the conference is about getting to grips with what's coming down the track. You can expect SMPTE13 to focus heav-

ily on what we do now that delivery to mobile devices is commonplace rather than a novelty, and where production processes need to cater for screens that range in size from... well, a matchbox, all the way up to something the size of the wall in your living room. That's quite a stretch of the imagination, but it's happening. Creates some cute challenges for program makers, I can tell you.

And, by the way, Ultra High Definition TV is coming. Maybe not next week, but it's had some test transmissions in Japan and Korea, and it's only a matter of time before you will be able to buy a 33 Megapixel 3.7 metre screen with 22.2 surround sound, just ideal for watching reruns of Gilligan's Island.

Yes, in the space of eight years, the broadcast world has gone from scornful ("who'd want to watch TV on a screen the size of a matchbox?") to engaged ("look - I can play this movie on a screen the size of a matchbox") to embracing ("hey, have you seen that show we produced for the matchbox-sized screen?") to commercial ("we've just announced a service which provides twenty channels for matchboxes") to completely integrated. The three-screen model is firmly in place, as I told you at the 2012 CX Roadshow.

The personalised content experience is with us. The call for papers will go out shortly - if you want to submit, check the information on event website via [www.smpte.com.au](http://www.smpte.com.au). And put 23-26 July 2013 in your diary.

### **And the winner isn't...**

A really bizarre thing happened early last month, and it's worthy of industry note. UStream was picked as the transmission carrier for the TV coverage of this year's World Science Fiction Convention in Chicago, coming to you Live from the Chicago Hyatt. It worked fine coming from Reno last year, so hey: this year could only be better. Those of us who have used UStream know that it's a great product (even in free mode) and plus-or-minus a few quirks, it's pretty cool stuff. The price is right, for sure. But UStream did the dirty big time on some of my mates, and it's taught everyone a heap of important lessons. Here's how it played out.

The high point of a World Science Fiction Convention is the Hugo Awards Ceremony, and this year's ceremony was expected to pull ratings way above double digits. As events go, the Hugos are important to the SciFi crowd. In 2011 the Hugos were broadcast live for the first time on the net, using UStream, and it worked a treat. Not only did it go in real time to a global audience substantially larger than Channel Ten's breakfast show, one segment of the awards later went viral on replay (it was particularly entertaining - search on the net for "Chris Garcia Moment"). Over 40,000 hits which is a lot for any fan-produced SciFi gig.

This year, basking in success and with solid "hey, it-works" experience under their belt, the Hugo Awards production team figured they could use UStream again. Get a nice fat pipe out of the Hyatt, check out the latency, do multiple advance tests to check quality and robustness. All good.

So how could this go wrong? Well, not in any of the obvious ways that anyone thought or tested for. All was fine until the program got to the best dramatic presentation. And the nominee is Dr Who (play short clip of nominated episode), Dr Who (play short clip of another episode), Dr Who (yes, another clip), Chris Garcia (play the

viral clip from last year's broadcast), and Dr Who.

High profile SciFi writer on stage opens the envelope: And the winner is... sprtf flt picture goes to black. Very black.

The way UStream tells it, they have an automatic copyright infringement detection process which looks at whatever is being streamed and if it matches some registered content believed to belong to a copyright holder, they kill the feed. That part worked, with UStream completely missing the point: the event organisers had copyright clearance on the material and had every right to transmit it in that context. There's some debate as to whether the UStream disconnection is as automated as they claim, and whether the interruption was performed by a piece of code, or whether a human got involved to open the switch... it certainly took long enough to happen after the first clip went through.

It didn't take long for UStream to work out that they were no longer everyone's favourite carrier, thanks largely to Twitter which lit up half a block around UStream's master control. Of course, you can't call UStream to tell them they've put you off the air... these days you can't call anyone. Next day the webosphere went ballistic. UStream's own site carried an apology from the CEO in his blog, attracting an increasingly vitriolic set of comments from ex-viewers who were somewhat miffed. A day or so later, UStream's blog carried the apology without the comments, apparently censored by UStream's automatic pissed-off-user detector. You'll find more on the story if you search on "Ustream Chicon".

In a somewhat bizarre twist, the outage knocked out two high-profile locations which were taking the broadcast. The first was across the other side of the country, where 52,000 fans who had chosen to go to Dragon\*Con instead of Worldcon (infidels!) were being treated to a live cover of the Hugos in high def, carried via... you guessed it: UStream. Up to the Best Dramatic category, the interwebbie thing and UStream seemed to be doing the impossible, which was to deliver a high quality video stream at no cost. Then: Sproing, off the air. We apologise for the interruption to this broadcast, regular programming will resume next week. Nothing you can do.

