

Nextgen Rentals

Built from the ground up

Under the radar

The rise & rise of Elite

Audio Video Bridging

Promise & Reality

The Look

You want drapes with that?

GEARBOX REVIEWS:

- FBT Vertus
- SGM P-5
- Mackie SRM550
- Martin Rush PAR 2 RGBW Zoom
- Radial USB Pro

CX NEWS:

- SMPTE Trade Show Faces Challenges
- AWAG, Knock-off Gear
- Entire Hire
- AT Professional
- Final Link Audio

CX

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

CX91 APRIL 2014 \$5.50
ONLINE EDITION

Industry Women

Stand Up, Be Inventive & Enjoy

Roadskills

Breath of Life Festival,
Nine Inch Nails,
Queens Of The Stone Age,
Dolly Parton's Australian Tour

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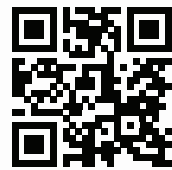


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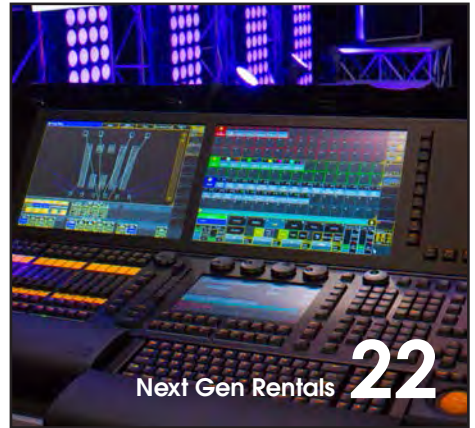
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CX91 2014. ISSUE 91. ONLINE EDITION

EDITORIAL BY JULIUS GRAFTON

IMPORTED SYSTEMS: CHECK FOR TEST & TAG!

International tours bringing equipment into Australia is nothing new, but it's time venues imposed safety rules instead of looking the other way. Best example of this is lack of test and tag, where imported equipment such as an entire lighting rig arrives direct from the USA, with no test and tag, and with no earth leakage breakers.

Recently **CX** observed CamLock 3 phase connectors, which are technically illegal for use in Australia as the earth, neutral and actives can be swapped around.

Powerlock connectors, *pictured above*, have a keyway that prevents incorrect union. These are lawful in Australia.

Venues are quick to audit local productions and insist on a valid test tag on items as innocent as a laptop power supply. But they are clearly turning a blind eye against the rolling mass of an international tour which puts local and international crew under exactly the same set of risks.



VEAM-POWERLOCK-CONNECTORS-INLINE-MALE



CAM LOCK

SMPTE ANDEXPERTISEEVENTS

While writing our news item on the difficulties faced by SMPTE selling its biennial tradeshow next year, **CX** was assailed by the force of nature that is Expertise Events CEO Gary Fitz-Roy. He is the 'promoter' of the SMPTE trade show and holds rights over the website and the name. **CX** has previously asserted that he is, in fact, the owner of the SMPTE event in Australia.

Mr Fitz-Roy demanded to know what qualifications the writer (myself, Julius) held as a journalist. I advised him that I have none, and that there is no legal or ethical problem presenting as a journalist without qualifications.

At deadline he provided answers to questions we posed in relation to the news story in this issue. He requested we use his answers, and our questions in full. This was not possible, however we have posted these on our website at juliusmedia.com

PAPER - CX INPRINT

In February we swapped paper to an Australian Bond stock, which is not recycled but is in fact a high quality bond. This caused some debate, since most other magazines are printed on coated matt or gloss stock that is not made in Australia.

Our reasons for the change were not to save money, as the local stock is slightly more expensive than the imported. Rather it was because we were satisfied the local paper is actually produced from Australian plantations.

At Roadshow across Australia we polled readers on what they preferred, and as a result now revert to the traditional stock. This one is sourced in Korea, and we are as satisfied as we can be that it is produced using sustainable plantations.

Thanks as always for the dialogue! You can email me here: julius@juliusmedia.com

-Julius

PUBLISHERS PANEL

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Web: www.juliusmedia.com

LOCATIONS

SYDNEY OFFICE & STUDIO

Email: juliusmedia@me.com

Phone: +61 2 9638-5955

Mail: Locked Bag 30 Epping NSW 1710 Australia

MELBOURNE OFFICE

Email: jason@juliusmedia.com

Phone: +61 407-735-920

PEOPLE

Publisher: Julius Grafton

Business manager: Steve James

Technical editor: Jimmy Den Ouden

Melbourne: Jason Allen

Creative director: Lee Murray

Accounts: Dee Larsen

Codger at large: Duncan Fry

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Lawyers:

Gibert + Tobin (Defamation),

McGlynn & Partners (Commercial),

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NEWS

CX INDUSTRY NEWS



SMPTE Trade Show Faces Challenges

Competitive event announced while ENTECH co-location in doubt

The biennial broadcast tradeshow carrying the SMPTE (Society of Motion Picture & Television Engineers) brand has announced it will shift venues in 2015, following inspection of the temporary Sydney Exhibition Centre at Glebe Island.

Now SMPTE will be staged at Sydney's Moore Park in the Hall of Industries and the Hordern Pavilion, not Fox Studios as is claimed on the website at www.smpte.com.au - a website which is owned by Expertise Events, promoter of the SMPTE show in Australia.

CX understands the translucent roof of the temporary structure at Glebe Island was deemed unsuitable for a screen based show like SMPTE. The move casts doubt on the scheduled 'co-locate' with ENTECH 2015, which was to have been held alongside SMPTE at Glebe Island.

SMPTE occupied 10,000 square metres at the Sydney Convention and Exhibition Centre at its last showing in 2013, co-located with ENTECH in an adjoining 5,000 square metre hall. The available space at Moore Park is around 8,000 square metres, which closely matches what SMPTE require in a declining trade show market.

At presstime competition for exhibition space sales at SMPTE arose with the announcement by Expertise Events, along with industry publisher Content & Technology, of a new event to be held in Melbourne. The Australian Sportscasting Conference & Expo is scheduled for October this year (2014). A floorplan and pricelist were circulated to some SMPTE exhibitors by Expertise Events, themselves the promoter of the SMPTE event.

The exhibition space offered on the floor plan carries a total value of more than \$400,000 for the two-day event, with starting prices of \$3,188 for a booth.

Industry representatives were surprised at the announcement. "On discussing it with my colleagues, without exception we are staggered to say the least. Another trade show in an already overcrowded and unsustainable trade show schedule beggar's belief", said Frank Hinton, the president of the manufacturer and distributor peak industry group ACETA.

SMPTE promoter Gary Fitz-Roy said the Melbourne Sportscasting event was different. "Most companies are clear in their target audience and a lot are just sticking with SMPTE as a stand alone event because it would be a wrong decision on their part to exhibit at a highly specialised niche event such as Sportscasting, if it is not their core business".



CX asked Mr. Fitz-Roy why the Sportscasting event wasn't simply wrapped into SMPTE, to strengthen that event. "It's not that it can't be 'wrapped-up' in one event, as you call it, but it wouldn't deliver the highly specialised audience we intend targeting and servicing", he said.

Meanwhile ENTECH owner ETF expressed surprise at the decision by SMPTE to relocate the event. "I had a call from Gary Fitz-Roy at Expertise Events to say they had decided to move, but that they would still like to co-locate subject to space becoming available later", said Gary Daly from ETF. "But we have a plan B, and we have time to implement that".

CX contacted SMPTE representatives in Australia and SMPTE headquarters in New York for comment but had no reply at presstime.



Wireless Rules May Change

Relaxation for indoor use proposed

Following representation from the Australian Wireless Audio Group the regulators now propose to allow wireless audio system use indoors on frequencies allocated to TV, provided systems do not interfere with nearby TV users.

This shift to a more realistic approach by the Australian Communications and Media Authority (ACMA) recognises the low power potential of wireless systems allied with most TV antennas positioned externally high above buildings. A typical indoor venue structure usually provides sufficient attenuation. A simple non-scientific test could entail sending a tech outside with a handheld wireless transmitter (microphone) and monitoring whether it actually transmits from outside.



If the proposal is incorporated into the Low Frequency Potential Devices (LFPD) class licence, then broader use of the sub 694 MHz bandwidth may be possible indoors, which would assist in locations like The Gold Coast where there is a high concentration of TV blocks.

Users outdoors are still constrained by limited available frequencies. All users in the 700 megahertz area are still required to quit use by the end of 2014.



Knock-Off Gear

Industry Debate Escalates - 3 Cases Revealed in red

When Steve Devine opened a Facebook Group focused on knock-off or 'copy' equipment from China, he was not prepared for the reaction. The Group quickly grew, and the debate intensified.

Now CX can report several cases that arose from the Group, now administered by CX after the withdrawal

of Steve Devine. Probably due to the nature of the Group (now called Knock Off Entertainment Gear Australia Alerts) strong reaction against import, sale and use of copied or 'knock-off' equipment exists.

The Group is a good way to report suspected instances of grey or illegal equipment import, sale and use. CX encourages anyone with questions to post them there, or message us.



Entire Hire

CASE 1

This photo set off some concern, with incomplete or potentially unsafe conditions existing. It is a 'CVR Audio' line array system, on a Chinese supplied ground support system. This is owned by a Coffs Harbour firm, Entire Hire, owned by the Anderson Family Trust.

CX raised concerns about the system, shown as used recently in NSW, but didn't receive a coherent response at presstime. We asked why the legs were not tied together, for details about the construction, base plates and bracing, and for information about engineering signoffs for the structure and for the enclosures as hung, along with work method statements.

As depicted industry practitioners were concerned the structure could topple under strong wind loads, especially if the speaker tie-off to the vertical legs was not released.

CX does not allege these things were not attended to after the photo was taken. CX does not allege that Entire Hire have acted illegally in any way.





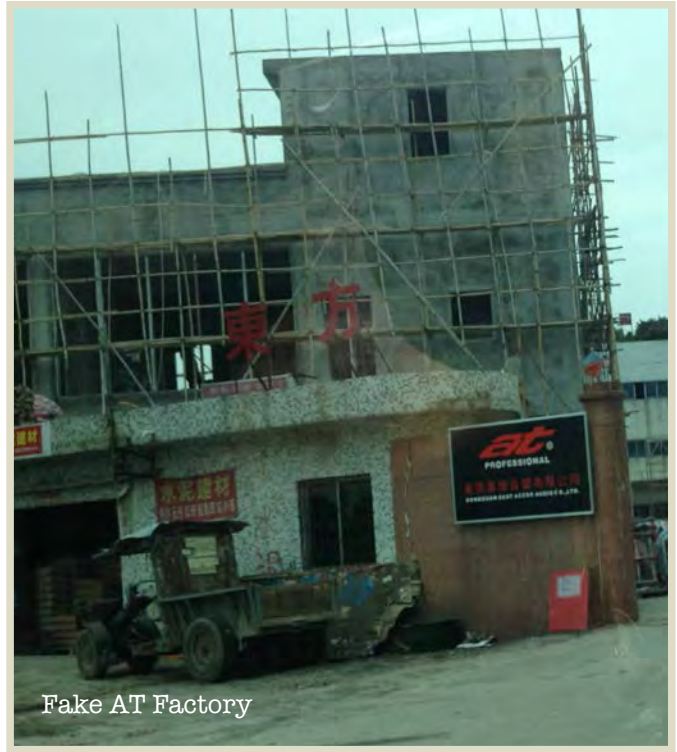
AT Professional CASE 2

Respected Queensland manufacturer Acoustic Technologies who own the AT Professional brand have suffered an entire identity theft with their website, brand and products all cloned in China.

"A month ago, Acoustic Technologies became aware of a Chinese company that has stolen not only our trademark, but the whole look and design of our website", says CEO Harry Lloyd Williams.

"The products are not copies of AT speakers, however the model numbers match our numbers. They are trying to say that they are the Chinese arm of Acoustic Technologies." The web address is <http://www.at-proaudio.com>

"Our legal advice is to get as many Australian readers (as possible) to send an email to this company complaining of stealing an Australian trademark. We are also in negotiations with legal representatives in China to make them close down their website."



Fake AT Factory



Final Link Audio CASE 3

At cxmagblog.com we reported a Melbourne based hi-fi importer, Final Link Audio were offering 'Martin Brother' products for sale with virtually identical product numbers as genuine Martin Audio – such as W8L and Blackline products.

Martin Audio (UK) and local agents TAG both indicated they would take action against Final Link Audio.

Final Link director Shane Lewis angrily demanded that we retract our 'false accusations' within 24 hours and advised that his lawyers were on the case.

At presstime we await any further advice from the firm or its lawyers.

News Briefs



- CPC Production Services recently acquired a Midas XL8 to compliment their 2 Midas Pro9 consoles. The XL8 made its debut on the QSO Dr Who symphony spectacular at Boondal in February. CPC also added 30x DPA 4099 microphones to inventory complimenting the 170+ Neumann's they own.

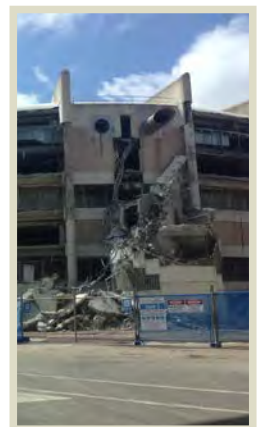
- The Hub, a 1,500 seat Newtown (Sydney) theatre dark for decades could re-open as a live venue soon following a \$500,000 renovation. It is owned by the Vlattas family who have put the building in King Street out to tender.

- Sydney store DJ Warehouse have gone into administration after suffering ongoing losses

in a difficult and margin challenged market for DJ equipment. The firm has a hire operation that continues to trade.

- Demolition of Sydney Convention and Exhibition Centre is well underway, with the site to host a replacement complex due to open in 2017.

Demolition site at SCEC

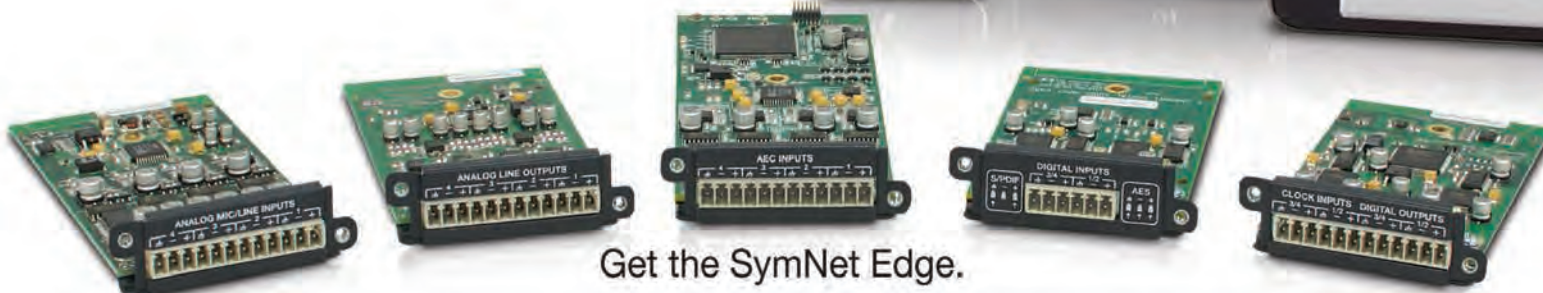
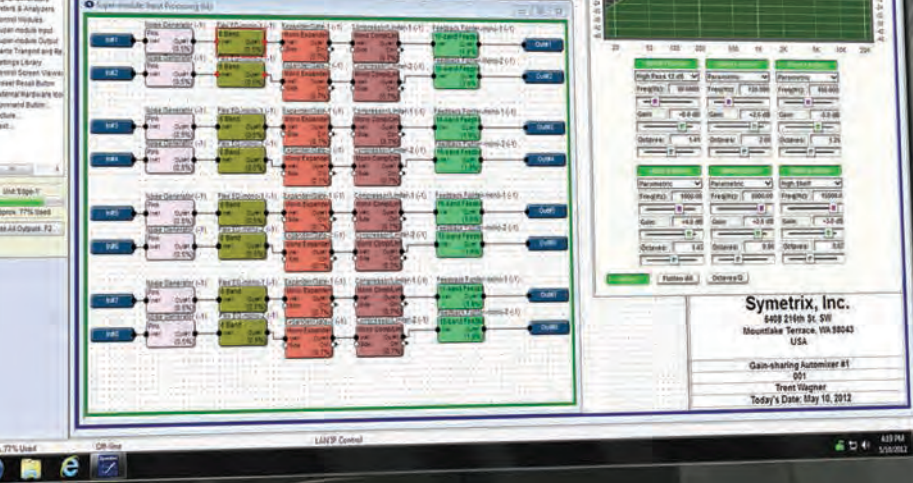


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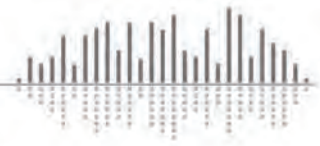
End user control options for Edge include Symetrix' ARC wall panels, ARC-WEB browser-based remote, and SymVue custom standalone user control application.



Learn more at www.Symetrix.co



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DYNAUDIO

MIDAS

PRESONUS

PROSHOP

RADIAL

ROBE

SENNHEISER

VUE

YAMAHA

Yamaha release QL series DIGITAL MIXERS, COMPACT FRAMES WITH BOTH LOCAL I/O & Dante connectivity



Yamaha QL series consoles

Yamaha's new compact QL series consoles offer all-in-one mixing, processing, and routing capability. Two models will be available: the QL5 with 64 mono + 8 stereo mix channels, and the QL1 with 32 mono + 8 stereo mix channels. Both types feature 16 mix and 8 matrix output busses. Ample local I/O is also

provided: 32 in/16 out on the QL5, and 16 in/8 out on the QL1.

