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Mixing It Up
The Big Audio Desk Releases
at PL+S 2015

Prolight+Sound 2015
All The News From Frankfurt

Broadcast Engineering
Training in Australia

Roadskills
Ricky Martin
The Script
Red Hill Festival

GEARBOX REVIEWS: Midas M32R • NTi Audio XL2 • RUSH Gobo Projector 1
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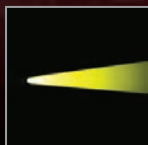


PR Lighting launches new XRLED 1200 Spot

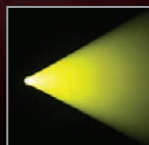
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CX104 2015. DIGITAL EDITION

EDITORIAL BY JULIUS GRAFTON

MUSIC GROUP ON THE MOVE

Uli Behringer's private company Music Group is forging upwards with the takeover of TC Group. That has thrown its distribution networks open as the current philosophy is to have one distributor in each territory. The change from Galactic Music to Australis Music for Behringer and Turbosound begs the question, what happens next?

At presstime, Lab Gruppen and Tannoy are with Hills, Midas at NAS, TC and Tannoy Pro at Amber and Behringer (with Turbo) is headed to Australis. I'll put my neck on the block and suggest nothing is settled. All the above brands could end up in one place. If it's Australis, they will rapidly expand and even double their business.

Or not, if Uli listens to the people at TC Group.

CONSOLIDATION

There's a gap between understanding people, who drive our small industry, and analysing marketing. The smart MBA kids will all come in and measure an industry and try to apply benchmarks and KPI's. How do you measure the passion of a lighting designer; or the dedication of an audio engineer?

How do Human Resources deal with the concept of The Show Must Go On?

With a slightly alarming trend towards consolidation (think Harman with Martin, Osram/Clay Paky, Music Group, Hills/APG, and Audiotonix Group) an influx of 'outsiders' with management degrees are incoming.

Why consolidate? Makes complete sense if you can bring together teams, slash factory staff, and improve the pathway to market. Now Music Group (revenue US \$340m) has TC Group (US \$150m), it has to deal with teams in Scotland, Denmark and Vancouver - none of whom fancy moving to China.

MEANWHILE

We just finished a Roadshow for the Security Technology Industry, called SecTech Roadshow. It was fascinating, seeing a whole other industry at close quarters, and not knowing any of them.

With a bunch of exhibitors to deal with, and a whole lot more punters than we are used to, I made character assessments of the sales guys on the floor. Sure enough, I could rank them. A is best, B is OK, C is no good and F is fail.

Sure enough there were candidates from each camp, easy enough to qualify once you've spent five days in five cities over five shows with them. We had the QR code scanning system from Show Gizmo that we tested on CX Roadshow. I am privy to who used it; and who did not (but not their sales leads).

Some of these 'technology professionals' could not get their head around installing an APP and using it. Let alone logging on later and retrieving their leads. It was one part funny, and another alarming.

Aside from that, we had a ball and it was a huge success!

- Julius

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Up to five chassis and 10 receiver units can be linked and used simultaneously in a stable, easy to set up system featuring 24-bit/48 kHz operation, clear, natural sound quality and three levels of diversity assurance: frequency, time and space.

More info on System 10 PRO and Audio-Technica wireless? www.audio-technica.com.au

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NEWS

CX INDUSTRY NEWS



All change at OpenLive Master Builder the key



It was the end of a short era and the start of a new one at Australian internet startup OpenLive when the board fired two of the three founders, Gary Dunn and Andy McIntyre in April. The startup had raised \$1.5 million late in 2014, much of it from friends, neighbours and associates of Dunn, the former W.A. rep for musical and audio equipment importer CMI. Dunn, McIntyre and Simon Tait worked together for some years at CMI before leaving, with several other staff, in August 2014.

OpenLive Managing Director Simon Tait told CX the next phase for the firm is a custom engineered recording solution known as Master Builder. OpenLive (formerly OpenHD) have applied for a patent over the

whole process. The Master Builder box is to be installed in live music venues that have a house PA system. It takes a left/right feed from the house mix, and combines a stereo ambient mic feed to produce a mix recording. The idea is that any musician performing at the venue can pre-order the system to record the show, before they perform.

Tait says he has spent the past eight months 'locked up in a studio' developing the unique processing built into the box that takes a raw mix and enhances it for consumption. He insists the results are 'way beyond a desk tape.' Another patent application is under consideration he says.

OpenLive will now seek an additional round of funding to manufacture the Master Builder box, which, in prototype form, has been hand assembled. The firm will then offer venues a cut of sales for tracks recorded. Artists have the choice of self release, no release, or release on OpenLive or any other platform including iTunes. They can edit out anything they don't like, and retain ownership of their recording. OpenLive is joined into any future sales of that recording via a click and agree agreement on the user interface with the artist.