But even weirder was the other major impact: across the other side of the corridor from the ballroom where the ceremony was being run. In a move reminiscent of "technician on duty" discussions (and I'm pretty sure there were some house TODs being paid too) the hotel had demanded a motza to connect two rooms together with a simple coax patch. Faced with a cost they could neither cover nor condone, the event TD elected to use UStream to feed the overflow room. The incoming data feed was fine, and it meant they didn't have to pay money to the hotel for the insane coax plugging charge. The convention saved squillions, but the overflow room lost the ceremony feed along with the rest of the world.

To be fair, it was a reasonable gamble that simply didn't quite pay off. But then how are you supposed to know and protect against an automated process over which you have no influence? Well, if the mission is critical enough, don't take the risk until you've asked, tested, asked, tested, and asked again. Good luck finding someone to ask!



## The current environment

**Most of us will now be working under the new Model WHS Act and Regulation.**

**In 2008 all States and Territories agreed that Australia should be covered by identical WHS (Work, Health and Safety) legislation. Sadly in the four years it took to write it, governments changed and some reneged on their promise.**

There are a number of significant changes in the new Act and Regulation that you should be aware of.

First of all the term 'employer' was abandoned and replaced by **PCBU**, a **P**erson **C**onducting a **B**usiness or **U**ndertaking. The argument behind this change was to better reflect our current workplace arrangements. Over the last 30 years we have moved away from a classic employer / employee structure to a much more open structure dependent on casual workers, contractors, etc.

So the term employer lost most of its meaning within a workplace environment increasingly dealing with people who were either self-employed or working through a labour-hire company. This confused matters as to who was really responsible for each others health and safety. PCBU's, better get used to that term, it is the core of the new legislation and is the entity on whom the Primary Duty of Care is imposed.

**The core definition in the WHS Act (Section 5) is: Meaning of "person conducting a business or undertaking"**

**(1) For the purposes of this Act, a person conducts a business or undertaking:**

- (a) whether the person conducts the business or undertaking alone or with others, and**
- (b) whether or not the business or undertaking is conducted for profit or gain.**

Basically what we used to call a business or a company is now a PCBU. The reasoning behind this approach is that anyone who conducts a business or undertaking influences one or more elements that go to the performance of work, and therefore may affect the health and safety of those undertaking the work or others affected by the work undertaken. You do not necessarily have to employ people to be in a position to influence the way work is done or to have an effect on the health and safety of the people doing the work. A sole trader can still impact the safety of a workplace by their actions or inactions. Examples of PCBUs would be companies, franchisees, self employed, contractors and sub contractors. There are a few exemptions but those are a little tricky. For example, a 'volunteer organisation' is not deemed a PCBU provided that no person is employed to carry out work for the organisation. But if they would employ an accountant to look after their accounts they would no longer be exempt. Same for a charity, social or sporting groups, all good until you employ someone to run the clubhouse bar for example, then you are a PCBU.

It is also important to understand who are workers under the WHS Act.

The term **worker** has replaced the term employee. Again, our workforce has changed and that had to be reflected in the new act. The term employee implies an employment relationship that is no longer relevant for many people and businesses.

**So, who is a worker under the new definition?**

**Here's the list from the Act (Section 7):**

- an employee,**
- a contractor or subcontractor,**
- an employee of a contractor or subcontractor,**
- an employee of a labour hire company (crewing service) assigned to work in the business or undertaking,**
- an outworker,**
- an apprentice or trainee,**
- a student on work experience and finally,**
- a volunteer.**

What this means is that anyone you bring on-site or who does work in your office, factory, warehouse, etc. is a worker under the Act and you have a duty of care to look after them. And it doesn't make any difference whether you pay them or not, volunteers are now also workers.

**Workers have a duty to look after themselves, other workers and others.**

Others – that is a broad term for anyone who visits your workplace but doesn't do any work. So those can be the guests invited to a function, people buying tickets to a show or concert but also your client who may pop in to see how things are going.

And they can also be people in a park if you do a 'greenfield'

event or shoppers in a shopping centre if you do a gig there. Workers and Others owe a duty to a PCBU.