All of the effect and EQ processing that was packed into the CL series consoles is provided in the QL consoles as well, including the Portico 5033/5043 created in cooperation with Rupert Neve. Automatic mixing from Dan Dugan Sound Design is also built in.

Built-in Dante audio networking provides connectivity for external I/O racks, and an innovative "Port to Port" feature allows the console to function as a remote I/O device for any other QL or CL console.



PreSonus StudioLive P.A. speakers

The PreSonus StudioLive AI series consists of three full-range systems and a subwoofer so you can configure PA's for a wide variety of spaces and applications.

The StudioLive 312AI is an active PA speaker system with a 12-inch ferrite woofer, an 8-inch midrange driver and a 1.75-inch titanium compression driver, driven by 2,000 watts of triamped, Class D amplification (1,000W for the woofer, 500W for the midrange driver, and 500W for the tweeter). The StudioLive 315AI features a 15-inch woofer, along with the same coaxial mid/high drivers and power amplification as the 312AI. The StudioLive 328AI pairs two 8-inch midrange drivers.

The rear of the StudioLive AI-series full-range systems reveals a combo XLR/TRS line input and an XLR microphone input with an XMAX Class A mic preamplifier and 12V phantom power, as well as an XLR mix output. In addition to the input mixer, you get speaker level-attenuation control and USB and Ethercon connections.

ProShop LED Fixtures



ledcyc100

The ProShop LEDCYC100 uses RGBWA LED chips with amber depth control and has two adjustable 'heads' for wide coverage. The fixture can be controlled by DMX or can stand alone via built-in programmes. The LEDCYC100 can be ground stacked or mounted from a fly bar.

ledfre100

The LEDFRE100 is a 90 Watt Warm-White LED Fresnel with a colour temperature of 3100K and a manual zoom of 10 – 54degrees. Both 3 and 5pin DMX connections are on-board with Powercon connections in and through. Barndoors are optional available upon request.



ledpro120

The LEDPRO100 is an LED Profile with 19 x 10watt (190Watts) of Warm White LEDs. With a colour temperature of 3,100k, the unit provides, electronic dimming as well as strobe/shutter and silent running. Shipped as a base unit only, there is also a 26 degree and 19 degree lens tube available for individual purchase. Optional Iris and gobo holders are also available.

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VUE Audiotechnik h-8

VUE Audiotechnik's new compact h-8 benefits from the same technologies developed for the larger h-12 and h-15 systems, and combines them into a compact and versatile design that's ideal for applications where space is at a premium and exceptional performance is critical.

The h-8 combines a precision-engineered 8-inch transducer with a neodymium compression driver with a Truextent beryllium diaphragm at its core. Onboard DSP addresses every individual element within the h-8's ecosystem before sending the signal on to dual channel, high efficiency amplifiers for both transducers.

With SystemVUE networking technology the user can easily connect one or multiple h-8's with any VUE DSP-enabled system via a wired or wireless Ethernet connection to a Windows or Macintosh computer. Once connected, SystemVUE Software provides access to a broad selection of network and device-level control and monitoring functions.



MIDAS M32

The M32 console combines sound quality with advanced digital technology, 96 kHz capable open architecture design and industry-leading 192 kHz ADC and DAC converters. M32 features ultra-sleek styling and high-end construction materials including carbon fibre provide unparalleled durability and strength, plus substantially lower weight than comparable consoles.

The M32 utilises award-winning MIDAS PRO Series microphone preamplifiers and the custom-designed MIDAS PRO motorised faders that are rated for 1 million life cycles - three times more than other leading consoles. 32 on-board preamps can be mixed across 40 input channels to 25 mix busses with 8 DCA groups. A 100-band RTA is available on all channel and bus EQs, and a 32x32 USB interface makes for easy live recordings.



Radial JX62 Guitar and Amp Switcher

The Radial JX62 can handle six guitar input channels, each of which is outfitted with 1/4" input and a thru connection to feed its own amp or dedicated direct box. A simple ON switch activates the channel and a recessed 'set & forget' TRIM control enables the guitar technician to set all of the levels uniformly should the output from the guitars or wireless systems need adjustment.

Channels 5 & 6 are equipped with a built-in Radial direct box. This signal may be routed to feed either the direct out, the main AB bus output or both. A PFL switch

on each channel routes the signal to a headphone amp and tuner output. A master mute switch can be engaged between sets to turn off all outputs other than the PFL/tuner. The JX62 rear panel is fully loaded with stacked in/thru connectors on all input channels plus balanced XLR outs on channels 5 & 6. An effects loop with separate send and receive jacks enable the tech to insert a pedalboard in between the input channels and the two guitar amp outputs. Two 1/4" outputs are used to feed two amplifiers along with separate XLR outputs to feed the PA system for acoustic instruments.





B•EYE

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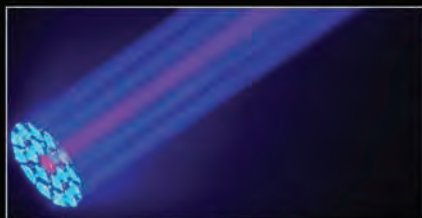


A.LEDA B-EYE K10



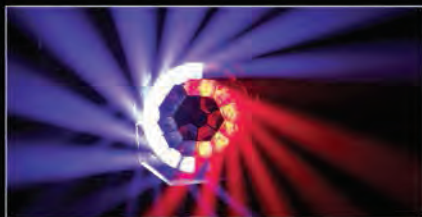
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YAMAHA

Sennheiser HD8 DJ, HD7 DJ and HD6 MIX

Sennheiser's new DJ headphone range is built for user comfort for hours at the decks, in the studio or performing. The elliptical shape of the ear cups avoids pinching the ears and is enhanced by interchangeable ear pads for comfortable listening during long periods of use. For hassle-free one-ear monitoring, both DJ models feature swivelling ear cups with up to 210° of movement and three different wearing positions. With both coiled and straight 3m high-performance cables included that can connect to either ear cup, these headphones can adapt to suit any individual preference. A bayonet twist lock makes for secure connection to the headphones.

All three models are built to withstand the rigours of daily studio work and a life on the road. Sennheiser has engineered the range from durable, high-quality materials to take even the roughest everyday professional use, proven through rigorous and extended quality tests.



Sennheiser SpeechLine Series

Sennheiser Integrated Systems has announced the new SpeechLine range of boundary layer microphones and installation accessories. The SpeechLine microphones are designed to deliver excellent speech intelligibility along with installation flexibility and ease of use. Model variants include tabletop and ceiling/desk mounted options.

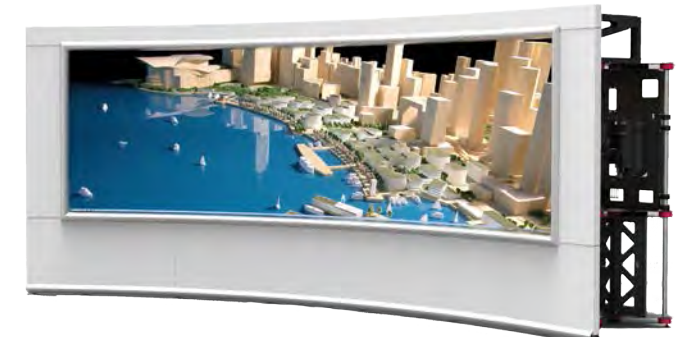
With clever features like bi-colour LED and multi-function switch versions with TTL logic, SpeechLine series microphones are able to easily integrate with logic controls in control systems and DSPs to control mute busses, gates or even camera control. A range of installation accessories rounds out the range which includes mute switches, TTL logic interfaces and desk stands.



Dynaudio BM mkIII and BMS II Series

Dynaudio Professional is proud to introduce four new near-field monitors and two new precision subwoofers. The new near-field monitors include BM Compact mkIII, BM5 mkIII, BM6 mkIII and BM12 mkIII and on the subwoofer side, BM9S II and BM14S II.

The smaller BM Compact mkIII and BM5 mkIII models both feature expanded frequency response and SPL thanks to a combination of improvements including drivers design and Class D amplifiers. Each includes an auto standby mode as well as both XLR and RCA input connectors for maximum flexibility. BM6 mkIII and BM12 mkIII have been revoiced and now include Dynaudio Professional's innovative wave guide that ensures utmost precision when distributing high frequencies. Both of the BMS II subwoofers have also been further optimized to compliment the new range of mkIII near-field monitors.



Barco OSV

Barco proudly introduces the OverView Seamless Videowall (OSV) series for enhanced collaboration experiences. The large panoramic seamless canvas can display a mix of data and video in high quality without the distraction of seams or bezels. As part of a full solution, OSV also comes with TransForm C, an innovative controller and collaboration management system that enables all content to be positioned optimally on the screen by means of an easy-to-use graphical user interface with touchscreen.

The first three OSV models – the OSV-340C, OSV-560C and OSV-790C – offer display canvasses of 3.8, 6.2 and 8.5 megapixels, respectively. Sizes vary from 3.5 to 6.5 meters (138 to 256 inches) in width, giving every participant a front row seat. The display's height is fixed at 1.4 meters (55 inches). All models feature a curved screen that generates a natural immersive feeling and provides better viewing ergonomics from every position in the room.



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BUILDING AN AV COMPANY FROM THE GROUND UP

Anyone starting a new business is never short of people to tell them that they're mad and they shouldn't do it, especially when the business in question is an AV rental company. However, with the right experience, a key point of difference and a steady eye on the numbers, Melbourne's Nextgen are in the perfect position to thrive. Jason Allen caught up with Director Guy McGregor to witness the birth of a new business....

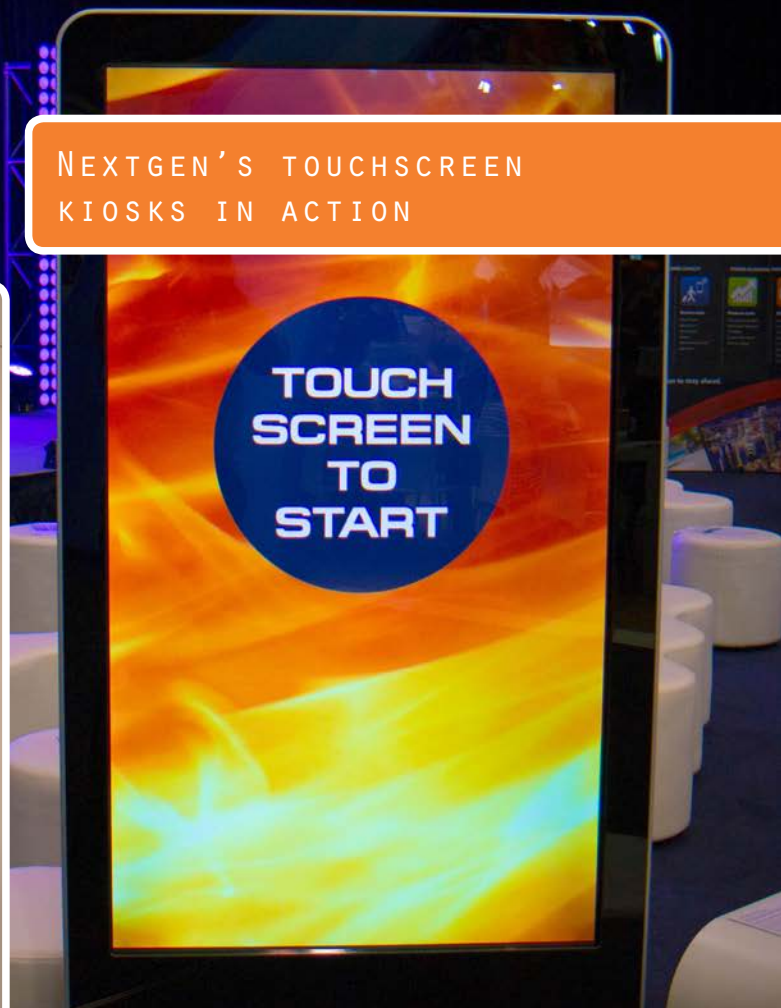
When CX spoke to Guy in early February, Nextgen Rentals were only two weeks old. Their Kensington warehouse space was clean, as yet uncontaminated by years of old gaffa and PVC tape. The shelving was sparkling, the gear was all new and some of it had only just been unboxed. Yet Nextgen had already made money and were booking gigs at a rate of knots. Clearly these guys know what they are doing. So how did they get here?

Pay your dues

Guy McGregor has spent his whole career working in and developing the corporate AV business. At age 18, he was doing exhibition electrical work for FMI. As the Sydney Olympics rolled around in 2000, he joined Harry The Hirer, which would see him start as a tech, graduate to sales and seven years later leave the business as their Exhibition and Rigging Manager. Microhire's Sydney operation lured him in, before he transferred back to Melbourne as their National Exhibition Manager. Event Equipment then benefitted from his business development acumen.

Now at age 41, Guy is finally putting his experience to work in his own company. Supported by Jared Pither, who's own 10-plus years in corporate AV further grounds the business, Nextgen has set up shop with the aim to provide something new to the industry. Guy and Jared aim to do this by focusing on a unique product offering and providing creative direction to their customers, all while maintaining a healthy profit margin. Sounds like a plan – but how to go about it?

BY JASON ALLEN



It's broken, time to fix it

"It's currently very much the 'same old, same old' in the AV market" observed Guy. "It's getting very hard to compete using the old business model of 'here's the product, give me the money, bring it back'. That kind of business is from the 1990s. There's still a place for it, but the financial return is at the diminishing end of the curve. Now, it's about coming up with innovative ways to assist the customer with what they're after and advise them how to achieve it."

"The biggest challenges facing our industry at the moment are the lowering cost of equipment and the increasing cost of wages" continued Guy. "It's creating an imbalance. Back in the day, you'd get paid \$2,500-\$3,500 for a plasma rental for an exhibition, but the plasma would have cost \$6,000. When I first bought them they were \$25,000! Now you have \$500 screens with the cost of rollout at \$150. The consumer is having problems understanding the infrastructure required to get a hire out of the door. The hardest part to charge for is the operations department – warehousing and maintenance. It's hard to put on an invoice, but you have to build it in to your price."

There's an App for that

One of the ways Nextgen is bringing innovation to market is by using an in-house coder for customised app development. Paired with a new fleet of touchscreen kiosks running Java apps on Windows 8, Nextgen add value to their clients by being able to completely tailor the kiosk's use for their event. "Having a coder that works with us gives us an advantage" explained Guy. "When we quote to a client, we can not only hire the equipment, but also create the software for them. Because of that, they get so much more value out of a

touchscreen. That's something other rental companies can't necessarily compete on."

Nextgen have employed some creative thinking and intelligent observation of the way the gear is used. "We've rolled the kiosks out at tradeshow and consumer shows" noted Guy. "We've found at the consumer shows a lot of people use the equipment to locate exhibitors and products. At industry tradeshow, they get used by people looking for industry updates and news." With a keen eye on how to optimise this interaction for the business, Nextgen work with their clients to incorporate sponsored content into the kiosk's delivery. "Sponsorship is a way of generating revenue through digital signage" clarified Guy. "It's about integrating content with advertising."

Diversified and Specialised

Nextgen define their target markets as exhibition and conference AV and rigging, small to large events, small corporate hire and IT. Yes, you caught that – rigging. "We have to diversify into doing rigging along with AV" Guy maintains. As such, both he and Jared are certified riggers. It gives clients the option of integrating most of their conference or exhibition needs with one company, and an alternative to the bigger players in the market. Guy also brings formidable experience in IT for conferences, having delivered major banking shows in both Sydney and Hong Kong for a previous employer. "In Hong Kong, not only did we do about \$1 million of exhibition hire, we did \$1 million of internet and networking through the building. There were 250 VLANs and over 8000 internet users. We brought in the servers and internet lines from Hong Kong island and the mainland. We took 55 guys from Australia and picked up 30 locals."



HK LINEAR 5 SYSTEM,
READY TO ROLL

JARED PITHER
& GUY MCGREGOR
AT THE NEXTGEN
WAREHOUSE



The Blank Canvas

So, given the opportunity to stock a rental company from the ground up, how did Guy and Jared come to decide on what gear to buy? "We approached acquiring our gear largely by relationships with our suppliers" said Guy. "And by looking at the core business. Audio is the number one core business in AV. A lot of people think vision, but speakers go out a lot more often than screens. If you look at the rental rate on a PA speaker, it's retained its price but the LCD or LED has dropped. A screen is a \$500 consumer product now, and rental rates have adjusted to suit."

With audio a priority, Nextgen bought up big on HK's Linear 5 system, acquiring ten 2000W subs, ten 15" mid-highs and ten 12" wedge models. "It's the flexibility" said Guy of the decision. "The system can be configured into a large stage stack left and right or broken up into satellite systems. Any of the speakers can sit on a stand, and they're all powered so we don't have all the amps to transport and maintain. Rigging is fast – the faster we can set up our gear, the more time we have to ensure that the client feels they are getting an appropriate service level. The system's been hired out twice and paid for itself already!" Nextgen supplemented the larger system with HK Nano systems as breakouts for the exhibitions market.

Light 'em up

Carrying a good selection LED fixtures and workhorse movers, Nextgen have supplemented their lighting arsenal with PixPads from ShowPro. Mapping and movement attract attention, and the PixPads are a great fit for the premium brands Nextgen service. "The

major investment in lighting and vision is for exhibitions" Guy expanded. "If you're looking at doing the major events, you need to be projecting in HD, 16:9. We are using Panasonic, Sony and Sanyo projectors."

While all the bling of fancy lighting and audio gear turns heads, it's the less glamorous equipment that actually pays the bills. "Tri-truss, staging and drapes are three things guaranteed to get a great rental return" shared Guy. "They last so long if you maintain them."