Tait insists the firm is not burning cash too quickly, not at least since April when costs were cut by firing staff. OpenLive started as OpenHD in August 2014, promising an 'a la carte' high def download library with the potential of a million tracks online. Licensing challenges quickly arose, then it was also rebranded as OpenLive. Tait says the decision to change direction from online download store to Master Builder was logical. He says the pathway to monetising the start up lies with direct 'click and record' licenses via Master Builder rather than numerous one off licenses with labels, which is required for an online download store.

When the online download store went public it was obvious that few licensing deals had eventuated, and at presstime just 47 artists were listed. The focus has changed to embrace the Master Builder box, which the firm now expects to roll out to venues around Australia and eventually the world.

Following our lengthy conversation with Tait, which he recorded with our consent, CX were contacted by lawyers acting for OpenLive who advised us to be careful. The lawyers also warned CX not to talk to anyone associated with the firm.



Budget Boost for Production Firms

Instant Write-off Fuels Expansion

From now all equipment valued at less than \$20,000 can be purchased with a 100% tax writeoff by small business. This is excellent news from the Australian Government, and is a boon for the sound, lighting and vision market where the vast majority of single items are priced under 20 grand.

Normally capital expenditure (capex) items are depreciated over some years. Being able to write off at purchase means profits can be reinvested without additional tax. An example would be an end of year profit, say of \$100,000, can now be spent to reduce the profit to zero.

The new measure announced in the budget runs until June 2017 and applies to businesses with turnover under 2 million. The immediate write-off provision galvanized small business across Australia. Now the provisions appear to make it even better for firms buying sound, lighting and vision equipment.

Sydney accountant Kieran Martin of Watkins Coffey Martin told CX that equipment currently partially

depreciated may also be written off "subject to the provision getting legislated". At presstime it appeared the measure would pass in the Senate.

CX also understands, from other specialists we contacted, equipment financed under a chattel mortgage, where the equipment is 'on the books' would also be subject to the write-off.

A chattel mortgage can result in an immediate GST refund, producing the tantalizing possibility of a 100% writedown on the equipment, and a further 10% refund of the GST component – all within this financial year. The outlay would be the first payment on the finance deal, which itself would be considerably less than the GST refund.



Galactic farewells Behringer

'Not the end' says Goldsmith



Losing a six million dollar distribution deal is a massive blow, but Galactic Music will bounce back, says founder John Goldsmith. Music Group fired Galactic on the final day of the huge Prolight + Sound trade show in Frankfurt during April. John Goldsmith says the reason given was that Galactic did not meet budget, yet he says under fulfilment and an accounting error meant they would have.

Having appointed Australis Music to handle Behringer and TurboSound, Music Group then went on to acquire TC Group, headquartered in Denmark.

TC Group owns brands such as Tannoy, Lab Gruppen, Lake, TC Electronic, TC Helicon and TC Applied Technologies. The deal allows Music Group to round out their professional install and touring sound offerings alongside Midas, Klark Teknik and TurboSound, while TC Electronic and TC Helicon are leading brands in the guitar effects and voice processing sector, which complement Music Group's Bugera guitar tube amplifier brand and Behringer prosumer division.

Music Group policy is to have one distributor for each territory. Adding TC makes this harder to achieve, with Australis, NAS and Amber Technology all currently handling brands across the group.

John Goldsmith says that Galactic will find other brands, and focus on existing lines while selling out their stock of Behringer.



Amber Distribute Bosch

Changes for EV and Dynacord

Amber Technology have become a Bosch Communications Systems Distributor, for all but the M.I. lines from Electrovoice and Dynacord.

Bosch retains marketing and specialist staff to support its brands, while Amber will add the products into its dealer offering. The move will result in greater stocking from Amber's new Sydney complex.

"We are very pleased to make this announcement. Amber Technology is a great match for Bosch Communications and I look forward to a successful relationship", said Chris Dellenty, General Manager, Bosch Security Systems Pty Ltd.

"Amber's reputation speaks volumes; their extensive distribution network, solutions-based sales approach and excellent technical and after-sales-support are well-known in the industry."



Allen & Heath show top end console

Product Name not yet decided

A new top end live audio console was shown to key users in China and Bangkok last month, with those attending signing non disclosure agreements.

Allen & Heath were acquired by Electra Partners in 2013, who then went on to acquire Calrec in 2014 before merging with DiGiCo to create a new professional audio firm called Audiotonix Group.