**Specifically they:**  
**must take reasonable care of own health & safety**  
**must take reasonable care that conduct does not adversely affect others**  
**must comply, so far as he/she is reasonably able, with instructions**

In addition workers must cooperate with reasonable notified policies and procedures.

And a final definition that causes some confusion is **Workplace**. What is a workplace? The WHS Act (Section 8) defines it as follows:

**A workplace is a place where work is carried out for a business or undertaking and includes any place where a worker goes, or is likely to be, while at work. 'Place' includes:**  
**a vehicle, vessel, aircraft or other mobile structure, and any waters and any installation on land, on the bed of any waters or floating on any waters.**

What this means is that a workplace is not limited to your office, factory or warehouse, it is a wherever people are sent to work, or whilst travelling to / from a worksite, including to / from the workers residence, to carry out your work.

In the next instalment we will look at what this 'Primary Duty of Care' is, how it affects you and what you need to do to stay on top of things.

**Finally, a blatant plug. The Event Safety Alliance Australia is now accepting membership applications. We need members to be able to be heard when it comes to health and safety in our industry.**

**Have a look at**  
<http://www.eventsafetyalliance.org.au/membership.html>  
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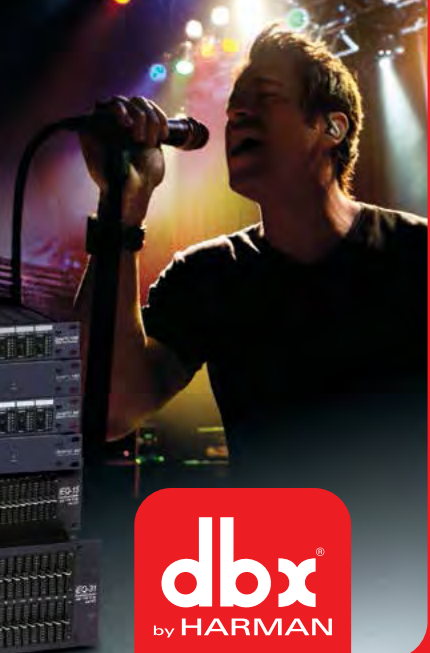
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GENERAL SERVICES	CRISIS SUPPORT	ENTERTAINMENT ASSIST	HEALTH SERVICES	LEGAL & FINANCIAL	RELATIONSHIPS
<p><b>Australian Health Directory</b> W: www.healthdirectory.com.au</p> <p><b>JIGSAW</b> Community Services Database Online database of geographical community services W: www.crisissupport.org.au/jigsaw</p> <p><b>National Aged Care Info Line</b> ☎ (8.30am-5pm Mon-Fri excl. National public holidays) T: 1800 500 853 W: www.health.gov.au</p> <p><b>Salvo Care Line</b> ☎ T: 1300 36 36 22 (24/7) W: www.salvos.org.au</p> <p><b>Seniors Portal</b> W: www.seniors.gov.au</p> <p>Entertainment Assist provides crisis support, preventative assistance &amp; education programs for Australian entertainers &amp; backstage people. Tax deductible donations to Entertainment Assist allow us to continue providing critical services to entertainment industry people. Discover ways you can donate to Entertainment Assist by visiting: www.entertainmentassist.org.au</p>	<p><b>Emergency *</b> Police Fire and Ambulance T: 000 (24/7)</p> <p><b>Kids Helpline *</b> T: 1800 55 1800 (24/7) W: www.kidshelp.com.au</p> <p><b>Lifeline *</b> T: 13 11 14 (24/7) W: www.lifeline.org.au</p> <p><b>MensLine Australia *</b> T: 1300 78 99 78 (24/7) W: www.mensline.org.au</p> <p><b>Salvo Crisis Line *</b> T: 1300 36 36 22 (24/7)</p> <p><b>Suicide Call Back Service *</b> T: 1300 659 467 (24/7) W: www.suicidecallbackservice.org.au</p> <p>www.entertainmentassist.org.au</p>	<p><b>16-25 Year Olds</b></p> <p><b>HELP</b></p> <p><b>NATIONAL SUPPORT SERVICES DIRECTORY</b></p> <p>Before times get tough, talk to someone or ask for help</p>	<p><b>Headspace National</b> ☎ W: www.headspace.org.au</p> <p><b>Reach Out</b> ☎ W: www.reachout.com.au</p> <p><b>Beyond Blue</b> ☎ The National Depression Initiative W: www.beyondblue.org.au</p> <p><b>Carers Australia</b> ☎ Care Advisory &amp; Counselling Service T: 1800 242 636 (8.30am-4.30pm)</p> <p><b>Counselling Online</b> ☎☎ Alcohol &amp; Drug related concerns T: 1800 888 236 (24/7) W: www.counsellingonline.org.au</p> <p><b>Life Circle Australia</b> ☎ People diagnosed with serious illness &amp; their carers T: 1300 364 673 (24/7)</p> <p><b>Sane Helpline</b> ☎ T: 1800 18 SANE (7253) (8am-5pm Mon-Fri) W: www.sane.org</p>	<p><b>National Children's &amp; Youth Law Centre</b> ☎ W: www.lawstuff.org.au/lawstuff</p> <p><b>Centrelink</b> ☎ (8am-5pm) Employment Services T: 13 2850 Youth &amp; Student Services T: 13 24 90 W: www.centrelink.gov.au</p> <p><b>Centrelink</b> ☎ (8am-5pm) Disability, Sickness &amp; Carers T: 13 2717 Employment Services T: 13 2850 Family Assistance Office T: 13 6150 (8am-8pm) Seniors T: 13 2300 W: www.centrelink.gov.au</p> <p><b>National Gambling Helpline</b> ☎☎ T: 1800 658 858 (24/7) W: www.gamblinghelplineonline.org.au</p> <p><b>National Legal Aid</b> ☎ W: www.nrla.aust.net.au</p> <p><b>LEGEND</b> ☎ Crisis Support &amp; Suicide Prevention ☎ Telephone Counselling ☎ Information &amp; Referral service ☎ Online Counselling ☎ Face to Face Counselling</p>	<p><b>Kids Helpline *</b> T: 1800 55 1800 (24/7) W: www.kidshelp.com.au</p> <p><b>The Line</b> ☎ T: 1800 200 526 (24/7) W: www.theline.gov.au</p> <p><b>1800 RESPECT</b> ☎ Sexual assault, domestic &amp; family violence T: 1800 RESPECT (1800 737 732) (24/7) W: www.1800respect.org.au</p> <p><b>Al-Anon Family Groups Aust</b> ☎ Hope &amp; help for families &amp; friends of alcoholics T: 1300 252 666 (8am-5pm) W: www.al-anon.attean.org/australia</p> <p><b>Alcoholics Anonymous</b> ☎ W: www.aa.org.au</p> <p><b>Relationships Australia</b> ☎☎ T: 1300 364 277 (8am-5pm) W: www.relationships.com.au</p> <p><b>Family Relationships Advice Line</b> ☎ T: 1800 050 321 8am-8pm Mon-Fri, 10am-5pm Sat except Public Holidays W: www.familyrelationships.gov.au</p>