Words to the wise

With a proven track record in the industry and an already successful new venture underway, Guy is worth listening to on matters of AV business. "I'm a believer in running a business on healthy margin" he related. "A lot of challenges faced in the AV business are caused by undercharging and over-delivering. The clients are getting a great deal and a good product, but 'price' is the most expensive form of marketing you can do, and it hurts the business in the long run. Point of difference and levels of service are the best. It's up to us to explain to the client that if they want a cheaper price then levels of service have to change."

Guy is encouraging of everyone who wants to front up and have a go in AV. "Every day, get up and put yourself out there, no matter what happens" he advised. "You have to be thick-skinned to be in this industry. Everyone's got their supporters and their knockers. Hats off to all the people who hang in there over the years and stick at the business. We've hit the ground running. We hope to expand our sales and operations team over the coming months." CX will be checking back in with Guy and Jared in a year, and we're sure there'll be a good story to tell.

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THE MILL REPORT

THE MONITOR DILEMMA

If you need control room monitors for your studio or bedroom, the options available can seem bewildering. There are countless brands on the market - some iconic, some new on the scene - and models to fit every niche and budget. So where the hell do you start to search for the model that's right for you?



"What monitors should I buy?"

In all my years of mixing, mastering, producing and writing this is probably the question I've been most commonly asked. Unfortunately, it's also the one for which there is no simple answer. Sometimes my response to the question - particularly if I'm at a trade show or in a studio session - has been to press a fire alarm button (if there's one handy) and run away as fast as I can. At other times I've been known to talk for an hour on the subject until the person who asked the question has done the same. Unfortunately there's just no short answer.

Or maybe there is:

"Buy the best speakers you can afford that you love the sound of. . ."

SELECTION CRITERIA

But there are several problems with this somewhat naïve theory.

The most significant of them being that it's very hard - some would say impossible - to select a speaker from a shop. It's also important to hear the speakers in the room they're ultimately going to be situated in, which adds another layer of complexity to the problem.

I'm lucky to be in the unusual and privileged position of being able to have speakers delivered to my studio to test - no questions asked or paperwork to sign. But for a typical customer who's relatively unknown in the industry, it's a bit difficult to push for an in-studio test... a 'try before you buy' deal as it were. Similarly, it's just too impractical for a retail shop to have 25 pairs of speakers out on loan in the hands of customers who might either damage them in transit or hang onto them for six months before returning them without payment. They may even bugger off to Siberia with them, who can tell?

SO WHAT DO YOU DO?

Well, there are two schools of thought on this. One is to listen as best you can to as many speakers as possible in your local pro audio shop (many of which have half decent listening rooms these days), making sure you take some music in with you that you're familiar with -

BY ANDY STEWART

preferably something that's noted for its *balanced* tone. Then once you've made a decision – it may take days, it may take weeks – do a deal with the shop: pay for them, but make sure you add the caveat that, if they sound crap back at home or in your studio, you can swap them for something else. Implicit in this deal is that while the new speakers are in your possession you take great care of them.

The other approach is to simply purchase a 'standard' model... by that I mean, choose a speaker that's common amongst studios that's within your budget. The only problem with this idea of course is that 'standards' are almost non-existent these days. There are literally dozens of well-loved professional brands out there now, all of which are potentially your next speaker purchase. In my studio I have Events, Yamahas, Questeds, Genelecs and Auratones. In other studios I work in there are Meyers, ATCs, Mackies, PMCs, KRKs, Tannoys, Barefoots, ADAMs... the list is long and the speakers vary in size, price and sound. And for all the brands I've named here, there are dozens of equally compelling options I haven't, so please don't think the above list is comprehensive. It's not.

SPEAKERS IN ACTION

The other way to hone in on the speaker that's right for you is to go to some studios in your area. Explain your dilemma to the owners or managers and ask politely if you can have a listen to their monitors. It might pay to ring first or look up their online equipment lists to check that they have speakers that interest you. Most studio owners I know would be happy for you to have a quick listen to some music in their control room, provided they don't have a booking. But you'd want to be polite, friendly and trustworthy or it will be the last time you ever set foot in the place. While you're there, it might also pay to ask them why they chose the speakers they did – if you get them talking you may receive some invaluable advice into the bargain.

MUSICAL STYLE

The other thing to make sure you keep in mind during your search is the type of music you're more likely to be recording or mixing. This relates back to the concept of *liking* the speakers you purchase, because in the end the best speaker is the one you continue to use for years to come. You won't hang onto speakers you hate so there's no point buying them. Similarly, there's no point buying small speakers that possess no meaningful bottom-end if you're mixing hip-hop, or wasting thousands on massive monitors that are far too big for your listening environment.

BUDGET Vs QUALITY

But two other things really need addressing here before we go any further: budget and quality. A studio control room monitor must have the ability to accurately represent the sounds emanating from its recording room, as well as be powerful and robust enough to suffer some ill-treatment here and there courtesy of loud, uncompressed drums, wild EQ setting and the like. Studio speakers, unlike standard hi-fi speakers, really cop a battering at times, and the best are built to cope with these powerful dynamics. It's not just about how accurate or good they sound when reproducing a finished master, but how well they can cope with day-to-day life in the control room.

Discussions around budget meanwhile, open up a can of worms. Unfortunately, when it comes to studio monitors I'm not the best person to talk budgets because I tend to argue that you should buy the best, and hang the expense. But it's easy to say – in the end it's your money and only you know how to spend it. I guess I'd simply warn against buying cheap speakers that you instinctively know aren't quite right for you, because eventually you'll replace them – probably with something more expensive – which typically means you've spent good money twice...

Just know this: if you're planning to be in the business long-term, either as a professional or an enthusiast, you'll

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THE MILL REPORT...cont'd

be potentially listening to whatever you purchase day in and day out for years to come. Given this, I would assert that spending a little more in the grand scheme of things may be worth the short-term pain of an expensive purchase.

BALANCED TONE & OPINION

Subjective preferences aside, ultimately a good studio monitor must offer good tonal balance, low distortion specs and reliability. If you're unsure of what these things mean, do some research into the monitors you're considering buying. Check out their distortion specs and SPL ratings to establish whether they're capable of replaying audio at a reasonable volume without becoming heavily distorted or tonally unbalanced. Ask the shop-owner for advice on this, but if he or she fails to satisfy you with their knowledge, ask some professionals for their opinion. Chances are there will be someone out there you can contact who knows your proposed speakers well.

There will be horror stories about every speaker ever made online of course, so be careful not to be swayed too much by 'magic glass' opinions. Some of the pro audio forums are also worth browsing if necessary too, although again, these will still be the opinions – sometimes unhinged, sometimes well considered – of a wide variety of professionals and consumers... some with a grudge, many with a bias, and others with a hidden financial interest.

STILL CONFUSED?

It's hard to purchase something so significant as a studio monitor without taking a leap of faith to some extent. After all the listening, studying and weighing up the opinions of others, you eventually reach a point where you simply have to choose. But take comfort in this: your first speaker purchase is unlikely to be your last if you're serious about your audio, so don't over-think the decision or get too freaked out by it. If you eventually decide down the track that the monitors you purchased are no longer your cup of tea, or your room or circumstances change, sell them (or hang onto them) and purchase a second set.

I have seven sets of studio monitors around me at The Mill (although one of these is embedded in the Neve, so perhaps they don't count). Not all of them are speakers I listen to every day... and a couple of sets are only there as an alternative reference. Funnily enough there are still other sets out there I'd like to buy – ATC SCM 100As for instance – so it's arguable I'm somewhat deranged. It's certainly not something I'd advise inexperienced engineers to get tangled up in – lots of monitors can potentially confuse the hell out of you.

The point is, like microphones, monitors are all slightly different. Once you get to know them, however, they become important tools of trade. I couldn't be without them.



BOTTOM LINE

Get some advice, listen to speakers everywhere you can, borrow some if you're able to and don't rush the decision. Take reference CDs with you everywhere you go – purchased ones, so you know they're 16-bit/44.1k – and if you're able, try and push your budget rather than scrimp and save too much. Good luck with the search and if you're really stuck, drop me a line at: andy@themill.net.au

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UNDER THE RADAR



DARREN & KERI RUSSELL

THE RISE
&
RISE OF
ELITE

Canberra is a unique market for entertainment, with 350,000 people but plenty of government events work. This means lucrative corporate gigs, along with plenty of shows for a cashed up population.

Now Canberra firm Elite Sound and Lighting are undergoing a big expansion, with a new arena sized D&B Audiotechnik J Series line array – quite a step up for the firm who recently purchased a new warehouse complex in Hume.

Founder Darren Russell and his wife Keri run the firm, with a full time staff of around thirteen and a healthy roster of regular casual crew. The story of Elite started in 1994 on the NSW south coast. Prior to this, Darren left his hometown of Bega, and went to Melbourne aged 16 to work as a casual crew member for audio firms. He'd met Denis Burke from Troy Balance at a gig on the South Coast. "He gave me his card and said come to Melbourne", recounts Darren.

"I was full of bravado and ambition, went there and stayed with family friends. After several years I got excited by the lure of Sydney. I did some freelance from around 1991, and lasted about 18 months. As a country boy I didn't like the rat race of Sydney. The country boy went back to Bega".

Darren worked at Magpie Music in music retail. They sold CDs, sheet music, high end hi-fi, instruments, PA – everything. "That's where I started this business. Aside from vocal PA and party systems no one had a decent system in a truck. It was something I could do outside of work, run a double 3 way PA, some moving lights, with 6 sends of monitors".

"It got to a point where for me personally I was over MI retail. It was getting hard to juggle the two. I had to make a decision, so I dived in. I was encouraged by Greg Williams, who'd gone into a venture with some Canberra guys. They became Audio Solutions, and tended towards corporate. They said there was a gap in the market, and I should move into Canberra. It was 2000".

BY JULIUS GRAFTON



"We were a touring business, we found our groove in the country music industry. Then the light-bulb moment came in 2005 – the writing was on the wall. The acts were asking for more, and wanting to pay less. The work was not viable. I made the conscious decision, no more long touring. I was happy to do short runs within a 500k radius if the money was right, but chose to focus on the local market".

He also met Keri that year and they married in 2007, who is clearly a fantastic partner in the business.

"I looked at what people were doing well, and what they were doing poorly. Staging Connections had the lions share of the in-house contracts. We used the info to make a best case business model and the beginning of a huge growth period was getting the first venue, Canberra Southern Cross Group. They have seven clubs in Canberra, covering a mix of corporate events and music. Then Hotel Realm knocked on our door. Then Rydges, and the National Arboretum amongst several others".

"The secret is all our eggs are not in one basket. We don't rely on dry hire, installs, concerts, corporate AV. We will do any kind of work."

Elite also do sales and installations.

EQUIPMENT

For some time Elite have had both a Martin W8LM, and a Turbo Sound Flex Array system. These are compact line array systems that each do a different job.

"The struggle is we have everything on a rider, except for the J line or the V Dosc.", says Darren. "So I asked the question of Shane Bailey from NAS (D&B distributors). Shane said ring anyone with D&B and ask them to tell the story – ask them if they've ever regretted buying D&B. So I rang a few different people with different sized systems."

While wrestling with the decision to make a massive investment in premises and a line array, Darren had another light-bulb moment. "I had a chuckle when I saw Tony Davies (Chameleon) on CX-TV saying 'go hard or go home' after they bought that huge place in Auburn (Sydney). So that's what we've done. We bought the building and now the new PA."

The system has 28 x J8 and 4 x J12 along with D80 amplifiers, D&B touring racks, J Subs and Infra Subs.

Being outside the hotly contested major city markets, Darren is confident he can sub hire the system to other firms who didn't have an axe to grind. He appears genuinely sanguine and non combative, unlike some of the hard nosed characters in pro audio.

Aside from audio, where there are also Midas Pro 9, AVID Profile and SC48, Yamaha M7CL's with a variety of smaller Soundcraft digital consoles and following a recent trip to Pro Light & Sound in Frankfurt, a Midas Pro X on the way, Elite are well equipped with lighting and plenty of Vuepix LED screens combined with a vast array of conventional video.

There's a respectable inventory of lighting, with consoles from Chamsys, and some older Jands Consoles along with a Hog 4 currently on order. They have over 200 Robe fixtures – movers and LED's and enough conventional gear to satisfy the level of work they do.

As for the building, it has a section on the end that is sub divided and rented, which can be recalled for future expansion.

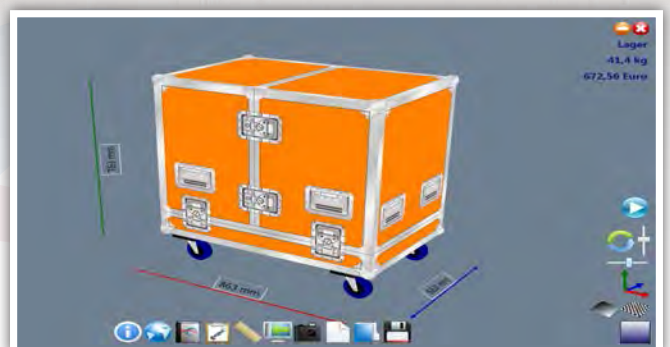
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'DON'T BE AFRAID TO STAND UP FOR YOURSELF... BUT BE INVENTIVE... ENJOY YOURSELF.'

AN INTERVIEW WITH SARAH JENNINGS

WE DON'T USUALLY USE 'GENTLE' TO DESCRIBE A TECH'S PERSONALITY, BUT THIS IS ONE OF MANY PLUSSES THAT SARAH JENNINGS BRINGS TO HER WORK ETHIC, AND A KEY FACTOR IN HER POPULARITY WITH SCHOOLS AND CORPORATE EVENTS. THEN THERE'S THAT SUNNY SMILE THAT MELTS TENSE MOMENTS. I ASKED HER WHETHER THESE 'SOFT' ATTRIBUTES SURVIVED THE DIFFICULTIES INVOLVED IN PUTTING ON LIVE SHOWS, PARTICULARLY THOSE WITH 200 IN THE CAST!



SARAH JENNINGS

SJ: Well, school groups often prefer to have a female duty tech, particularly with small kids, because they're a bit more gentle and calm. Same for reassuring anyone's who's never been on stage before. They respond to female soft and calm.

JH: So let's go back to when you first became interested in tech production.

SJ: It started in mid-high school. My school had a performance specialty but my drama class was mainly seen as a bludge. Our drama teacher, Trevor Thomas, was a wonderful teacher and, seeing my interest, put me on the lighting board for my year's show. It was a very basic desk with only nine of the twelve channels working but I loved it! When the older boys who did most of the theatre teching left, I ended up running the big school productions, dance moderations, etc, doing lights, sound and multi-media. Post-school, despite Mum and Dad's doubts about teching being an actual job, I opted for Stage Management and Tech Production at Tafe (Adelaide College of the Arts). I worked at Coles and juggled work placements with some paid tech work so that, by the time I'd finished the course, I had a network that meant almost continuous tech or ASM jobs. Some of it didn't pay properly, but I made useful contacts so it was worth it. It led to casual ASM jobs with theatre companies like Brink and Leigh Warren Dancers. I was also duty tech at the Odeon Theatre with children's companies like Patch Theatre, and teched other school and community venues around Adelaide. Now I work as venue tech at Brighton Secondary's Performing Arts Centre and as a casual tech or ASM all over Adelaide on events ranging from weddings to WOMAD.

BY JEANNE HURRELL

JH: Who have been important influences in your professional life so far?

SJ: My high school put on shows at Union Hall and Scott Theatre and so I learned a lot from Roxy and Toby who then recommended me to the Odeon. But Bob Weatherley from Patch was the most important. I've learned so much from him. We first met when my school used his tech services. But after working at the Odeon and during my first year out of Tafe, I was hired to tour with Bob and Patch. I learned heaps from that – it was fantastic. I found it a bit strange working week days rather than nights and weekends but it was a kid's show after all. I still work with Bob from time to time and love it. He's such a good mentor. I also enjoy working with Ben Phillips who is tech manager at the Brighton Performing Arts Centre. There's the theatre and a Concert Hall will open soon so I'm looking forward to working with Ben there too. It's great because, like most new theatres, the architects don't always get everything right, so Ben and I have had to be very inventive about solving issues like no workable wings! We've been flat out there during the Fringe – last weekend we had multiple shows – music, theatre, dance and comedy – six different shows in four days. I really like working with just a small team. You know each other well and communication's easy. Smaller venues also let you be inventive and change things to suit – you're largely left to your own devices to decide how best to approach a production and solve any problems.

JH: What's your lighting rig at Brighton?

SJ: We've got a range of par cans, acclaim profiles, some older stock that Ben resurrected and some LEDs. It runs from PC stage which is perfect for schools – simple to use, simple for the kids to learn. There're a couple of fixed follow spots and two IQs that I find incredibly useful to fill a gap in a hurry. We had the Funkees in last week with a fast set up. They put a DJ on stage where we didn't have much light focussed so I just chucked an IQ at him – really easy.

JH: So what's your favourite venue?

SJ: It would have to be Brighton. I spend a lot of time there and get along well with Ben and with Jade, the other techs there. But I also work with Lush Lighting. They specialise in weddings and corporate parties – lots of fairy lights, festoons and decorative lanterns, pretty party stuff – and it's a heap of fun. They're a great group of people from all over the place but again a small group which I like. I think small teams make it much easier to enjoy the work.

JH: How do you juggle so many different employers?

SJ: Basically, it's first-in-best-dressed. I'm often booked months or weeks ahead. With clashes, I can usually negotiate because my employers know me.

JH: What's been your most satisfying gig?

SJ: I'd have to say WOMADelaide. I did a placement there while I was still at Tafe and have been back every year as an ASM. I started on the smallest stage but this year I'll be on Stage One assisting Rosie Moroney who I love – she's fantastic. It's very different to a lot of the work I do but I just love the vibe there. Some years we've been drenched and others stinking hot but I still love it. They're long hours but I'm used to that and I find it really worth it.