Now the combined R&D team at Digico, Calrec and Allen & Heath may have created a new top end console for the latter. Allen & Heath showed a concept console to users from Australia and Asia.

The three English console makers came together in August last year, intending to keep the brands separate but combining the high cost back end that is R & D. The new console may be the first real result, with A&H selling very well at the low end of the market but not fielding anything 'serious'.



ENTECH Roadshow Expands Attractions

More Demo's the Key

ENTECH has changed from a multi day trade show in one city to an expanded version of CX Roadshow, renamed ENTECH Roadshow. Extra visitors and exhibitors will take the event to another level next February across Australia.

October marks 21 years since the publishers of CX ran the first ENTECH at Darling Harbour in 1994. The show was sold to ETF a decade ago, and was repurchased earlier this year. The planned July show held over several days in Sydney has been cancelled.

With the extra attraction of the ENTECH brand, the Roadshow shootout and demo sessions move into large halls and auditoriums. The venue list has changed, with larger venues needed in 2016. The tour will start at Melbourne Park on February 8, then visit Australian Technology Park in Sydney, and return to the Brisbane Convention and Exhibition Centre.

The cross country leg again returns to the Adelaide Convention Centre and concludes on Monday 22nd of February at Perth Convention and Exhibition Centre.



ANOTHER SHOT FROM THE BOB KING COLLECTION, THIS TIME SHERBET AT SYDNEY'S HORDERN PAVILION IN 1975. NOTE THE GROUNDBREAKING NEW JBL WEDGES, AND THE ROTO-TOMS. THIS BAND WERE PRODUCTION PIONEERS, FIRST TO USE PYRO, FIRST TO TOUR LIGHTS, AND FIRST TO OWN A LARGE CONCERT PA.

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WE PREVIEWED TWO OF ROBE'S BIG PROLIGHT+ SOUND RELEASES IN 'NEW GEAR' LAST MONTH; THE BMFL BLADE AND ROBIN DL7S PROFILE. BUT THEY HAD MORE UP THEIR SLEEVE; HERE'S SIX MORE OF THE OTHER EIGHT NEW FIXTURES ROBE SHOWED OFF IN FRANKFURT:

ROBE goes new product crazy at PL+S!

EDITED BY JASON ALLEN

Robe VIVA

Robe's VIVA uses a 270W white LED light engine to give an extra-punchy beam and 20,000 hours of operation. Colours can be applied from two colour wheels, and rotating or static gobos added for projections or mid-air effects. The smooth zoom can go out to 40 degrees at its widest and be softened up with variable frost to create a gentle wash-like output or dynamic background projections. The minimum 8° zoom produces a beam that can be trimmed with stepless iris for punchy output.



Robe Robin DL4X Spot

An improved, brighter version of the Robe RGBW LED module allows the DL4X Spot fixture to utilise specifically modified colour mixing and dimming for extra smooth, stepless operation, especially at minimum brightness levels, while giving colour output brighter than a 1200 Watt discharge unit, at an average power consumption of only 250 Watts. Effects consist of a combination of static and rotating gobo wheels that have custom replaceable positions, variable frost, three-faceted prism, superfast iris and more, including full range dimming and variable strobe effects.



Robe Strobe



The Strobe from Robe (pronounced stroh-bay, to rhyme) uses 120 high power white LED chips to generate super-fast bursts of high-powered pulses and can be adjusted in frequency, duration and intensity. Easy to rig individually or in multiples, the Strobe is easy to program, using direct segment control or the pre-defined macros. Fitted with the standard Robe RNS touch screen system with DMX, RDM, Art-Net, MA Net and sACN protocols, with an optional wireless DMX module.

**Robe
Robin DL4S Profile**

With an enhanced version of the Robe RGBW LED module, the DL4S adds a system of four fast, smooth, framing shutters within the optical path design of the proven DLS Profile format. There is individual control of each shutter blade position and angle, together with rotation of the complete framing module. As well as providing a sharp, precise or soft frame for the projected image, the system produces a new series of effects through pre-programmed shutter blade shape and movement sequences. As with all models in the Robe DL luminaire range, the multiple shadows normally associated with an LED source have been eliminated.



**Robe
Robin DL4F Wash**

With smooth output via the front Fresnel lens, this DL4F Wash has been optimised for those wanting an even light output with no shadows. Mechanical features include a newly designed linear motorised zoom of 5.5° – 60° and a diffusion filter for extension of the zoom up to 75°. The fixture uses an internal Barndoor module for creating different shapes. The module consists of four individually controllable blades and is rotatable by plus or minus 90 degrees.