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## VIDEO KILLED THE MOTORBIKE STAR

**It's a video world these days. The rise of YouTube and similar sites means that any scratchy, wobbly bit of moving image that has ever been made is now available anytime for the world to see... and it's free! But it wasn't always like this.**

A long time ago, in a galaxy far, far away (well 350K at least), I worked at the local TV station in Mt Gambier. It was a fair way to travel to a new job, but much better pay than I was earning working in my old man's Graphic Arts business. Everyone who's ever worked for their parents says exactly the same thing; all the other employees think you're getting paid much more than they are, when the truth is you're being paid much less!

So I applied for this job, went to an interview in South Melbourne, and in no time at all I had bundled my possessions into the old XK150S and was speeding along the Hamilton

highway to start my new job as an advertising salesman for Channel 8 Mt Gambier.

During the day I did TV ad sales, then a steady diet of beer and pie floaters in the evening, and amateur multi track recording on weekends.

The TV station was built up on the hill overlooking the beautiful Blue Lake. It was just a dull grey brown lake when I arrived, but one morning I drove past and overnight it had turned a stunning turquoise blue. However, even this amazing sight couldn't compensate for the one major problem with the TV station, and it was a real doozie.

At the time, it was the only TV station in Australia without video! Hard to believe, but true. I think the station was owned by a local trucking magnate, and with colour TV coming very, very soon, he had no wish to spend a heap of money on black and white video and then have to replace it all in a couple of years.

This meant that everything was either live or recorded onto 16mm film. Without sound. If you wanted sound it had to be synched up to an audio track on the Byer mono tape recorder, or else roll film and start a cart in the one fluid movement. Not the easiest of things to synchronise. Of course the ads and programs had sound, but anything done locally had to be silent film with a voice-over or done live.