JH: Have you had a gig from hell?

SJ: Yes – a school show where I was hired to mentor the

school's year 12 student stage manager. It was a big musical but, without telling me, the school had only budgeted for me to be there for the performances. They assumed that the time I spent in rehearsals was 'voluntary'. When I told them that I expected to be paid for all my time, things turned sour. It was a learning experience though and now I insist on written times and conditions before I agree to a job.

JH: What's your favourite style of show?

SJ: It would have to be musicals. Probably stems from all the Disney stuff when I was a kid but it's a wonderful art form. I worked on one called *Dust* last year about asbestos and staged at the Queen's theatre. Mark Seymour, from *Hunters and Collectors*, wrote it and was the main musician. The first half was set up as a series of side-show marquees with the audience walking around. During interval we turned it around with stage at one end and audience seated at the other. It was fantastic, with a mix of professional actors and community choirs and the music was so catchy – I'd love a CD of it. I also love working on the various school musicals and going to see the big musicals when I can. My boyfriend and I are going to Gallipoli this year, via London where we'll see *The Lion King* and maybe visit some West End theatres.

JH: So what's in store after the Fringe work-wise?

SJ: A few things. Brighton will be doing maintenance as well as opening their Concert Hall. Lush will be busy with functions until at least July. And then there's the school stuff – University Senior College and Pembroke College shows, etc. I'm not particularly worried these days – the work is always popping up. And, if I have a couple of quiet weeks, there's always Coles around the corner from home to keep the money flowing! I'm in this for the long-term, so if I have to do the occasional three-hour shift at Coles to make ends meet, I will.

JH: So what advice would you give to someone starting out?

SJ: Be prepared for all kinds of strange hours. You might start at 6.30 in the morning or finish at 1am. Just make sure that you get a 10-hour break between shifts and proper lunch and dinner breaks. It's the only way to stay safe. A wonderful skill to have is to be able to keep calm in stressful situations. You've got to be cool and relaxed to get through. I think people appreciate working with me because I'm usually smiling – even at the end of a long day. You just have to roll with it. A few weeks ago, I was working as ASM on the Fringe Parade and we had delays caused by a bank of crowd lights strobing when they shouldn't have. We also had head-set issues but I refused to worry. You can't stress about things. You just work with what you have and carry on. When you're starting out, don't be afraid to take a few low-paid gigs if they mean you're learning and making contacts. It won't take long for people to realise your value and for the small gigs to lead on to something more. You'll soon reach the point, like I did, when you insist on better pay and conditions. You must keep safe so don't be afraid to stand up for yourself. Some people will try to work you through crazy hours with no breaks. Don't let them.

JH: Anything you'd like to add?

SJ: Enjoy yourself. Each new show will present different challenges. You have to be inventive at times and that's the attraction in the work. I love solving problems that are unexpected and unpredictable – much more satisfying than sitting in an office all day!

AUDIO VIDEO BRIDGING

THE PROMISE & THE CURRENT REALITY

After a tour of the country presenting hands-on AVB seminars at February's CX Roadshow, Jason Allen gives an assessment of where AVB technology sits in the market, and how close the AV industry is to the vision of converging all our equipment onto the one network with an open standard.



AVID'S S3L SYSTEM, AVB ENABLED

Audio Video Bridging (or IEEE 802.1AS/IEEE 802.1Qat/IEEE 802.1Qav and IEEE 802.1BA as it's known to its friends at the Institute of Electrical and Electronics Engineers) is a fundamental change to the standards of Ethernet that promises to enable synchronous low latency, audio, video and control delivery over standard Ethernet equipment, without needing to license proprietary chips or technology. It's a technology that a lot of heavy hitters in the AV game are throwing their weight behind, including Harman, Bosch, AVID and Yamaha. So are major players from the IT world including Cisco and Intel, and, interestingly, car manufacturers such as GM and Hyundai.

Baby You Can Drive My Car

It's that last point that's one of the tantalisingly intriguing things about AVB. In the AV industry, we've never seen a transport or infrastructure product come along that also has other, much larger industries involved in its development. Their involvement has the possibility to drive innovation and economies of scale in new products coming to market the like of which we've never seen.

I spoke with James Harvey, Area Manager Australia and New Zealand for leading DSP maker and AVB champion BiAmp Systems about the implications of the car industry's involvement with AVB. "Mass markets such as automotive and consumer will drive costs of implementing AVB down because of the economy of scale they bring" said James. "This will mean lower costs for Professional AV manufacturers to implement AVB, so this makes for a bright outlook for our industry."

BY JASON ALLEN

Talkers and Listeners

But before we get excited about cheaper gear, let's take a quick look at the nuts and bolts of AVB and what it's like to actually use on a gig or an install. In an AVB network, devices that can input a signal (audio, video, control, timecode etc) onto the network are referred to as Talkers. A device that can receive one of those signals and output it are called Listeners. Often devices are both, as in the case of an audio mixer or a media server. Talkers transmit groups of channels in what are called Streams. Streams are defined by the users as containing a certain amount of channels. The maximum amounts of channels in a Stream vary between device, application and bandwidth. Streams can contain different types of signals – video, audio etc.

When creating a Stream, usually with software specific to the device you're using, the user enters metadata containing the Stream's name (i.e. 'Meeting Room 1' for a convention centre installation, for example), notes, channel names and labels. This is then broadcast on the network, and can be easily identified and patched via software to a Listener, or Listeners, with the signals being sent to the appropriate places – audio to the DSP and amps, video to switchers or displays.

Bandwidth and Networks

The amount of channels on the network is only limited by the available bandwidth. As a guide, a gigabit switch could handle at maximum seven streams each carrying 60 mono channels of 48kHz 24 bit digital audio, giving you 420 channels. Alternatively, it could handle 96 streams of two channel 48kHz 24 bit digital audio, giving you 192 channels. It depends on how you

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AREA MANAGER
AUSTRALIA &
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carve up your streams and channels, as the limits are being imposed by the timeframes the AVB standard sets for streams to be sent, confirmed and output.

Video is a little more intense. A single uncompressed 1080p channel requires 3GB of bandwidth, while a single channel of the looming 4K standard will consume a whopping 120GB. Luckily, the price of the enterprise-level switches needed for this kind of bandwidth-hungry application are dropping rapidly. That's one of the attractive things about AVB and other transport options that utilise off-the-shelf Ethernet gear; the IT industry and its R&D budget is vast, and constant innovation means bigger and better products are constantly coming to market, causing price erosion.

Latency

Latency concerns of network distribution technologies are heading the same way as worrying about channel counts. It's just not a concern anymore. Officially, AVB running over several switch hops has a network wide deterministic latency of just under 2 milliseconds. In reality, smaller networks with less switches can be tweaked to run even faster.

It's also possible to run AVB point-to-point without switches at all. This has already been done in broadcast,



JASON ALLEN DELIVERING AVB TRAINING AT THE CX ROADSHOW



AXON'S NEURON SYSTEM ON DEMO IN MELBOURNE

and in off-the-shelf products like AVID's new S3L System. The S3L's E3 Engine and Stage 16 I/O boxes connect point-to-point with a blistering 20 microseconds of latency.

Where my switches at?

One of the factors currently slowing AVB take-up is the lack of Ethernet switches on the market that fully support AVB. Take Cisco for example. They're a founding member of the AVnu Alliance, the industry forum dedicated to promoting and certifying AVB, yet they have not yet enabled AVB in their products. The only switches certified by AVnu so far are made by Extreme Networks, who are unsurprisingly getting the lion's share of sales for AVB networks. Netgear and Lab X Technologies also have AVB compatible switches on offer, but haven't sought AVnu certification.

I asked Jan Evelens, C.E.O. of Holland's Axon Digital Design, a company that are leading the market in AVB-enabled live video production equipment, why he thought major players like Cisco were coming so slowly to market. "All major Ethernet switch ASIC (Application-specific Integrated Circuit) manufacturers like Marvell and Broadcom fully support AVB in their silicon and software stacks" said Jan. "They are also active members of the AVnu Alliance. This means that Ethernet switch manufacturers, who in most cases use these ASICs, can quite quickly enable AVB. Extreme Networks are certified, and Arista Networks is close to announce AVB support in their switches - they already have included it in their manuals. They [Cisco and HP] can probably do so quite quickly. It is expected they will do so as soon as larger AVB deployments are being rolled out and they lose out on these projects and it becomes a competitive disadvantage not to support AVB."

Lots of audio, not a lot of video

While there are already a number of audio and comms devices on the market utilising AVB from major players like Riedel, BiAmp and BSS, video devices are still only slowly coming to market. Barco are one of the only other major players in video apart from Axon with releases under their belt. I asked Jan why this might be.

"We should not forget that for AVB video it is still early days" explained Jan. "The current published AVB transport layer standard, IEEE1722-2011, has very little to no video support. Standardisation of the support for video in IEEE1722 started only in the second half of 2013

and is currently in a draft version which will go for ballot end of this year, probably to be published as IEEE1722-2015. It is to be expected many more companies will implement AVB video once the standard is published."

Converging on The Future

During his recent trip to Australia to promote Axon's Neuron AVB technology, I asked Axon's Senior Systems Engineer Maarten Hoogedoorn what is driving AVB adoption in Europe. "We have had customer demand for video transport using IT products for a long time" Maarten related. "Now with the AVB standard we are finally able to do it at a reasonable price per source. Every installation that is being planned now is considering AVB, and in a couple of years it will be really moving."

BiAmp systems are already experiencing installation success with AVB on their modular Tesira platform. "We are shipping far more AVB enabled Tesira systems than we had ever imagined in 2011 when we launched the platform" said BiAmp's James Harvey, "and people seem to be getting along just fine with the present choice of switches in order to get access to the sweeping benefits of AVB."

You Kids Get Off My Lawn!

One of the greatest challenges facing AVB and any other converged product that unites AV with IT is the IT department itself. I asked James Harvey what BiAmp are experiencing in the field on their enterprise-grade installations. "For the vast majority of projects, the AV integrator is the one installing the AV networking infrastructure and the only devices connected to the AV network are AV devices" admitted James.

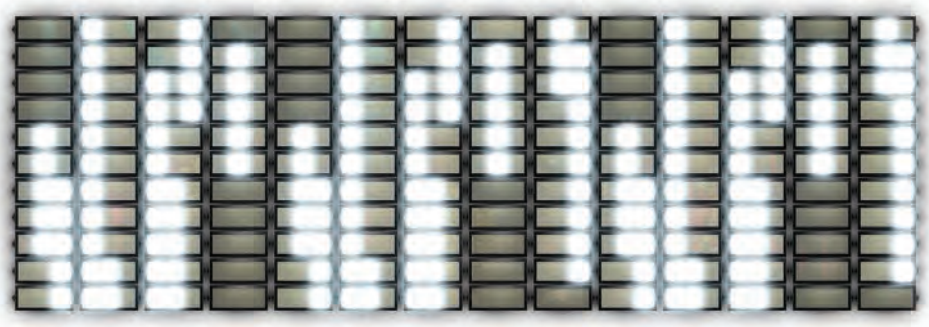
"The idea of a common shared network for the entire facility is a reality and is certainly achievable, but it's only organisations with the most progressive and forward thinking IT departments that are doing this" James continued. "The vast majority of IT departments in 2014 are still tending to say 'keep AV networked media off my network, thanks!' Although this is certainly becoming more and more requested, a converged network is still the exception, not the norm, so the AV network is usually installed as a physically separate network."

From my perspective, it's not just lots of new, cheap gear that's going to make AVB a success. It's going to take a lot of education on the part of both the AV and IT industries to take out the fear factor as we are forced to work together. Sorry, as we converge.



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LISTEN HERE

WHY USE TWO WHEN ONE WILL DO?

Sure, there are times when two mics are better than one. Just look at the US President every time he speaks. There are always two SM57s on the presidential podium. But in reality, only one of these is being broadcast at any given time. The other is primarily there as a redundancy measure.

When it comes to recording and mixing, however, two mics aren't always the solution – although a redundancy backup is a good idea in some circumstances. But when one mic should suffice in many situations, why are so many engineers typically reaching for a second, and then a third?

Since the invention of multitrack DAWs with limitless track counts, many of us have developed a lazy, ill-conceived approach to recording. We record huge numbers of audio tracks, sometimes with little understanding of how this later impacts the mixing process. We build up massive song files that choke our computers' capacity, and yet sometimes capture very little in the way of finely crafted sounds. It's a form of 'musical inflation' if you like, where two mics have become the modern equivalent of one, and four the equivalent of a stereo pair, and where the person with the most (rather than the best sounding individual) channels wins. The problem has become so endemic in fact that, for some engineers, a sound simply hasn't been recorded properly if there aren't two, three or four channels accounting for every single sound in the session file:

"Yeah, what's cool about this incidental shaker track is that I recorded it with three mics, and what's cool about that is that there are three audio files... isn't that just so cool? You can mix it anyway you like now because there are three..."
Hmm...

What's wrong with this picture? Well, it's simple really. The notion that three recordings of one sound via three mics is always better is utterly flawed thinking (even if it's not obvious to the deluded engineer at the time). It's like providing three answers to a trigonometry question and assuming that one of them will always be right. As an engineer – and to extend the mathematics metaphor a little further – firstly you need to understand the question, then you have to know which equation to apply, before finally providing the answer. One answer.

While there are many good reasons to use multiple mics on a recording (which I'll discuss next issue), there



are countless times when one mic offers a superior outcome for numerous technical, musical and financial reasons. Knowing which technique to choose is sometimes called – in audio parlance – *engineering*.

IT MUST SOUND GOOD!

The 'scattergun' approach – where an engineer fires several mics at the target hoping one will hit the bullseye – fails as often as it succeeds, for several reasons. Firstly, it requires the engineer to focus intently on multiple sounds, multiple recording chains and multiple files at once, rather than one. This rarely results in as much care being taken with any of these mic placements or gain structures as would have been with just one. It also takes more time and involves more equipment. More insidiously, it also sets up a false dialogue inside the engineer's head that says: 'somewhere in amongst all of these recorded tracks there's at least one channel that sounds half decent'.

Wrong.

Sometimes three recordings leave you with nought but a pile of shite.

The other problem with this approach occurs later if the session is handed over to a mix engineer. In this situation, documentation is rarely provided by the recording engineer that clearly explains how each mic has been recorded, or whether or not multiple mic setups on a particular instrument were recorded specifically to provide a mix engineer with several *mono* options (in which case he or she can simply choose one and confidently ditch the others), or one grandiose *stereo image* replete with room ambience. If it's unclear what's what, hours and even days can be clocked up trying to decipher it all.

THREE FOR THE PRICE OF NONE

Then there's the other common falsehood perpetrated on countless innocent recordings – that two or three mic channels will always collectively sound better than one, even if you'd only score each of the individual recordings a five, three and two out of 10. Three mics placed badly in front of an instrument *never* add up to a perfect score... ever! Combined, they probably add up to a total score of about three, not 10... an 'F' in anyone's book.

BY ANDY STEWART

IT'S ABOUT SUBTRACTION, NOT ADDITION

And the common reason for this failure is simple – phase. I've said it before and I'll no doubt say it again, but bad phase management is the death of any potentially good recording or mix.

Phase can rear its ugly head in several other ways that we won't go into here, but where two or more similarly placed mics (and sometimes D.I.s) are collectively used to capture a single sound source, their combined tonal balance can wind up sounding vastly inferior to any of the individual components. To make matters worse, when an engineer habitually uses multiple mic setups, each mic on its own often sounds quite average, partly because the mic choice is often careless and/or the mic placement random, but mostly because it's assumed the combination will *always* be superior to any of the individuals, regardless of where the mics were placed. But this is almost never the case.

In reality, the combination of the recorded channels is almost always worse, unless particular care has been taken to avoid (or at least minimise) phase problems that are ever present where multiple mics are in play. Like a crown of thorns starfish at a coral reef convention, phase can gnaw away at the fidelity and power of your sound 'til all you're left with is an emaciated, comb-filtered facsimile of the original. To add to the frustration, if you're alert enough to spot the problem during mixdown, and reduce the offending multiple mic setup down to one, you're still then only left with a choice between several average recordings, leaving you to think, 'If *only* the recording engineer had spent more time getting just *one* mic sounding great!'

MONO IN, STEREO OUT

The solution to all of this is simple: record individual sounds well with a single mic whenever possible. Take care to choose the right mic for each occasion, as well as the right preamp and compressor etc, and your recordings will sound far superior to phasey, comb-filtered multi-mic'd equivalents. With only one mic in the room, phase issue will be extinguished.

I can't tell you how many times I've improved a mix by simply cutting out the second mic in a two-mic recording arrangement, or two where there were originally three. I've mixed songs from ProTools sessions that began life as 150+ channel mixing nightmares, but were reduced to 60-90 when all the extraneous mics were eventually hidden and made inactive. (The idea is that only complex files comprised of umpteen sounds recorded in stereo can sound big is a misnomer. Some of the biggest sounding, most successful mixes are made from multiple *mono* source recordings.)

The other widely ignored problem here is that, in stark economic terms, literally thousands of dollars can be wasted over the course of some of these sessions: more time spent setting up, more time spent recording, more money spent hiring unnecessary equipment, more time transferring files, more time organising mix prep, and more time during mixdown spent determining what's relevant and what's not.

MAKING INFORMED CHOICES

The point of this article isn't to insist that multiple-mic techniques are always invalid – obviously I don't want anyone to walk away thinking that. I'm simply trying to make the point that being aware of bad habits and thinking your way out of them ultimately makes you a better engineer, and one of the most endemic of these is currently the overuse of lazy two, three and four-mic recording setups.

To prove my point, next issue I'll talk about some great multi-mic techniques and how they're best used. Ciao for now.