**Robe
Robin CycBar 15**

Robin CycBar 15 is a lightweight, static, 1000 mm linear strip which uses 15 equally spaced superbright RGBW multichip LEDs for enhanced 18bit smooth colour mixing and linear dimming without RGB 'breakup' or grey shadows. Fixed but re-definable beam angles (lenses of 7.4°, 21.2°

and 34.6° are available) allows the use of optional diffusers. Advanced pixel controlbased driver software provides special features like virtual colour wheel with pre-programmed colours and a set of true whites with CTO Tungsten lamp emulation.

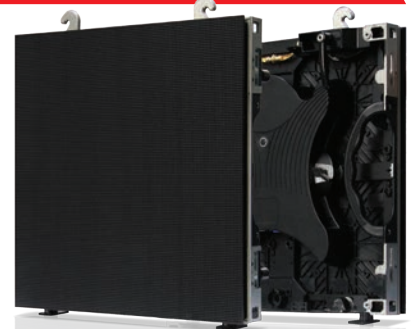


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Audio-Technica System 10 PRO

Audio-Technica's System 10 PRO Rack-Mount digital wireless system provides the same interference-free operation in the 2.4 GHz range as the original System 10 wireless system, but with expanded features and versatility. The durable half-rack chassis is equipped to house two receiver units that can be operated locally or released from the chassis and mounted remotely, up to 100 metres away, via Ethernet cable. Up to five chassis (10 receiver units) can be linked using the RJ12 cable included with each system, creating a stable, multichannel system with the simultaneous use of up to 10 channels.

Australian Distributor:
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www.tag.com.au or (02) 9519 0900

Mackie DL Dante Expansion Card

Mackie have announced the immediate availability of the new DL Dante Expansion Card, bringing high performance networked audio to the DL32R wirelessly controlled digital live sound mixer. The new DL Dante Expansion Card provides 32x32 channels of network audio I/O, allowing the DL32R to be connected to any Dante-powered AV network. Flexible I/O patching in the DL32R lets the user route Dante signals to any channel input, and send any of the mixer's outputs to the Dante network. The DL Dante Expansion Card ships with a license for Dante Virtual Soundcard software, allowing direct recording/playback of up to 64 channels of audio from any Dante network to a PC or Mac.



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

Extron SM 28

Extron Electronics is pleased to introduce the SM 28 SpeedMount Surface Mount Speaker, a two-way speaker with a patent pending, concealed wall mounting system. It features an 8" woofer with dual tuned ports and a 1.1" tweeter. The SM 28 provides a frequency range from 59 Hz to 22 kHz, and a power rating of 90 watts continuous pink noise, 180 watts continuous program capacity. The Extron exclusive mounting system is designed to accommodate division-of-labour installations and save costs. The SM 28 is available as an 8 ohm model, and an SM 28T version which can operate in 8 ohm direct as well as 70 volt and 100 volt modes. The SM 28T features a six-position power tap selector for up to 64 watts, which can conveniently be accessed through the grille from outside the speaker.



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Sennheiser AVX wireless



Sennheiser has launched its AVX wireless microphone systems for video cameras. The compact AVX receiver plugs directly into the XLR of a camera, where it automatically pairs with the microphone and switches on when the camera does. The system automatically adjusts the correct audio levels and transmits using a specially protected link in the license-free 1.9 GHz range. AVX comes in ready-to-use systems that contain everything required to immediately go live. AVX is available in three different sets: with a handheld transmitter (evolution microphone head), with a bodypack transmitter and ME 2 clip-on microphone and in a special professional version with a bodypack transmitter and an MKE 2 clip-on microphone, the benchmark product for film and TV productions.

Sennheiser ClipMic digital and MKE 2

Sennheiser have partnered with Apogee to launch ClipMic digital and MKE 2 digital, which allow professional-quality sound recordings with iPhone, iPad or iPod touch. ClipMic digital and MKE 2 digital combine Apogee's A/D conversion expertise with Sennheiser's microphone design knowledge to give users optimum sound quality for their recordings. Especially designed for iOS devices, both microphones feature a Lightning connector to directly connect to iPhone, iPad or iPod touch, thus creating high-quality, ultra-portable solutions for recording speech. Apogee's award-winning mic pre-amp and A/D conversion circuitry are built into ClipMic digital and MKE 2 digital, providing a resolution of up to 24bit/96kHz.