During the day I did TV ad sales, then a steady diet of beer and pie floaters in the evening, and amateur multi track recording on weekends

One day Sid the cameraman had to go to a wedding – his own I think, so not much chance of wriggling out of that one! – and so couldn't cover the local agricultural show in

Millicent, a neighboring town.

Without some film coverage of the show there wouldn't be any local items in the news, so, having watched him film a few times, I put my hand up to cover for him. I asked myself 'How hard could it be?' Hmmmm. I was soon to find out that people who know what to do always make things look easy.

In the morning I grabbed the 16mm Bolex camera, already loaded with film by Sid, plus Hector Featherhead the kids' TV show host, and jumped in the station's wagon and headed off to Millicent for a day of filming and fun. It was quite a warm day, and we were forced to cool ourselves down with a cleansing ale or three as we captured all the fun of the show on film.

We arrived back at the station quite tired and emotional, then handed the film to one of the night shift techs to process, and went home. The following morning I went in to work to have a look at our filming efforts, only to find Sid, who had come in especially from his honeymoon, watching it.

"No, no," he was yelling at the screen, "Zoom in or out – not both in the same shot! And only pan one way – not back again. Use the tripod you fools – all this handheld stuff is making me...uurrrp" and he dashed off to wrestle the porcelain bus and bring up the previous night's takings!

Next day the station's phones rang hot. People were ringing up complaining that even the heavily edited psychedelically influenced zooming footage had given their grandparents seizures and their children nightmares.

Sid returned from his honeymoon after a few days by order of the Station Manager and I was never asked to do any filming again. In fact I was told that if I ever went near the film room or touched a camera again there would be serious consequences from which I might never recover.

The local Suzuki motorbike dealer had just received the new 4-cylinder water-cooled model, a monster of a thing. Since the laws in SA for motorbike licenses were fairly easy-going in those days (if they existed at all!), he was keen to get them in front of all the young farmers who had some money burning a hole in their pockets. So I sold him a 'live' commercial on the station's pop music show that Sunday evening.

The concept for the ad was simple: someone would read a scripted voiceover for 15 seconds while the camera roamed over me sitting astride the bike, looking like Marlon Brando in *The Wild One*. Or so I thought!

I hadn't sat on a motorbike, big or small, since I was a little kid and my uncle in Wales had taken me for a spin on his ex US Army Indian (complete with reverse gear), which his Dad had won in a card game from some American soldiers. Sadly the menswear shop in town didn't have much in the way of biker gear they could lend me in exchange for a credit at the end of the show, so I ended up wearing a smart navy blue pinstriped double-breasted business suit. From

Wild One to Mild One in one easy step! Sigh.

The pop music show (I think it was called *Teen Trend* or something equally bland) was shot live with film clips. During one of them the Suzuki dealer wheeled the bike onto its spot in front of the TV camera, rolling his eyes upwards as he watched me climb onto it.

"Where's the leather jacket?" he whispered, pointing at the suit.

"This is all I could get hold of," I replied.

"Jeez you look like a bloody feral real estate agent," he grunted. "This'd better work for the amount of money I'm spending." He wandered off to the side and stared at me across his folded arms.

The floor manager counted us in as the clip finished. The voiceover came on, and I sat on the bike doing my best Marlon Brando. It was a very wide motorbike, and heavy, and I could only just touch the floor with the tips of my toes to keep it upright. Suddenly I could feel it gradually slipping away from my control and starting to lean to the left. I tried to push my left foot down to bring it back to vertical but the bike slowly started to wobble. I was nowhere near strong enough to stop it, and

just like the Titanic it slowly overbalanced and I fell off backwards onto the studio floor yelling "Shi-i-i-it" as I scrambled around trying not to be crushed by the thing. It ended up on its side with the wheels spinning while I tried unsuccessfully to lift it back up.

As the Suzuki dealer tried to strangle me, the next film clip started to roll while the whole crew plus the host were rolling on the floor wetting themselves with laughter.

Although it didn't do much for suit sales, the Suzuki man rang me the next day after he had calmed down, saying that people had been coming in all day to have a look at the bike, and he had never had such an enormous response to any ad he had ever done. I just hoped he sold some!

If we'd had video you could be watching it on YouTube right now!

From  
Wild One  
to Mild One  
in one  
easy step!  
Sigh



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