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

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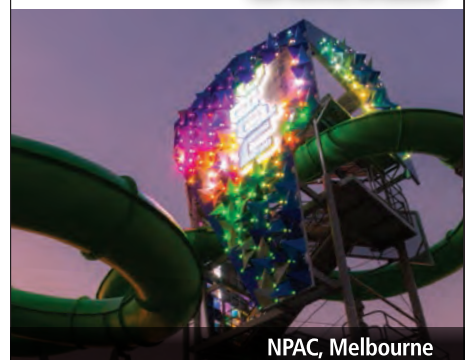
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WHAT-IF?

What If we don't maintain the 1s and 0s?

MOST OF US ARE WELL AWARE OF THE NEED TO MAINTAIN THE NUTS AND BOLTS (AND ROPES AND SHACKLES AND PULLEYS) OF A PIECE OF MACHINERY SO THAT IT KEEPS WORKING RELIABLY, DAY IN AND DAY OUT, BUT WHAT ABOUT THE LESS VISIBLE PARTS OF THE SYSTEM THAT ARE JUST AS ESSENTIAL FOR THE CONTINUING SAFE OPERATION OF STAGE MACHINERY?

It's fairly self evident that gearboxes and rotating shafts need to be cleaned and lubricated, that moving parts need to be adjusted, checked and replaced as they wear (and wear out), and the riggers amongst us will be well versed in the practice of regularly checking and servicing ropes, shackles and slings.

It would seem though that when it comes to testing, checking, verifying and servicing Stage Machinery, that Control Systems are often neglected, or they get at best, lip service.

We will occasionally clean the dust filters and (as many manuals tell us) we will "clean the screen with a damp soft cloth", but how systematically and diligently do we check that the control system for our stage machine is working as it should be, and, most importantly, that the Safety Related Control Functions (SRCFs – don't you just love acronym-speak?) are still set up correctly, programmed correctly and vigilantly standing-by ready to do their Safety Related thing when needed?

The degree of "onerous" that such routine testing requires depends largely on the complexity of the control system itself, but the mental approach taken to the testing doesn't really change, whether you're checking a motorised curtain track or a multi user, high precision computer controlled power flying system.

In the "control system" for a simple motorised curtain track (a fixed speed motorised track that uses Open/Close pushbuttons to run a curtain to positions set by limit

switches) you would check that "open" and "close" are operating in the correct direction, that the curtain stops at its limits and that movement stops when you release the open/close button (in a dead man controller) or press "Stop" (in a latching controller). You'd also check that pressing any E-Stop control causes the curtain to stop immediately.

The same logic applies equally to complex multi axis computerised control systems - it's just that the number of combinations and permutations of direction, speed and position is higher.

Many of these systems use software positions for operating limit positions, with hard switches only used for emergency limits (when the software limits don't operate as expected). In these cases, the only time we know that the hard limit switch is working correctly is when something goes wrong with the software positioning – this could mean that the hard limit switches are not operated for many years at a time if we don't test them periodically.

Once you have "soft" positioning available you can program a system to help avoid collisions by having the soft limits of a machine change, depending on the relative positions of other machines. While this is a great development, it can lead to operator complacency, with "magic" control systems replacing good old fashioned "pay attention" as the preferred method of ensuring safety. We need to make sure that the "magic" system is put through its paces on a regular basis to give us a high degree of confidence that it will perform as intended when it is really needed.

This brings us back, as it so often does, to the basics of Risk Assessment. Assuming that a (magic) control function was put into the control system to help mitigate an identified hazard, we need to verify (validate) that the control system is still doing this particular part of its job properly.

Identify – Mitigate – Validate.

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

JANDS
Staging

BY ANDREW MATHIESON

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IT HAS TO LOOK GOOD



Nick Bouf and Geoff Newey

YOU WANT DRAPES WITH THAT?

Often Geoff Newey from The Look gets a late call from an events producer. "They need things covered up after setup", he says. "Draping is there to cover up all the mess". Cover-ups are a specialty at The Look, Sydney's most diverse drape hire shop, where literally thousands of drapes and rolls of fabric quickly make a theme for an event.

Geoff was just another road crew guy. "I've done everything – sound, lighting, staging, sets. Started as a crewing guy and worked on everything. I learnt so much".

Increasingly he found himself working for some staging and prop hire shops in the 1990's. "I was king for a while then I wasn't" he says referring to a period of unemployment.

"I've always been arty-farty, so I made some black drapes, a couple of burgundy ones and some lame. I told a whole lot of people and went six weeks without anyone calling me". That was with a wife, two children and a mortgage.

Fast forward to now.

"Everything here is an evolution of things people don't want to do", Geoff says. It is a brilliant description of the line of work he is in!

"Ninety per cent of business is normal, but here abnormal comes more than normal". The corporate show world provides a lot of abnormal. "There was a Coco Chanel show, the most exclusive gig ever. We had hundreds of metres of cyclorama, and hung plastic over the face of it. They had beautiful props beyond belief. It was awe inspiring!"

"There were walls shaped like a snake, polystyrene coral reefs, they painted the floor white three times. The detail was mind blowing. There's a lot of passion connected to some gigs. For us it's the beauty. That's the addiction".

A gig at Sydney's The Star Casino gives a good insight into the challenges faced at The Look.

"We hung a 41metre across, 16 metre high screen outside for (Events Supremo) David Grant. "The fear was the wind could rip it down, it doesn't matter how good you are, you can't test that. Originally the (emergency) release mechanism was going to be a Kabuki (drop mechanism), but I knew it just wouldn't cope. Instead we used long ties and had 25 guys with 25 pairs of scissors to release it – all with one synchronised cut".

So how do you schedule crew to do that? Geoff had them all there, on the roof next to their cut point.

"I didn't try to rev up the troops too early, you wait till just before. Get them to turn those phones off. It was a total fail safe method – the Romans probably did it back in the day! It worked beautifully when the gig ended, and they all cut the ties to release the drape."

DRAPE-A-RAMA!

The Look HQ in Sydney's south is like an exotic bazar of fabric. When CX called, a procession of drapes were lined up and being flown for fire proofing. Geoff is fastidious about this, and uses Rosco flame retardant fluid, which comes in huge drums.

He says no drape from The Look has ever caught fire. "Plenty have been singed, but never a fire". That is crucial in the drape biz, where hot lights are the cause of many venue fires, some serious and all expensive.

On the website are list upon list of drapes, and Geoff seems to know where they all are. A drape room way

BY JULIUS GRAFTON



up in the mezzanine of their new HQ has hundreds of bags in some kind of order.

There are wool, velvet, corduroy and cotton black drapes. Sequined, metal, star-cloths, and colours across the spectrum. Short, long, wide and narrow. There are all the accoutrements and accessories you'd ever need to hang all of these, in every format.

"Our unique aspect is the diversity of the drapes. People come with an idea, be it a grand theatre, a ball, or an opening night. And we do it!"

An example of this was the opening night party for Moulin Rouge. "We established that we could do something beautiful, it was driven by a designer. Everything was incredible- the food, the waiters, the walkway in!"

"You need a high profile show, even if you just touch it. It keeps the rush going. I'm always amazed at people's dedication", Geoff enthuses.

DEFEND THE STAGE

"You have to defend the centre of the stage, because the LED screen is taking over", he continues "I'm not against any art form to be honest - I'm happy to see the future everyday and be a part of it."

"In the entertainment business it's about the determination to succeed, no matter what. It's the greatest industry in the world to achieve a goal. How many gigs don't happen?"

"It's a rental business, there's no one thing, and no one mega customer. Last July the industry went super quiet. But then the phone rang, Ford were doing a Ford World at Fox Studios. The level of detail was magnificent!"

Clearly Geoff is on fire. He loves the outdoors, and the indoors, with all those logistics.

"Cover a barge in gold lame tomorrow? Yes we will! It has to look good. Then you see it floating down the harbour lit up, it's off the planet!"

He built an opulent room for The Pope on his last visit to Sydney.

But the Olympic Games in 2000 was the breakthrough. "Everyone you've ever worked for in 20 years was working on it. It snowballed - and I met Nick Bouf my colleague who is just brilliant!"

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CX NETWORK

FBT VERTUS

CLASSY COLUMN LINE ARRAY

BY JIMMY DEN-OUDEM



This and more is true of the FBT Vertus system. It's a scalable, self-powered, full-range column-based line array system, and I think it's pretty cool. The system is based around two speaker modules – the CLA604A column and CLA208SA sub. Our test kit came nicely cased in padded covers, which are an option.

The CLA604A is internally bi-amped (400+100W RMS), and houses 6x 4" drivers and 4x 1" tweeters in an extruded aluminium enclosure. Nominal dispersion is 100x20 degrees (HxV), and it's good for 130Hz-20kHz (-6dB) at up to 122dB continuous SPL. The CLA604A weighs 11.5kg, so it's light enough to lift up easily but heavy enough that it doesn't feel like a toy. You can stack up to 3 CLA604A units, and they mate up to each other with a quick lock pin system which also allows you to pan them to different angles.

Stacking the CLA604A leads to separation between the HF drivers, ultimately yielding a less vertically tightly

COLUMN SPEAKERS. THE MERE NAME CONJURES UP IMAGES OF THE 70'S, COMPLETE WITH CARPETED WALLS. IN A TIME WHEN THE AUDIO MARKET HAS NO SHORTAGE OF COMPOSITE BOXES, THE HUMBLE COLUMN SPEAKER IS OFTEN FORGOTTEN. THAT'S A SHAME, BECAUSE THERE'S A LOT TO BE SAID FOR THE COLUMN SPEAKER. THEY ARE VISUALLY UNIMPOSING AND TEND TO HAVE PRETTY GOOD PATTERN CONTROL.

controlled pattern. If you need the system to throw for miles, you can invert one column atop the other – just re-locate the quick lock pins using a flathead screwdriver. In the "one inverted" configuration, the system behaves more like a traditional line source with tightly controlled vertical splay. So far as mounting the first column goes, there's an optional clip-on stand mount, but the design of the system is that the CLA604A slots into locator pins at the front of the CLA208SA. If you need a little more height, there's a dummy column available to provide same, though it's the priciest accessory available.

The CLA604A is internally DSP controlled and has a dial on the back with four presets. The first two are for single column use, with one providing max SPL and the other better pattern control. The other two presets allow for ganging multiple columns together. There's a HPF and a mic/line input level select button. Power and signal are input via PowerCon and XLR at the base of the column, with loop outputs at the top. It's a very tidy looking system, with no stray cables messing up the appearance.

The CLA208SA is a dual 8" active sub, with frequency response stated as 50-180Hz (-6dB), which seems believable. Maximum continuous SPL spec is 125dB (half space), which is well matched to the column. The internal amp is rated to 400W RMS, and multiple units can be stacked up to 3 high thanks to rubber feet and corresponding divots in the top of the box. You can roll the sub off at 180 or 120Hz, and there's a phase invert and "punch" mode. Dual XLR inputs correspond to dual link outputs, as well as dual high-passed outputs. You could run a stereo column system with a single sub if you wanted to, but at the kind of frequencies the sub runs up to it would start to get a bit obvious that there was only one.



ANOTHER OF THE
MANY POSSIBLE
CONFIGURATIONS

The Vertus system as I tested it allowed me to build a stereo system with single components each side, or a single mono system with the spacer at the bottom to elevate the columns. I tried both. I liked the results. Top end is bright and all there, and for a little box the dual 8" sub supports low frequency amply. Pushed hard the tonal balance seems to shift a bit in favour of the column, which seemed weird because I actually hit limiters on the CLA604A first. In fairness it was seriously loud – the system is capable of more level than I expected. I think the specs seem pretty honest. Gain before feedback using a



CLA604A CONTROLS



CLA208SA CONTROLS

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LEDSpot 700



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Atom 3000 Mega Strobe



Xperior Follow Spot 1200



Power Distribution

www.litecraft.com.au



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vocal mic was impressive, but without high-passing the mic a bit too much of it appears at the sub – perhaps due to the high crossover.

With two columns stacked “right way up” you can definitely tell when you move vertically in and out of the HF coverage. The vertical dispersion feels very narrow, and centres at the 4x dome tweeters. It would be great to hear the system in a bigger space, where I think the “two distinct boxes” effect would be less apparent. There’s a “tilt-down” bracket available for the CLA604A allowing you to point the sound at the people in the house, not the back wall. I like that.



Because the column can be mounted either in front of the sub or centrally on top with a pole, this introduces the question of what happens to phase alignment at the crossover point. We asked the question, and FBT responded: “Phase delay between CLA604A and CLA208S when the column is in front of the sub is very low (10°) and it’s already compensated for in the internal crossover alignment. When the column is mounted on top of the sub with pole there are no substantial differences as the delay is less than 20°. Really there is no impact on sound perceived or SPL at crossover point.”. We agree – moving the column made no noticeable impact on the sound.

Overall the Vertus is a very competent little system. It definitely punches above its weight, and for the price it more than met my expectations. It’s a well thought-out piece of design, and the modularity factor allows it versatility and ultimately the capacity for faster ROI. Pricewise it’s probably a bit beyond the reach of the average MI customer. On the other hand, it looks very unimposing and it sounds good for its size. That’s a recipe for winning on corporate gigs, so anyone doing a lot of those should definitely take a long hard look, and listen to the Vertus.



BRAND: FBT
 MODEL: VERTUS CLA604A & CLA208SA
 RRP: CLA604A - \$1979 INC GST.
 CLA208SA - \$1799 INC GST.
 PRODUCT INFO: [WWW.FBT.IT](http://www.fbt.it)
 DISTRIBUTOR: [WWW.AUDIOBRANDS.COM.AU](http://www.audiobrands.com.au)

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SGM P-5

LOW POWER HIGH OUTPUT LED.

BY JIMMY DEN-ouden



OLED DISPLAY AND MENU



SGM SEEMS TO BE GOING FROM STRENGTH TO STRENGTH, AND THE P-5 IS ONE OF THE MOST RECENT ADDITIONS TO THEIR STABLE OF PRODUCT. IT'S AN IP55 RATED LED WASH LIGHT, COMPRISING 44X 10W RGBW LED SOURCES RATED TO 50,000 HOURS. WITH A FOOT IN EACH CAMP, IT TRANSCENDS THE BARRIER BETWEEN ARCHITECTURAL AND ENTERTAINMENT LIGHTING. THE P-5 HAS AN ALUMINIUM CHASSIS, AND WEIGHS 8.9KG – DECEPTIVELY HEAVY FOR SOMETHING WITH SUCH A SLIM PROFILE.

In order to achieve its IP rating, the P-5 uses captive DMX and power cabling, all nicely sealed where it enters the unit. The unit's actually rated to IP65, but the fan rating brings it back to IP55. Rigging is via two omega bracket mounts in the base. The unit has no pan functionality, no automated movement, and beam options are limited to

manually swapping lenses (15, 21 and 43 degree options available). You can manually tilt the head through 110 degrees.

Cooling is via a combination of massive heatsink and forced air, and with 44x 10W chips inside a compact head it needs all the help it can get. While turning on every colour in every chip to full intensity isn't typical usage pattern, it is a good way to stress-test the unit. So I did that, then left the P-5 to its own devices for an hour or so. Coming back later, the heatsink was hot. Really hot in fact – enough to burn you after a few seconds of contact.



NICE SAFETY WIRE ANCHOR!

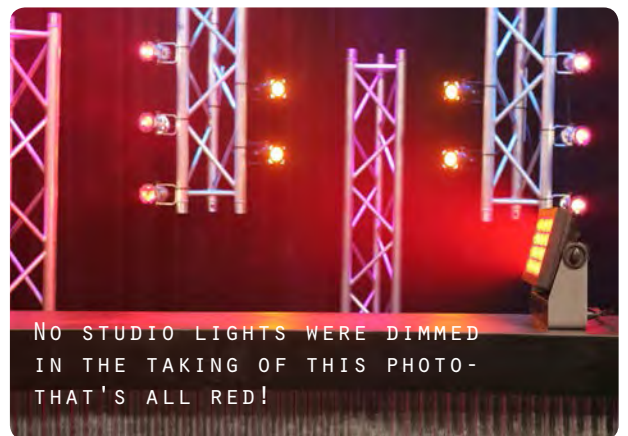
I checked out the cooling options in the menu to find the fan was set to "standard". Several other modes exist – silent, max power (allows the LEDs to run brighter) and "always full power", which spins the fans continuously at top speed for best cooling. While it does get pretty noisy with the fans at full, real-world implementations are unlikely to need this mode. The unit seemed more than content to run the fans very quietly even after some time at full light output. How it would go outdoors on a sunny day is another question, but why would you be using it when the sun's out? Anyway, the above exercise effectively dispels the myth that LEDs run cold.

The P-5 makes a bit of dimming noise, but not enough to really worry about unless you plan on placing one directly adjacent each audience member's head. In case you're mounting it over people's heads, there's a lovely flip-out safety line attachment point in the base. Like the rest of the unit it's beautifully engineered.

So what's the hook? Massive efficiency. The photometric data states light output at 23,500 lumens with the 43 degree lens, yet max current draw is 440W with every chip on full tilt. 58 lumens per watt. I googled other fixtures for a while, but was unable find anything else which even comes close to this. Straight off the bat, it's a seriously impressive number.

Other niceties include the OLED display and setup menu – it's compact but clear and easy to navigate once you wrap your head around starting at the bottom of the menu and working your way up the list. Maybe it makes more sense inverted. The actual light field the unit produces is well controlled – flat with a nice even taper off the edges. The white chips run at 6000K which is a cold but useful colour temperature, and easy to match to. Control is via anything from 3 to 10 DMX channels, with the lower channel count modes offering strobe and pulse functions, and the higher counts just giving fine control over dim and every colour individually. A wireless DMX G4 antenna allows control without cabling.

Based on the Palco 5, the P-5 is designed to do exactly one thing. It's nice to know it does that thing really well.