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<http://en-au.sennheiser.com/> or (02) 9910 6700

Adamson S-Series

Adamson Systems Engineering has introduced the S-Series. The new sub-compact line array system consists of the S10 line array enclosure, S119 subwoofer, Blueprint AV and the E-rack; Adamson's new unified rack solution. The S10 is a 2-way, full range, sub-compact line array enclosure ideal for mid-size arenas, theatres, churches and dance clubs, as well as outdoor festivals. It is loaded with two newly designed 10" ND10-LM Kevlar Neodymium low frequency drivers and an NH4TA2 1.5" exit high frequency compression driver mounted to a wave shaping sound chamber which produces a slightly curved wavefront with a nominal dispersion pattern of 110° x 10° (H x V). The compact solution – 265mm x 737mm x 526mm - weighs in at a mere 27kg.



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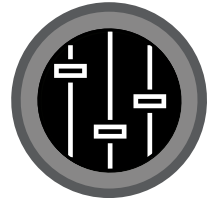
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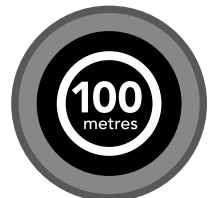
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PL+S 2015



DiGiCo S21



The Big Audio Desk Releases at PL+S 2015

Prolight+Sound 2015 was dominated by major new product releases from audio desk manufacturers AVID, DiGiCo, Soundcraft and Yamaha. Jason Allen was on the show floor to talk with each manufacturer's product specialists and get the lowdown on specs, features and the all-important price....

Day one of PL+S saw the whole show buzzing with what the select few already knew – there were going to be a lot of new digital mixing consoles released before lunchtime, at a size and price point to suit just about every point in the market. Yamaha held a press conference. A specially built DiGiCo stand stood teasingly bereft of product until late morning. AVID and Soundcraft opened and practically needed security guards to fend off the masses. It was a lot to take in, but slowly and surely, some major new product came into focus.



AVID S6L



AVID's new flagship live desk, the S6L, was so popular at PL+S that they had two of the new systems in a roped-off area that you needed an appointment to get in to. The decision-makers from the world's biggest production companies were all in there through the show, pulling out their chequebooks and ordering what would have amounted to hundreds of units. Eventually, when they needed a break from selling, they let us in.

The S6L is a departure for AVID in terms of interface construction. The hardware has been completely re-thought and now looks and feels reassuringly high-end. The encoders, faders, screens and buttons are all top-notch, inviting the hand. Full control over channel EQs, compressors and plugins spill beautifully onto the four-deep rows of encoders for fine adjustments. VCAs and Groups spill effortlessly across faders. The LEDs and screens look detailed and bright enough to operate outside in sunlight, though I'd want to test that first – being inside in a tradeshow full of lighting gear warps your perceptions.

Most impressive are the specs of the beast. There are two engine sizes. The 'small' one gives you 144 mix channels to 64 out plus LCR, two monitor busses and a 16x16 matrix, and runs 125 plugins, all at 96 kHz. The big engine gives you 192 mix channels into 96 busses, plus LCR, two monitor busses and a 24x24 matrix, while running 200 plugins at 96 kHz. There are three surface options, all compatible with either

DiGiCo S21

Arousing the most curiosity in the CX readership, the new DiGiCo S21 features an all-new operating system, small frame and much lower price than other desks in the DiGiCo stable. Those familiar with the SD range will notice that the interface has changed completely. Compared to the SDs, the S21 has flat, simplified graphics, colour-coded to their functions. It gives the S21 a much more 'tablet' feel than their other desks, but is much clearer for it. Due to the new software, show files won't be transferable from SD desks, but it's a small price to pay for what you get.

With 24 mic/line inputs and 12 analogue outs on board, the S21 can also be connected via the two new 'DMI' card slots to existing DiGiCo racks (SD-Rack, D-Rack, DiGiRack etc) via MADl or Optocore. There are 10 DMI cards in the range, including Dante and Soundgrid. Mixing at 96kHz, 40 mix channels (all capable of running stereo) mix to 46 busses; 16 stereo, stereo Master, two stereo solo busses and a 10 x 8 Matrix. The two

touch screens offer comprehensive operation of the desk, and make the new 'drag, swipe and drop' channel layout system easy and intuitive to use. There's processing for days, with gate and compressor available per channel or bus, eight FX engines and 16 GEQs.

A lot of care has gone into the industrial design of the S21, making it look sturdy, understated and more 'pro' than some of its predecessors. The high-grade aluminium extrusions, encoders with 'HTL' (Hidden Til Lit) LEDs and its polycarbonate overlay all make you feel like you're in front of an expensive, reliable bit of kit. And that's the surprising part. DiGiCo staff on the stand were saying that the pricing should come in 'sub £5,000', or around \$10,000 AUD.