BRAND:SGM
MODEL:P-5
RRP:\$6495.00 INC GST.
PRODUCT INFO: WWW.SGMLIGHT.COM
DISTRIBUTOR: WWW.ETAUST.COM

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MACKIE SRM550

TURNING PLASTIC INTO WOOD

BY JIMMY DEN-ouden



The SRM550 has 2.6" LF and 1" HF voicecoils, with the HF driver attached to a horn providing a nominal coverage pattern of 90x50 (HxV) degrees. It's internally Class D bi-amplified with 400W RMS per driver. System protection features include peak and RMS limiting, power supply and amp thermal protection. The cabinet weighs 16.8kg, and has vertical handles either side for easy handling. There are rubber feet on the base as well as along one side, allowing for use as a stage monitor with 60 degree angle.

The box itself is a serious deviation from earlier units, not only in construction but also appearance. It looks much more like we've come to expect self powered speakers to appear – it's a black box with a full metal grille along the front face. There's an illuminated green running man logo, and a button on the rear allows you to switch it off. The back end of the box is completely new – there's a two channel mixer which can accept two XLR inputs (mic or line level), or one XLR and one stereo RCA. A male XLR THUR connector can work either as a loop off input one, or an output of the internal mixer.

A mode select button allows you to switch the box between four "voicing modes": PA mode seems to be a fairly flat response, gives it a kick in the low end, MONITOR mode rolls off the low end, while SOLO mode sounds the same to me as PA mode. I was expecting hideous over-emphasis to occur when engaging the various modes, but the curves applied are all pretty sensible and definitely very usable. My understanding is that when run in PA mode, you're essentially hearing the box as-is without any significant processing.

THE SRM550 IS ONE OF THE NEW KIDS ON THE BLOCK IN THE MACKIE SRM LINE. PREVIOUS GENERATIONS HAVE ENJOYED WIDE ACCEPTANCE IN BOTH AUDIO AND AV HIRE COMPANIES, SO WHY MACKIE CHOSE TO RE-INVENT THE THING IS A BIT OF A MYSTERY TO ME. PERHAPS BECAUSE THE SRM450v2 WAS RELEASED IN 2008 IT WAS JUST TIME FOR A RE-THINK. ANYHOW, THE 550 IS ALL NEW. THE CABINET IS MADE OF WOOD, AND THE SRM550 HAS BIGGER AMPLIFIERS, SMALLER VOICECOILS, AND MORE ON-BOARD PROCESSING THAN PREVIOUS GENERATION BOXES. PRICING IS A SHADE HIGHER THAN PREVIOUS GEN BOXES, BUT NOT MUCH.





Turns out "as-is" is pretty good. It's kind of hard to characterise the sound, but it seems to have more mid-range presence than the SRM450 (or v2). Not surprising, since it's a totally different speaker. Low end is convincing.

There's a feedback destroyer which I tried by engaging it, then simply plugging in a vocal mic and turning things up until feedback occurred. Like EVERY feedback destroyer I've ever encountered, the feedback needs to be pretty extreme for the destroyer to identify it, but once it does the problem frequency is quickly suppressed. The destroyer can knock out up to four problem frequencies, and it's good enough that you could (if you were very lazy) use it as a quick way to get more gain before feedback if using the box as a wedge.

I can't fathom the decision to downgrade the voicecoils – presumably the bigger amp wasn't enough to push the requisite current through the coil, so they dropped some copper to lower its impedance. I just don't get it. To me they'd be less capable of handling power, and more likely to clip. My theory is supported by the limiters, which kick in violently when you push the level up way too high. Granted though, that's really high. The SRM550 puts out a surprising amount of level for something its size and weight, and up until the point you badly over-drive it the sound is clean and remains quite linear.

Perhaps the nicest thing about the SRM550 is that it's user friendly. It's the kind of thing a little solo or duo act would be able to easily transport, setup and operate. That lends a lot of appeal, especially in the retail market. At around \$1100 street price, the cost difference between the Mackie and a cheapo import is really negligible. It out performs anything I can think of at the same price, and with local support it's really a no-brainer choice – the SRM550 wins my vote.



BRAND: MACKIE
 MODEL: SRM550
 RRP: \$1369.00 INC GST.
 PRODUCT INFO: WWW.MACKIE.COM
 DISTRIBUTOR: WWW.CMI.COM.AU



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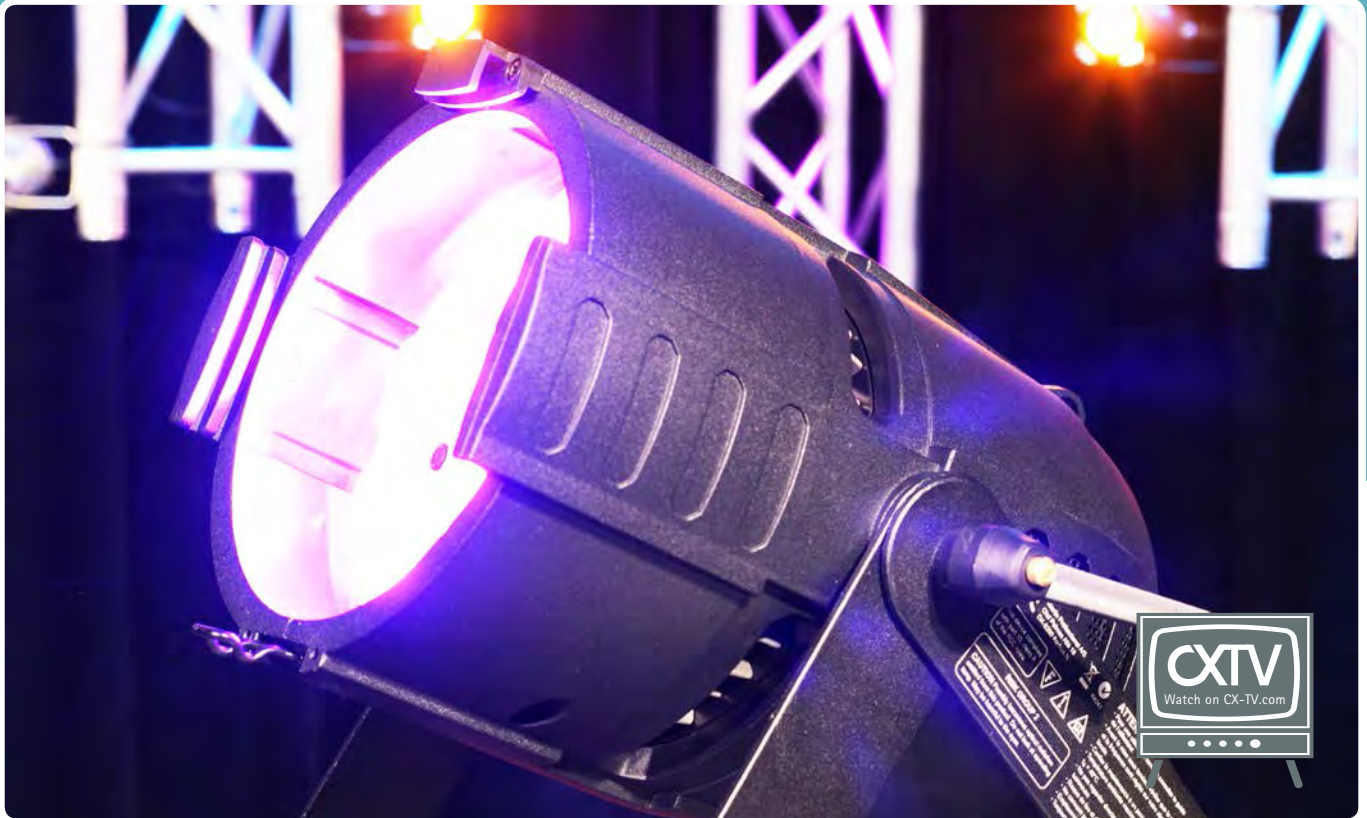
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MARTIN RUSH PAR 2 RGBW ZOOM

HOW GOOD CAN A LED PAR BE?

BY JIMMY DEN-ouden



TIME WAS WHEN EVERY LED PAR OUT THERE USED A COMBINATION OF RED, BLUE AND GREEN 10MM LEDs, SANDWICHED TIGHTLY ONTO A BOARD WITH A LITTLE CONTROLLER BEHIND. THEY WERE KIND OF SHODDY, MAYBE BECAUSE THE IDEA FOR THE LED PAR KIND OF HAPPENED BEFORE THE DIODES WERE GOOD ENOUGH TO SUPPORT IT. THANKFULLY, TECHNOLOGY HAS CAUGHT UP WITH CREATIVITY.



PAR 2 RGBW ZOOM is a long name, but it tells you in a nutshell exactly what the fixture is capable of. The PAR 2 uses 12x RGBW LED modules, mated with a movable lens providing zoom functionality. It's part of the RUSH range, designed to be affordable. Perhaps to that end, when I opened the box, I discovered the unit required some assembly. But hey, if Ikea can use the theory to keep furniture prices down, why not lighting too? The 240V plug is DIY too.

The PAR 2 is a solid little thing at 5.5kg, again a far cry from the LED cans of days gone by. It includes a dual yoke which allows for truss mounting or floor standing. Cleverly, the outer yoke has locator pins which mate with a cut-out arc on the inner yoke. This limits the amount of splay between them, so if you sit the yoke on its stops it won't move over time. The inner yoke has a cut-out to accommodate a g-clamp bolt head which is nice, although in practice you'd need to remove the clamp prior to floor-mounting anyway. Importantly, the fixture is supplied with four soft washers which need to be installed between the fixture and the yokes to prevent unwanted movement. Crappy clamp systems have always been a bugbear of these lights, so it's nice to see Martin has got it right. The dual safety wire attachment points is another thing that's been done right.

DMX input and loop is 5 pin XLR, and dual PowerCon connectors provide the same for power. Talking power, the fixture spec says current draw is less than 1A with all LEDs on full, so daisy chaining at least 10 units is no problem. The setup menu is a simple 2 line LCD with menu, up, down and enter buttons. 5 channel DMX control mode gives you intensity for RGBW plus zoom, while a 9 channel mode adds an overall dimmer level (with fine), preset and random colours, plus strobe and pulse effects. All pretty easy and straightforward, to the point that you could actually run it off a simple two preset console if you had to.

There are four dimming curve options (detailed well in the manual), and a white balance function which allows you to adjust the colour components of white output to match other fixtures. You can set a preset state in manual mode and the fixture will resume this on power-




up, plus there's a blackout or hold state option for loss of DMX. Filter brackets at the front of the fixture allow you to insert a frame, so it wouldn't be hard to soften the beam edge using light diffusion.

Zoom is fast if a little noisy, and the beam runs from 10 to 60 degrees – quite a wide range. The lens looks very reminiscent of that on the Mac Aura, and not surprisingly the light field from the unit is quite flat with a rapid taper at the edges. LED life is stated at 50,000 hours – fairly typical.

Ultimately, I think Martin has probably shot a little high with the RUSH PAR 2 for its intended market, and that's reflected in the price. That said, it's a solid fixture and carries a feature set likely to see PAR 2 succeed much further afield than just the local nightclub or bar.

BRAND: MARTIN
 MODEL: RUSH PAR 2 RGBW ZOOM
 RRP: \$1857.00 INC GST
 PRODUCT INFO: WWW.MARTIN.COM
 DISTRIBUTOR: WWW.SHOWTECH.COM.AU



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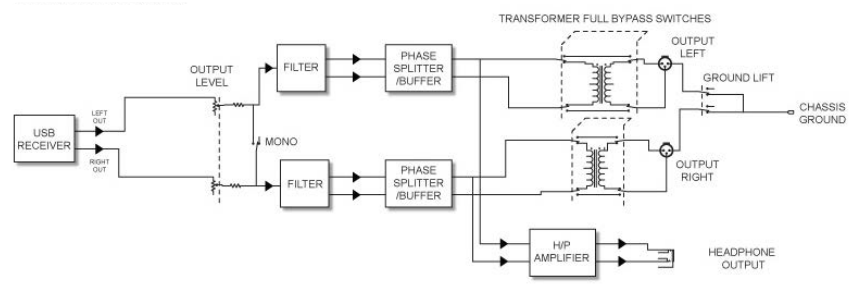
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impression X4

RADIAL USB PRO PLUG AND PLAY

BY JIMMY DEN-ODUDEN



USB-PRO BLOCK DIAGRAM

I ACQUIRED A RADIAL USB PRO TO USE ON THE CX ROADSHOW BECAUSE I NEEDED AN AUDIO INTERFACE TO SIT BETWEEN MY LAPTOP AND A MIXING CONSOLE FOR AN AUDIO DEMO. PEOPLE TEND TO EXAMINE MY DEMO SETUPS PRETTY CRITICALLY, AND FOR THAT REASON THE USB PRO WAS GOOD. I'VE NEVER SEEN ANYONE LOOK AT A RADIAL BOX AND QUESTION IT - THERE'S KIND OF A GENERAL CONSENSUS THAT EVERYTHING THEY MAKE IS GOOD AND WORKS LIKE IT'S SUPPOSED TO.

This is certainly true of the USB Pro. It's a simple idea really – take a digital to analogue converter and put it in the same box as two DIs. It's a USB DI.

The USB Pro operates at 24 bit, 96kHz, so on specs alone it's likely to satisfy the most demanding (or precious) users. It uses the same construction format as the JDI, J48, and every other Radial box. Rock solid construction you can stand on, drop or probably drive over with a car. I didn't drive over mine with a car, since the frequency response of the unit is already effectively dead flat from 20Hz to 20kHz.

The unit is nicely setup to provide logical signal flow – you plug USB in at one end, and get dual XLR outputs at the other. The input is a type B USB socket, and while it's not a locking connector it's at least better than a mini USB type socket. I'm yet to find a locking USB connector (other than an all-weather IP rated one), so such a desire is something of a pipe-dream anyway.

Adjacent to the USB input socket is a 3.5mm headphone jack that you can use to monitor the output at the DI. A level adjust sits next to this, effecting both the XLR and headphone outputs. There's a mono sum button with corresponding LED. This is a great feature for when you don't want to run stereo back to the console (who cares if a PowerPoint transitional "zing" is mono or not?). Passive summing with a Y lead can cause problems, so this is a win.

A similar button sits at the other end of the unit between the XLR outputs, providing a ground lift feature. Laptops tend to have noisy power supplies, so anything you can do to isolate such noise sources from the PA is a good thing. On the same topic, the USB Pro has dual isolation transformers which can be switched in-line with the outputs. Clicking the iso transformers in-line rolls off the HF output a little, starting at 5kHz to finish 5dB down at 20kHz. Much as expected really, as is the 2.5dB dive at 20Hz. The device is USB powered, so no external supply is needed.

The output level runs from extremely low through to head-amp smashingly high – while it says mic level on the XLR outputs I reckon it outputs much higher if you ask. Achieving good signal to noise ratio is definitely no problem.

The USB Pro is USB 2.0 full speed compliant, so while it won't work on a Commodore 64 you've got a pretty good chance of true plug and play with anything recent. It's not a cheap way to solve one problem, but it is a cheap way to solve every laptop audio problem ever.

BRAND: RADIAL
 MODEL: USB PRO
 RRP: \$299.00 INC GST
 PRODUCT INFO:
 WWW.RADIALENG.COM
 DISTRIBUTOR:
 WWW.AMBERTECH.COM.AU

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BILIC
EMMY





ONCE A YEAR THE SLEEPY TASMANIAN TOWN OF LAUNCESTON IS SHOOK INTO LIFE BY THE BREATH OF LIFE FESTIVAL, A BOUTIQUE EVENT THAT IS THE BRAIN-CHILD OF DIESEL, AND THE LIZOTTE FAMILY. THE FESTIVAL WAS CREATED IN CONJUNCTION WITH THE AUSTRALIAN LUNG FOUNDATION WITH A VISION TO CREATE AN ICONIC EVENT WHICH WOULD ATTRACT PEOPLE AUSTRALIA-WIDE, GENERATING AWARENESS ABOUT LUNG HEALTH AND RAISING FUNDS TO CONTINUE THEIR VALUABLE WORK.

This year the festival heralded rap duo Macklemore & Ryan Lewis, electro heroes Empire Of The Sun and hip hop legends Public Enemy as well as countless other acts and DJs. Set over three stages (main stage, rock stage and dance stage) at Launceston's Inveresk Precinct, VJAM supplied audio, backline, rolling risers, and barriers for all three stages, whilst Alive Technologies took care of the lighting and vision requirements. Note that everyone involved in lighting appeared to be called Dave so it gets a bit confusing. The lighting package on this festival was a big surprise; here we were in little ol' Launceston and Alive were showcasing some of the latest in lighting technology. Not only were there the familiar Robe Robin 600 LED washes and Colour Spot 700AT's, there were also the brand new Robe MMX Blades and Robe Robin Pointes. Vision was via Vue Pix P18 Panels. Added to that were Alive's latest acquisition of eight Clay Paky A.LEDA B-EYE K20 LED moving lights. Quite an arsenal.

"We bought the Robe Robin Pointes because in Tasmania there's not a massive market for beam fixtures, as we only have a limited number of large events and festivals every year, however we were still getting specs for a beam light," Dave Bell, managing director of Alive Technologies explained. "The Pointes give us the option of being more than just a beam light, as they are able to zoom out to a 20 degree spot, so we can use them as a tight profile spot for corporate events which is our main line of work".

"It's a similar scenario with the Robe MMX Blades as they have a shutter system that allows you to use them on corporate events to box out lecterns. Being a small market we really have to look at flexibility when choosing a product especially as the really big touring shows bring their gear with them."



EMPIRE OF THE SUN

CHRIS HAMPTON (SCREEN/AV TECHNICIAN)
ADJUSTING THE PIXEL MAPPING ON THE
VUEPIX CONTROLLER

NICK MORSE



DAVE TAYLOR & DAVID SZOKA

Amongst the Robe fixtures on the main stage were six of the B-EYEs (two more were on the dance stage) whose effects really helped the stage during daylight hours before coming into their own after dusk. David Szoka, systems tech at Alive, looked after the bands that were lower down the set list, including Public Enemy, and he was extremely impressed by the B-EYEs especially as they allowed him to do some great effects and patterns during the daylight performances. Coupled with the Sunstrips, they made quite an effective daylight package.

"Even the sound guys at the concert were commenting on how cool it was to be able to see the effects in daylight," said David. "The B-EYEs are very easy to program and although I played with them quite a bit before the event, I discovered on the day there's more control function than I realized. I love the zoom on them and their colour is very consistent."

Despite a couple of tight changeovers, David said the night was fairly stress free which he puts down to good and thorough planning. This year the wing space disappeared and so the dimmers were in a truck, and yes that was the first truck that had to be loaded at the end of the night.

With quick turn arounds of bands expected, particularly between Empire Of The Sun and Macklemore & Ryan Lewis, and complete floor packages to be reconfigured, it was decided that Wireless DMX would be the best solution. Wireless DMX was on all the groups of fixtures, making them faster to move as there was no re-cabling of data to be done.

Empire Of The Sun's lighting designer Dave Taylor was sent a list of gear available for the concert and from

that he designed the chief rig for the main stage. Kudos to Dave as he had hardly ever used the Robe products and had never used the B-EYE's before – in fact it was only the Martin Atomic Strobes and Sunstrips that he was familiar with!

"It was good to use the Robe fixtures as they have very nice colours," commented Dave. "The Pointes are very good fixtures and I enjoyed using them. I had to not only design a show for Empire Of The Sun, but a rig that could give a point of difference for the other acts. Adding the new lights such as the B-EYEs allowed for some different effects and looks. I was most impressed by the output of them and of course, the effects modes are great but just being able to do the nice, subtle stuff with them has been great. Moving the floor lighting around also made a point of difference as did limiting use of fixtures to certain acts and having a fair bit of LED eye candy."

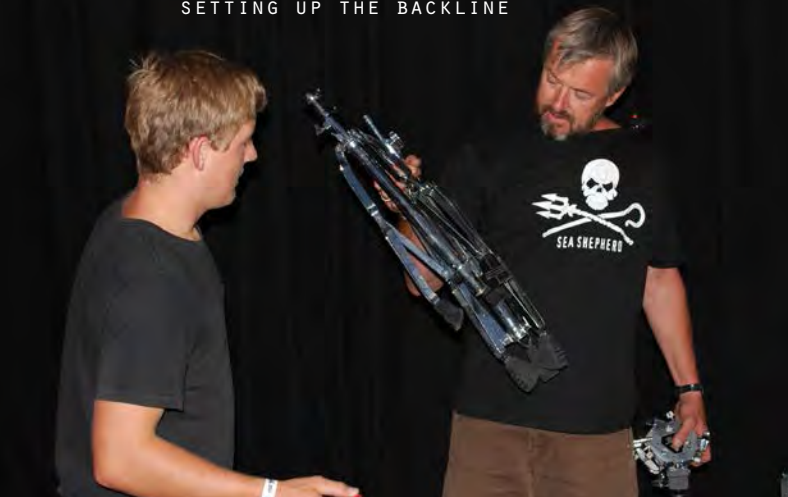
Although Alive supplied an MA Lighting MA2 console, Dave chose to bring his own Chamsys console with him as well as some set elements and Chauvet Geysers for Empire Of The Sun. Dave was also tasked with running the lighting for Macklemore & Ryan Lewis.

"The Chamsys fixture library all worked first go with the B-EYEs and cloned beautifully, probably better than most fixtures," he said. "Having a good crew with the knowledge to get everything in place beforehand has been invaluable. David Szoka has been brilliant."

A bit of a hiccup on the day was the sound generator packing in just as the event started at 11 am and it's nice to see that audio v lighting rivalry still exists.

"It wasn't maintaining voltage levels and shut down," said Dave Bell. "They came and pinched our Twist Lock feeds which then shut the lighting and vision down to

MICHAEL HAZE (STAGE MANAGER)
SETTING UP THE BACKLINE



MACKLEMORE

get the sound back up. We just had to wait until the sound guys got more Twist Locks to power themselves back up so we could get our power back."

"Yes, generators were the weak link," concurred Nick Morse, director of VJam. "It may not have had the right 20 cent pieces in the battery department ... however, once we'd changed over to a spare one it all ran fine."

The audio spec was based upon the two headline acts of Macklemore & Ryan Lewis and Empire Of The Sun with the main stage utilising a d&b Technologies PA system consisting of a sub array of twelve V-Subs and six J-Infra Subs. Added to that were three V12 speakers for front fill and twenty-four d&b D12 amplifiers, managed by Lab.gruppen Lake controllers. For monitors there were fourteen d&b M4 wedges, C7 side fills and C7 Drum Subs plus Q-Subs for DJ monitors with ten d&b D12 amplifiers.

The rock stage also used d&b Technologies PA with Yamaha M7CL's for FOH and monitors whilst the dance stage had a Nexo Alpha system.

Macklemore & Ryan Lewis flew in from Sydney's Future Music Festival, arriving half an hour before they were due on stage, but their show file was already loaded into the AVID Profile console. Every other act had a Yamaha PM5d console for monitors.

"They used a different monitor console to everyone else so all the RF and IEM was pre-patched ready to go," explained Nick. "It's not really a hard gig for us. In fact the hardest element was the negotiation on the price! The rest of it fell into place and I've only heard positive feedback from the artists."

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THE EVER POPULAR PAUL 'ARLO' GUTHRIE IS BACK IN HIS NATIVE AUSTRALIA TOURING AS LIGHTING DESIGNER WITH NINE INCH NAILS. NOW BASED IN MINNEAPOLIS, ARLO IS ONE OF THE MANY AUSTRALIAN TECHNICIANS WHO HAVE SUCCEEDED ON THE WORLD STAGE WITH FLEETWOOD MAC BEING HIS MAIN CLIENT.

NINE INCH NAILS



PAUL 'ARLO' GUTHRIE

FOR THIS TOUR, NINE INCH NAILS AND QUEENS OF THE STONE AGE JOINED FORCES FOR A MASSIVE DOUBLE HEADLINE, WITH THE FIRST HEADLINE BAND ON STAGE BEING DECIDED EACH NIGHT BY THE TOSS OF A COIN.

Lighting design for QOTSA is by Paul Normandale with Fraser Elisha on tour as operator. Arlo and Fraser have been learning to play nicely with each other with NIN adapting to suit QOTSA's rig. Fortunately both bands have been using many of the same lighting fixtures – Martin MAC Auras, Clay Paky Sharpys and SGM X-5s – for their more recent shows.

Arlo's lighting design is an adaption of the NIN rig designed by LeRoy Bennett for their arena tour last year and it retains several elements such as the infamous pods filled with Aytron Magic Panels.

"We had a huge amount of time invested in programming and infrastructure already," explained Arlo. "My main job is to try to efficiently manage the best way we can capitalise on whatever resources are available in all the markets that we are going to, and deliver a show for Trent Reznor (lead vocalist, NIN) that maximizes whatever we can."

Last year's US arena show for NIN may have been an amazing looking show but it was highly structured and with the line-up and set changed for Australia and New Zealand, Trent wanted a more agile light show that

could react quickly to the onstage performance. "The lighting here is more raw," explained Arlo. "It has the usual brand new technology he is very much known for and a very digital enhancement of the music, lighting wise. But we also have a raw power you can assault the audience with."

Arlo was sent Paul Normandale's plot for QOTSA which included a large video element and after discussions



KEVIN "MOOSE" STAHL
LIGHTING CREW
PERSON

QUEENS OF THE STONE AGE



with Trent, it was decided that NIN would not use a video element thus differentiating themselves. For NIN's point of difference, Arlo had the Ayrton Magic Panels in their pods shipped in as they had become a cool, signature look for the band.

"The Magic Panel Pods have branded the NIN experience so we worked out a way we could integrate them into QOTSA's show," said Arlo. "Basically we integrated into QOTSA's show as beyond the Magic Panels we didn't have much in the way of specific lighting requirements. We've been happy to use their lighting rig, adding some extra floor elements to give us something different. A lot of it was an exercise in

efficiency as well as we knew we had to get two very different looks out of the show plus the show also had to be switched over in half an hour."

A total of eighty-one Ayrton Magic Panels are housed in nine pods, and they are all pixel mapped from a HippoCrittter media player with video elements run through them in a couple of songs. NIN use two of the QOTSA trusses housing MAC Auras and Sharpys, as well as six vertical trusses also holding Sharpys and Auras plus the twenty-six SGM X-5 strobes. Both Arlo and Fraser use an MA Lighting MA2 for control and whoever closes the show gets to set up and programme first.

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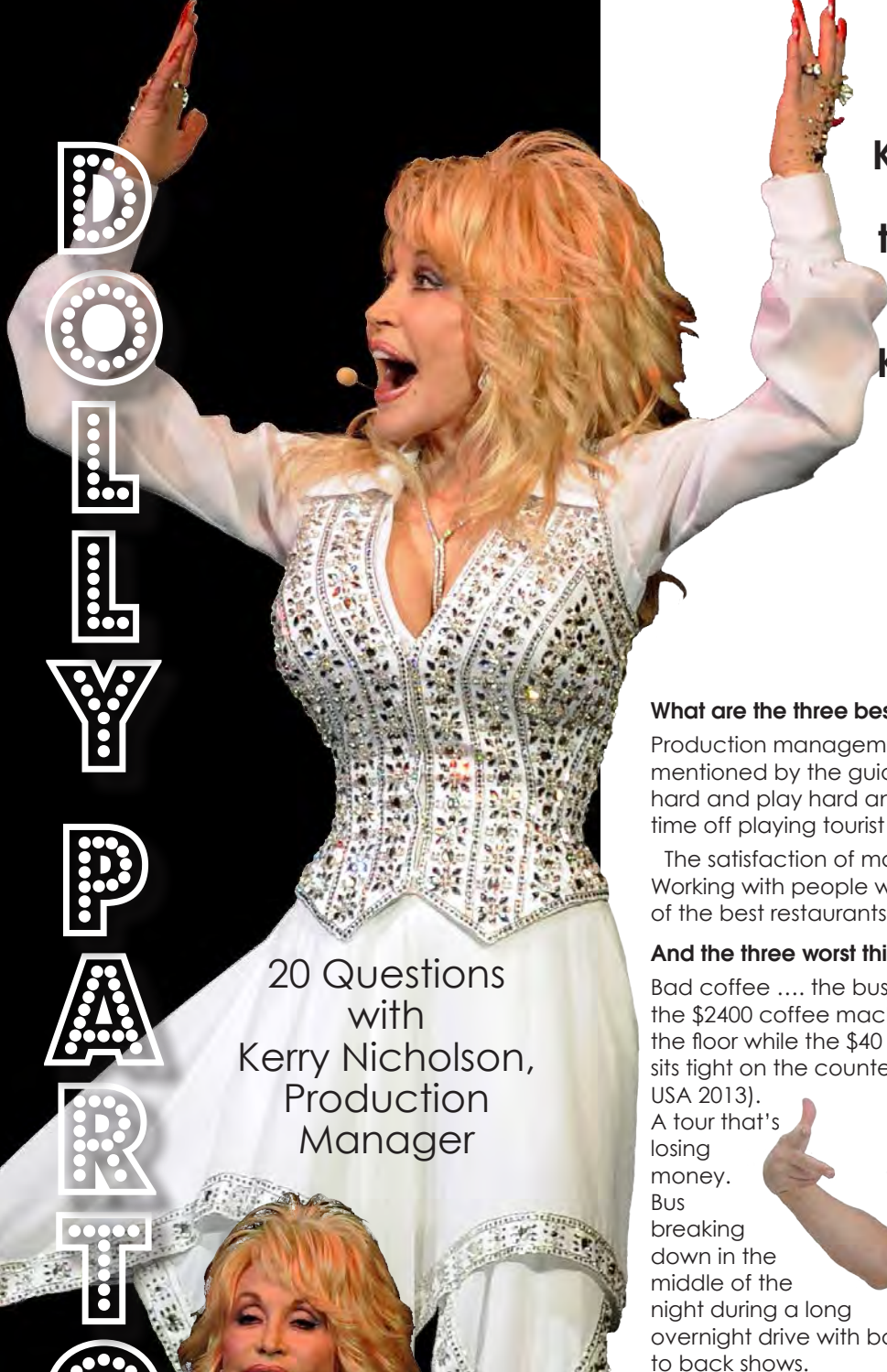
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DOLLY PARTON



20 Questions
with
Kerry Nicholson,
Production
Manager



Kerry Nicholson has just completed a national tour with the legendary Dolly Parton who he looks after worldwide. Kerry is also production manager for the Vans Warped Tour USA/ Australia and he is the LiveNation Australasia rep. Kerry is based in Brisbane.

What are the three best things about your job?

Production management in entertainment was never mentioned by the guidance officer at school! I get to work hard and play hard and when I'm not working I have lots of time off playing tourist in foreign countries.

The satisfaction of making a show happen on a daily basis. Working with people who are like minded and enjoying some of the best restaurants in the world.

And the three worst things?

Bad coffee the bus hits a deer and the \$2400 coffee machine crashes to the floor while the \$40 foreman grill sits tight on the counter (Warped USA 2013).

A tour that's losing money.

Bus breaking down in the middle of the night during a long overnight drive with back to back shows.

What do you never leave home without when working?

My passport, computer and Bose headphones.

Which gig was the worst nightmare in your career and why?

The Pledge of Allegiance tour in 2001; it was scheduled to commence in Chicago on the day of 9/11. On the bill were Slipknot, System of a Down, Rammstein, Mudvayne and American Headcharge. We eventually started the tour in Denver but it was a tough time in an unknown landscape. It's also

KERRY NICHOLSON



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KERRY NICHOLSON, HIS MOTHER BERYL AND HER PARTNER LOU GET TO MEET THE LEGENDARY DOLLY PARTON



where I first met Danny Nozell who tour managed Slipknot and now manages Dolly Parton.

What has been the strangest request from an artist?

We're in the middle of Europe and the band want to watch the game. I had to find a bar with satellite that's prepared to open at 4:00am - make it happen. Somebody's getting fired if we don't make our connection! Milan to Heathrow with 45mins between international flights at different terminals - make it happen (all worked out with SAS precision - there's actually a service that specialize in this type of thing! Very costly but nobody was fired)



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

The greatest thing about working as a promoter rep in Australia is that hell only ever lasts for two weeks.

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

Public: How can I get back stage?

Artist rider: 200 chicken wings. I called the artist thinking it was a mistake but they laughed and said "we really love chicken wings". Every night I checked the dressing room and there were 200 chicken wing bones all over the floor – the posse really did love wings!

Promoter: no such thing as a stupid request.

What was the best gig you've ever worked on and why?

The Livid Festival in 1998 was the largest festival that I had worked on up until that time and I had the full support of the producers Peter Walsh and Paul Campbell Ryder. We worked really hard as a team/family and I'll never forget the experience.

Who has delivered the best audio mix you've ever heard?

With the digital age, there is a tendency to mix with the eyes, however following are some of my analogue heroes; Howard Page when he was with Sherbet. Dave Rat when we toured with Ben Harper during the Vote For A Change tour in the US. Bruce Johnston when he was actively mixing FOH could pull a great sound.

Who has delivered the best lighting you've ever seen?

U2 on the Lovetown Tour, it was so simple with lots of truss spots that pounded with the music. More does not necessarily mean better, however any of the Pink Floyd shows and Paul McCartney in 1975 was so far ahead of its time.

Do you have a favourite venue and why?

Not really, all real venues that have great facilities including a great shower, great catering, great coffee and really fast internet.

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

Digital everything.

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

Fired a chef who slept above me with his full set of knives under the pillow.

What invention would make your job easier?

Beam me up Scotty – no jet lag.

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

Work harder, this can't last forever.

What did you really want to be when you grew up?

I still don't have an answer, however I always recommend that people stay in school as there can be a large payroll differential determined by 3yrs of college, however you have to love what you do!



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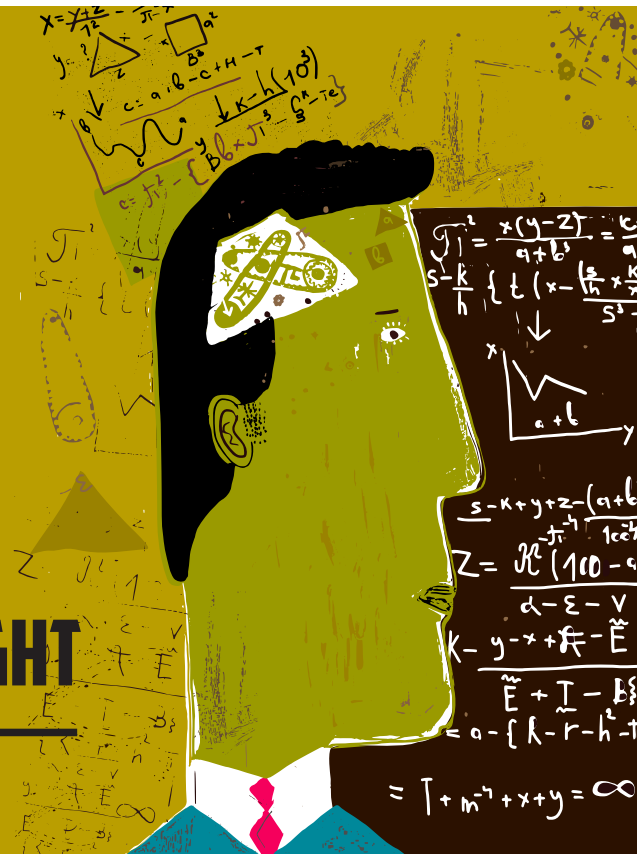


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STUFF FOR THE BRAINY TYPES

WHY CAN'T LED BE MEASURED THE SAME WAY AS TUNGSTEN LIGHT

BY JIMMY DEN-ouden



WHILE WE CAN MEASURE THE LIGHT OUTPUT OF A TUNGSTEN LIGHT SOURCE OR FIXTURE IN LUMENS, IT DOESN'T WORK EXACTLY THE SAME WAY FOR LED SOURCES. LET'S LOOK AT WHY.