DiGiCo S21 REAR

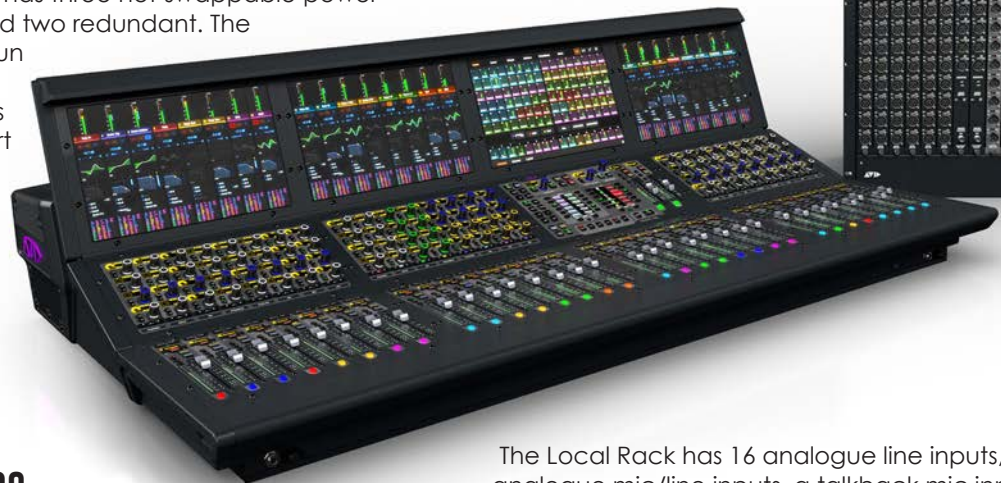


engine; the S6L-32D with 32+2 faders and four 12" touchscreens, the S6L-24D with 24+2 faders and three 12" touchscreens, and the S6L-24 with 24+2 faders and one 12" touchscreen.

It's the thoughtful touches that really make the S6L a winner. The stageboxes have a headphone amp built-in so stage techs can PFL lines without the console getting involved. Each engine has three hot-swappable power supplies, one to run and two redundant. The same power supplies run the surface; one to run, one redundant. As you'd expect, transport

control for ProTools is built-in, as is connectivity. Depending on configuration, an S6L system will range in price from \$70,000 to \$100,000 USD (\$90,000 to \$130,000 AUD).

AVID S6Ls - MEET THE FAMILY



soundcraft vi5000 and vi7000

It's no secret we're big fans of the Soundcraft Vi3000 at CX – our Gearbox video review is on Soundcraft's website. So we were really happy to see that Soundcraft have extended the range with the Vi5000 and Vi7000, the big difference being that the new models use remote I/O and are exceptionally configurable.

Both control surfaces can mix 128 channels

at 48kHz to 32 stereo/mono busses and master, and you can mix 64 channels at 96kHz with a paid upgrade. The Vi5000 gives you 32+4 faders and four touchscreens, the Vi7000 40+4 and five touchscreens.

The Local Rack has 16 analogue line inputs, three analogue mic/line inputs, a talkback mic input and eight pairs of AES/ EBU inputs. Outputs include 16 analogue line, eight pairs of AES/EBU, 3 LCR, local monitor A line, 2 LR local monitor B line and TB line. The standard Vi Stagebox houses 64 analogue mic/line inputs and 32 analogue line outputs. Optional I/O available includes AES/EBU Dante, Blulink, Cobranet, Aviom A-Net 16 and

THE VI7000



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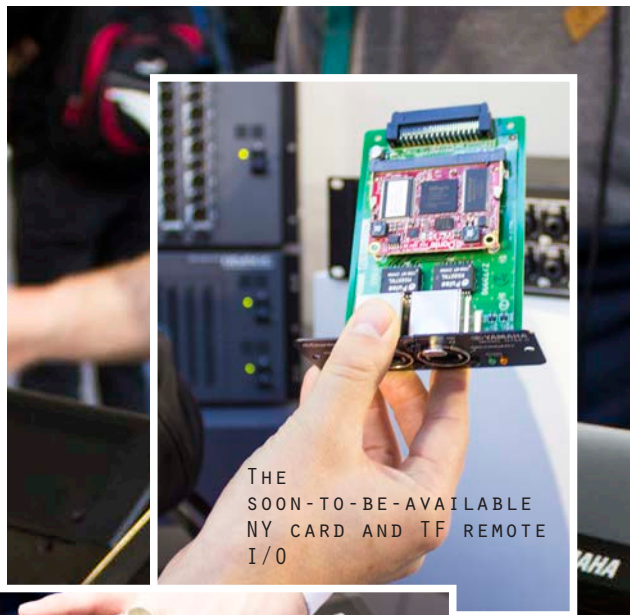
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Ethersound. The Vi5000 and Vi7000 can also be used with the smaller Compact Stagebox (32 or 48 inputs) or the Mini Stagebox MSB16 or MSB32. Up to five stageboxes can be connected to create a digital patchbay, where the operator can select the sources for the 128 inputs to the console from a selection of inputs available on any of the connected stageboxes.

Eight Lexicon multi-effects units run on-board, as does a BSS graphic EQ on every bus output, and there's a new emulation of the classic BSS DPR901ii dynamic EQ on the channel strips. Shure have come to the party and provided integration for the UFX-D series, with battery and RF information now available on the channel strip. The operating system is Vistonics, with all of the immediate control and 'analoguesness' we have come to love. The Vi5000 and Vi7000 will sell between \$75,000 to \$100,000 USD (\$95,000 to \$130,000 AUD) depending on configuration.



THE SOON-TO-BE-AVAILABLE NY CARD AND TF REMOTE I/O

Yamaha TF series

Following up the release of the flagship Rivage PM10 late in 2014, Yamaha came out of left-field and surprised everyone with the release of three new small, extremely affordable mixers in the shape of the TF Series. These desks are aimed at the amateur user, with a host of features intended to make mixing easy. They're more or less a digital version of Yamaha's analogue MG range, and are optimised for familiar 'smartphone'-type operation from a touchscreen.



TOUCH FLOW ON THE TF SERIES

All three consoles have 40 input channels, mixing to 32 mono + 2 stereo + 2 return, 8 DCA groups, a 34x34 USB play/record bus and one 'NY64-D' expansion slot for a new range of 'Nano' expansion cards. Analogue XLR inputs and outputs plus fader numbers vary from model to model; the TF5 gives you 32+1 faders with 32 in and 16 out, the TF3 24+1 faders with 24 in 16 out and the TF1 16+1 faders with 16 in 16 out.

While automatic set-up and operation features like '1-knob COMP', '1-knob EQ', 'GainFinder' and 'QuickPro Presets' are all intended to make the console easy to use for the amateur, MI and community market, they do give the TF Series an aura that it's not for professionals. This was more than reinforced by the construction, tactile experience and the fact they were sitting right next to the mighty Rivage PM10. However, with Australian retail prices ranging from \$3,999.00 inc GST to \$5,999.00 inc GST, that's hardly the point – there's a huge market for the TF Series.



YAMAHA TF SERIES DESKS



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ALLEN & HEATH



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QU-24



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THE MILL REPORT

Andy Stewart owns and operates the mill studio in south Gippsland, Victoria; a world class production, mixing and mastering facility. He's happy to respond to any pleas for technical help...

contact him at: andy@themillstudio.com.au
or visit www.themillstudio.com.au



when you buy a litre of milk at the supermarket, do you only ever pay one price regardless of whether you choose low-fat, non-fat, full fat or soy? of course you don't. so why the hell does music sell for the exact same amount regardless of what it is or who made it? Beats me.

Imagine for a moment you're a car manufacturer. Every year, along with your competitors, you develop new cars with up-to-date looks and the latest features. These new cars range in price, size and quality to suit the budgets of your customers, and each model costs a different amount to development and manufacture.

You know your customers well – sensitive to the fact that they're not all the same and acutely aware that their bank balances range from somewhere between 10 and 10 million dollars. Consequently, the cars you produce come in a range of options that reflect the different spending capacities and needs of your customers.

Collectively, your industry caters to almost everybody who travels on wheels and new cars range in value from between 10,000 and a couple of million bucks.

Cut across to the music industry circa 2015 and everything changes. Bizarrely, here each company puts the same price tag on its products, irrespective of how much time and money was invested in the music's manufacture. In Australian music shops, CDs and vinyl releases are invariably priced almost identically, and on the Australian Apple iTunes Store songs are quite literally the same, down to the cent: priced at either \$1.69 or \$2.19 (for 'high-res' downloads).

But why? Where else in a free market economy does this occur? Books all have different values, as do live concerts, houses, food... virtually everything. Why must CDs or individual songs on iTunes be any different?

It seems to me that charging the same amount for an individual song or album, regardless of who you are or how much your CD cost to manufacture, is like telling everyone in the car industry to value their cars identically:

"Mazda and Porsche, Ford and Holden, you will now each retail your products for \$17,990, irrespective of how much they cost you to make."

If you tried to foist this nonsense on the car industry they'd laugh in your face.

So I put it to anyone who's thinking of releasing an album in coming months – particularly unsigned independent bands who intend selling their privately manufactured singles and albums at gigs – consider the concept of supply and demand.

In a global market, understanding where you lie on this curve is critically important to your bottom line. It's how nearly all products are valued in most open markets. Don't let the music industry's quasi-socialist price fixing

BY ANDY STEWART

policy fool you. If you're independent, pricing your products under the big boys is the one advantage you have over them.