Tungsten sources produce output that is both visible and non-visible. Radiometric measurement takes into account non-visible and visible output, and this output is known as the radiant flux. It's measured in watts.

Photometric measurement looks at only visible wavelengths. Our eyes are most sensitive to green light (wavelength around 550 nanometres), but we don't see every frequency of light with an equal weighting. Hence for photometric measurements, the eye sensitivity curve comes into play, and this attempts to compensate for what we don't see. Even so, it's an imperfect system and this accounts for factors like the Judd-Voss correction. Look it up.

Single colour LED sources tend to peak (produce output concentrated) within very narrow bands, and often these peaks lie above the eye sensitivity curve. An LED source could actually be producing much more output than a traditional measurement will lead us to believe.

But wait, because there's more - Absolute and relative photometry. Relative photometry requires testing of the light source separately from its enclosure or fixture. Great, but because LED sources often can't be removed from their fixtures we rely instead on absolute photometry. How much light comes out the end of the actual fixture. Lensing, filters and other beam accessories can affect this number too.

Next up let's look at colour rendering index, or CRI. This scale was never intended for use with LED sources, and as such deficiencies in the scale mean it isn't a

real good indicator of how good their colour rendering actually is. The CQS (colour quality scale) is becoming more popular, but is yet to be adopted widely by manufacturers.

The long and short of it is that measuring LED is a big, confusing topic. We haven't even talked about distance and beam peaking. While there are heaps of standards for traditional light sources, it seems like we're still trying to find the best way to deal with narrow-band sources like LED fairly. The bottom line here? If you want to know how good a fixture really is, do a visual comparison. It seems to me that perception is still nine tenths the law.

CX wishes to acknowledge Color Kinetics for parts of the content above - more excellent LED related reading can be found on their website at : <http://www.colorkinetics.com/support/whitepapers/>



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BIZ TALK

PREFERENTIAL PAYMENTS LIQUIDATION IS GREAT FUN!



with Julius Grafton

LAST MONTH WE STARTED THE CONVERSATION ABOUT PREFERENTIAL PAYMENTS. THESE ARE A NASTY TRAP THAT ANYONE IN BUSINESS CAN FALL INTO, A DEEP HOLE OF FINANCIAL DURESS. THIS BITES YOU WHEN YOUR CLIENT HAS PAID YOU FOR WORK, AND THEN LATER ON THEY GO BROKE. MONTHS AFTER, THE LIQUIDATOR SENDS YOU A VIOLENT LETTER DEMANDING THE PAYMENT BE RETURNED, BECAUSE THEY'VE DETERMINED IT WAS A 'PREFERENTIAL PAYMENT' OR MADE WITHIN THE PROVISIONS OF 'RELATION BACK'.

Why The Face? (WTF?)

This is how law firm Cornwall Stodart (Melbourne) describe it:

- (a) The company (now in liquidation) made payments to that creditor (that's you) within the 6 months prior to the 'relation back day' (generally, the date of the appointment of an administrator or liquidator);
- (b) The creditor's debt was unsecured with respect to the company;
- (c) At the time that the payments were made to the creditor, the company was insolvent (or became insolvent as a result of the payments); and:
- (d) The payments resulted in the creditor receiving from the company more than it would have if the payment was set aside and the creditor were to prove for the debt in the winding up of the company.
- (e) If the requirements are met and the creditor does not have an available defence, the creditor will be required to disgorge the payments to the liquidator.

CX believes some liquidators (not all) shotgun a raft of preferential payment claims against most - or all - paid creditors of their liquidation case firm. They count on some creditors caving in and sending money, and will sometimes use that money to wage legal actions against the others.

Some liquidators operate on the fringes of their authority. By way of example, rogue NSW liquidator Stuart Ariff was finally held to account in 2011 by the regulator ASIC, after blatantly rorting various liquidations under his control.

There are good liquidators as well. **CX Mag Blog** reports the case of Jacksons Rare Guitars, where boutique insolvency firm Jamieson Louttit, Insolvency & Advisory, was appointed Liquidator.

Mr Louttit, the Liquidator obtained legal advice on the Personal Properties Securities ("PPS") Act and thus agreed to return all of the guitars held subject to consignment. "It is the right thing to do and it is a good outcome for Consignors who have been patient while I have been sorting out the PPS mess".

PPS itself is a nightmare that appears in this column from time to time, and never in a positive, uplifting or happy way.

Sadly we can't find other good news stories about liquidators. Stay tuned, and we will return with 'Mad Money - the Crazy Sequel' at a future Roadshow!

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The Trade Show Circus Continues - *for the time being anyway*

The tired and unsustainable Australian Entertainment Technology trade show schedule continues to elicit condemnation from manufacturers, distributors, service providers and their clients. The number of events and the inconsiderate scheduling of recent years have resulted in visitor dilution, as common sense and resource allocation dictates the need for most, to choose one event over another, denying them the opportunity to experience their industry as a whole. Some opt to avoid local events altogether, while others realise better value attending a more relevant and comprehensive event overseas. For the exhibitor, participation in several events due to the 'fear of missing out' exacts a severe toll on hard earned resources, not to mention the individual and corporate disruption of participating in up to four trade shows in a two month time frame. A few don't seem to care, however the overwhelming majority continue to be concerned, even angered by the trade show schedule they now confront each year. Let's briefly view the next two years.

2014 began with the CX Roadshow in February, then on the 23rd and 24th of July we move to Melbourne for ENTECH CONNECT at the Royal Exhibition Buildings. A few weeks later from the 9th to the 11th of August, it's up to Jupiter's Gold Coast for AMAC, and whilst a musical instrument focussed event, many entertainment technology suppliers have a significant crossover into this sector. Finally it's back down to the Sydney Showgrounds for Integrate and CEDIA that will run from the 26th through the 28th of August.

In 2015, and whilst we have few confirmed dates, the trade event schedule currently looks like this: February - CX Roadshow; 14th -17th July - SMPTE at Moore Park Sydney; July - ENTECH with dates and location to be confirmed; August - AMAC at Jupiter's Gold Coast, August - Integrate and CEDIA in Sydney or Melbourne, it is claimed the location will be determined by industry consensus.

With the exception of AMAC, which is operated by the Australian Music Association, all other events are owned and operated by private enterprise, which of course, can do whatever they want to do. With the exception of CX Roadshow, an industry driven presentation, the scheduling and nature of current events pay scant regard to the requisite and sustainable needs of our entire industry, their customers. A year or two ago, ACETA took the position that the schedule was no parties fault. ACETA reasoned if common sense and self-preservation prevailed, all stakeholders would collaborate to realise the common sentiment, namely one large annual industry event, and a celebration

that was all inclusive and would see no casualties. We questioned the industry and produced a White Paper; ACETA hosted two meetings, inviting all relevant event owners to consider its content. It soon became clear that our concerns and potential solutions, with few exceptions fell on deaf ears.

Moving forward, we need transformation, we need an industry event that is focused on the industry, rather than being focused on hiring out floor space, an event that delivers a years' worth of value not just a handful of days.

First of all let's lose the term 'Trade Show' it is no longer a relevant representation of what the industry requires, we need to step into the 21st century. Since publication and distribution in 2012 of the ACETA event White Paper the sentiment expressed within it resonated positively within the industry and does so even more today. Therefore our solution remains as it was several years ago, namely the establishment and presentation of one industry event under the title:

Australian Entertainment Technology Week®

Presented By and For the Industry Incorporating Broadcast and Production Technology - Audio/Visual Integration - Live Performance Reinforcement and Musical Instruments.

The key features would be:

INFORMATION – The overwhelming majority of visitors indicate the primary reason to visit an industry event is to gain knowledge, share information and socialise with colleagues. The Australian Entertainment Technology Week® would prioritise and be built around an extensive high quality conference program and numerous interactive workshops that address the needs of all sectors. A qualified committee would vet all presentations to ensure appropriate standards are maintained. A comprehensive formal and informal social program would be available to all.

AUSTRALIAN MANUFACTURERS – All industry events have historically been marketed to distributors, not one event has ever given genuine and informed consideration to the needs of Australian manufacturers. ACETA's current data base indicates there are in excess of 80 Australian companies engaged in the research, development and manufacture of Entertainment Technology, and statistics indicate only 7 participate in current local events.

ACETA has recently produced and is now circulating an Australian Manufacturers Manifesto, a resource to give focus and assist Australian manufacturers to increase commercial export activity and employment. The needs of a manufacturer are met when they have an international audience, so let's tie this all together.

BY FRANK HINTON

AN INTERNATIONAL DESTINATION – There is no genuine comprehensive entertainment technology industry presentation in the Southern Hemisphere, fact. The biggest, best and 'most sustainable' international events are based around creation and manufacturing and are all presented in the Northern Hemisphere. Considering Australia's current creative and manufacturing capability, (some well-known, but most relatively unknown), we could, grab the initiative and present the Australian Entertainment Technology Week® as the Ultimate Destination in the Southern Hemisphere and a significant source of supply. Our international focus initially would be the one-stop developing markets of Asia and the Middle East, all of who highly respect Australian ingenuity. This would provide a genuine reason for local creators and/or manufacturers to participate and consequently attract an international audience seeking new supply partners. Remember, to the Asian and Middle East markets Australia is an attractive low cost destination.

In international terms the event could be seen as **Frankfurt Musik Messe/Prolight & Sound** meets **NAB** meets **InfoComm** in the Southern Hemisphere.

EXHIBITORS – By a) prioritising networking programs and b) attracting manufacturer participation, the needs of all industry participants will be met. Not only will we have the opportunity to welcome international visitors, but the need to travel only once and to experience an all-encompassing presentation will see increased local attendance. The same is the case for Australian distributors, one event per annum and a lot more local visitors to talk to. At face value a win for all. A 'by the industry for the industry' presentation may result in participation by entities such as national broadcasters and government agencies and departments, including ACMA and Austrade.

PROMOTION – We have clear indication of support from the local and international media (including Pro Audio Central) as all believe in the logic and strategy inherent in the vision.

NETWORKING – Of course bringing the industry together means meeting old friends and making new friends, talking about the future and reminiscing on the past. A whole-of-industry event with everybody in the one place at the one time and with properly programmed formal and informal networking opportunities has to be one of the pillars of any 21st century industry focused event.

THE NUMBERS - At this point we can only guesstimate, but if a platform to unite all stakeholders and showcase the entire industry on an annual basis was successful, it is possible we could realise 200 - 300 exhibitors and experience 10,000 -15,000 genuine visitors.

IN SUMMARY - WHERE TO FROM HERE?

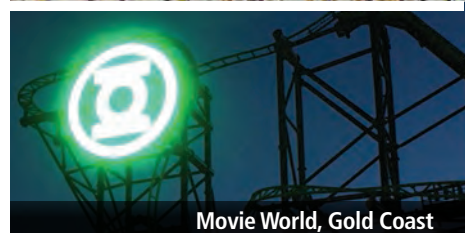
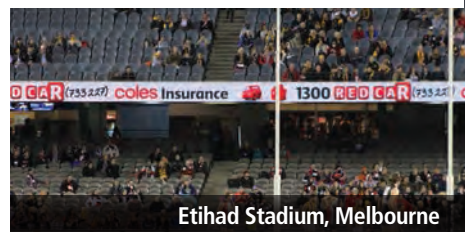
Requests from the industry for ACETA to present an industry event continues unabated and proposal(s) have been received and considered on the subject matter. However the ACETA Board at a meeting in July 2013 determined unanimously that the time wasn't right to engage in such an initiative. We urgently need an 'all-inclusive', relevant and sustainable industry platform, however the only likelihood of an ACETA event would be, if all else fails.

The organisation that embraces something like the model we have outlined above, and detailed in the White Paper will most likely prevail, and for the long term.

To the industry we invite your response, if you could contact ian.harvey@aceta.org.au with your comment. If you would like a copy of the ACETA White Paper contact sara.hood@aceta.org.au with your request.

 **Frank Hinton**
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Know the rules before you break them

Advice – so easy to give, so hard to take

I LIKE TO GO AND LISTEN TO YOUNG BANDS, PROVIDING THAT (A) THEY CAN PLAY WELL, AND (B) THEY DON'T PLAY ANY RAP. SURELY THAT'S NOT TOO MUCH TO ASK, IS IT? SO WHEN I WAS INVITED TO A FUNCTION RECENTLY, I WAS INTERESTED TO SEE THAT THEY HAD A YOUNG BAND (I.E. UNDER 50!) ALL SET UP AND READY TO GO. GREAT, I THOUGHT, IT'LL BE GOOD TO HEAR WHAT THE YOUNG FOLKS LIKE TO PLAY. UNLIKE THE HARRIS TWEED BAND, THERE'S EVERY CHANCE THAT THEY MIGHT PLAY SOME MUSIC THAT'S WRITTEN IN THIS CENTURY!



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The five-piece lineup consisted of a girl keyboard player who also sang, a guitarist who also sang, a bass player and a drummer, and perhaps best of all - a female sax player. Cool.

Regular readers probably know that I'm a fan of the guitar, bass and drums power trio lineup, but even George Thorogood's Destroyers - one of my all time favourites – include a sax player. A saxophone is a great rock 'n' roll instrument, one that really fattens out the sound and adds another melody option.

As an example, look at Little Richard. No matter how many times he re-recorded all his original Specialty label hits, none of them came close to re-creating the sound of the three or more baritone saxophones that played in the band on the originals. Look on YouTube for grainy black and white video of "You Keep a Knockin' But You Can't Come In", "Good Golly Miss Molly" or similar and you'll hear what I mean.

But I digress. When the band started to play, I jumped up with my gf and dragged her onto the dance floor so I could have a good listen while bustin' a move or two! And that's when the problems began.

The playing was very good; the band was well rehearsed, the choice of material was great, the sax player lifted it all to another level, but ... where were the vocals? Actually I knew exactly where they were – they were hiding inside the mixer too scared to come out, because when they did, the system would feed back!

The band had transgressed the first basic rule of PA systems. "Always have the speakers out IN FRONT of the microphones." Unfortunately they had done exactly the opposite, with the speakers BEHIND the band, up on stands so the mics were pointing straight into them. It was a set-and-forget mix, with the levels controlled by the guitarist, but there was not much he could do at this point of the evening to change this very basic problem.

There's nothing wrong with a set-and-forget system. Bands all around the world play every night with systems like this; no-one mixes, the levels are set before they start and maybe tweaked as they go, perhaps with some useful input from friends in the audience. But you've got to set it before you forget it, not the other way round! Sure, if you had someone out front mixing, then with some judicious gain riding and EQ tweaking (not twerking) you could manage to bring the vocals up. Of course, if you did have someone mixing they wouldn't have set up like that in the first place!

I remember helping with daughter Fifi Trixie's school production of Oliver one year.

CF DUNCAN FRY... CONTINUED

She was pushing the faders, and I was sitting next to her keeping an eye on things. All was going swimmingly until we came back from the Intermission. As the lights went up, I could see that the crew had wheeled Oliver's sickbed exactly in front of the right hand Front of House speaker. As he started warbling "Where is Love?" I could hear his headworn omni mic just about to start feeding back. Uh oh, danger Will Rogers!

I elbowed the kid out of her seat and grabbed Oliver's channel on the mixer, did some savage EQ cutting and fader riding, and we managed to make it to the end of the song without any squeals.

But I wasn't working on this gig; I was just a dancing fool with the other invited guests, so it wasn't really anything to do with me.

The next problem was the overall sound. It was very muddy. The instruments weren't going through the system, so their sound was dictated by what was coming out of their amplifiers. The keyboard player was chording around middle C position, the guitarist was playing chords around the middle of the fingerboard, and the sax player was playing the same notes as the keyboard player. There was no definition because everyone was playing in the same range. It had the same effect as when I went to see an unplugged Beatles cover band at the local RSL. Four guys all playing the same rhythm, the same chords, in the same positions, all at the same time.

Someone has to play higher, or lower, maybe some fills or solos, there's got to be some light and shade in the sound so each instrument has its own space in the mix. Otherwise it becomes just a wall of midrange mush. As the vocals weren't really happening, the vocal

mics were picking up all this mush, so that all the sound coming off stage had no highs or lows, just muffled mids, with no definition at all. I felt bad for them because they were individually good players, but none of them had any real knowledge of PA basics or the ins and outs of playing in a band.

I suppose you're thinking that this story is going to end with our hero (me) stepping in to save the day and rescue the gig from a wall of mush? Hmm – real life rarely works like that.

The trouble is, at this late stage of the evening, everything is set up, taped down to within an inch of its life, and locked in place. A total re-arrangement of the setup is just not going to happen.

With only a half-hour to go, the audience was getting nicely hosed, and good sound was the last thing on their mind. As I think I may have mentioned in earlier pieces, it's rare that the sound is so bad that it won't keep a roomful of drunks happy for an hour or so. And so it was with this gig.

As you've probably guessed though, I couldn't leave the function without passing on some words of wisdom. I bailed up the keyboard player as she was packing up her Nord (and so couldn't escape easily!) and subjected her to a shorter version of this story. At the end she nodded and said "Yeah, thanks mate, we'll work on it" while at the same time giving me a look that said "Piss off, you old grogan; what the hell would you know?"

How do I know this, you might ask? Because that's exactly what I would have said to someone giving me advice like that thirty years ago!

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