One of the best ways to ensure that 600 copies of your next print run of 1000 CDs aren't languishing under the bed three years from now, is by placing a monetary value on the product that's sensitive to the demand for your music. That way, your CD will not only sell in greater numbers, you'll almost certainly earn more and, in the process, gain in popularity. After that you're up and running. Your live ticket sales will go up, your merchandise will start to sell and who knows from there... maybe one day soon you'll be harassed for a selfie in the supermarket... won't that be fun?

SET YOUR OWN PRICE

Nowadays, trying to sell CDs for \$22 in any great quantity at gigs, when no-one knows who you are or what the product you're selling sounds like, is unrealistic. You might as well try and sell them for \$200. Either way, they're not going to sell.

A single or album's intrinsic value should be driven by market forces, not artificially (and unrealistically) determined by record companies and independent bands. For whatever reason, everyone in the music industry I talk to seems to think their music release – which, in the end, is a product like any other – exists *outside* the supply & demand paradigm. Consequently, CDs are commonly priced far higher than what the market is willing to pay for them.

Elevated prices have suited big record companies down to the ground for years, and these days the biggest of them all, Apple, runs the show, maintaining the long-established status quo via its iTunes Store. It's hard to see Apple changing its pricing policy any time soon, but outside these online sales structures, shouldn't all bets be off? When bands fall into line with the pricing policies of these multi-nationals either out of misplaced pride or habit (or both), they fall right into their trap.

The vast majority of people buy whatever music is the most heavily advertised and in their face. They buy Coke for the same reason.

To most people, popularity equates to value for money, so when Mumford and Sons' new single costs the same as yours, whose song do you think Joe Blow is going to purchase? He's probably never heard of you, and he already knows he likes the Mumford's single because he's heard it on the radio. The only hope you've got of selling your song to Joe ahead of The Mumfords is for your song to be cheaper. No crime in that is there?

THE SLIDE

As everyone knows, global sales figures in the music industry have continued inexorably downwards in recent years. Bloody hell, even the biggest acts in the world moan about their lost revenue, and to them I offer my sincerest condolences... my heart bleeds for them and their impoverished bank balances.

But in the face of this endless downgrade in the value of music, solutions must be sought, though if you think for a moment the people who recently took to the stage at the launch of Tidal have any real cause for complaint you really are a sucker.

One way to arrest this slide is to abandon the long-held delusion that songs have a fixed and finite monetary value. For independent bands and individuals competing in the flooded marketplace, reducing your price is a fundamental economic advantage you have over companies that produce bigger, more costly albums.

In any other industry, finding ways to make your product cheaper is synonymous with forging a commercial *advantage* over your competition, and this fundamental economic tenet should be embraced by independents wherever possible.

Unfortunately, when it comes to 'art', economic principles don't often rate a mention. Particularly in independent circles, bands mistakenly consider their 'art' as having the same intrinsic value as the latest No.1 worldwide hit. But to argue this is to misunderstand the fundamental meaning of the word 'value' in this context. What we're talking about here is money. It's not about art, or pride, or self-esteem. It's about manufacturing costs and sales.



The advertisement features a large blue circular logo with a stylized 'NW' in the center, overlaid on a background image of a large stadium filled with spectators. Below the logo, the text 'NW GROUP' is written in large, bold, blue letters. Underneath that, it says 'TECHNICAL SOLUTIONS FOR LIVE EVENTS ACROSS AUSTRALASIA'. At the bottom, there are logos for partner companies: Norwest, Cairellie, Oceanic, spyglass, and Phase 1 Audio. The footer includes the locations 'Sydney, Melbourne, Brisbane, Auckland, Wellington, Perth' and the websites 'nwgroup.co.nz' and 'nwgroup.com.au'.

So if you're an up 'n' coming band, do yourself a favour. Dispense with the notion that selling your CD cheaply somehow devalues or belittles it. This simply plays into the hands of the big record companies who have perpetuated the myth for decades.

Find the place on the supply & demand curve that makes most financial sense to *your* album – not Sia's – and sell your music accordingly. That way, your CD, vinyl or digital release will be given the best possible chance to sell. Once your popularity rises and you're more in demand, perhaps then you can increase your price.

GKL MA-PEQ M

A FANTASTIC NEW CHANNEL STRIP ARRIVED HERE AT THE MILL A COUPLE OF WEEKS AGO – WHICH I'VE BEEN GIVING A DAMNED GOOD FLOGGING EVER SINCE...



TOOLBOX review

The Canadian made MA-PEQ is an all-discrete, transformer-less single channel mic preamp and passive program equaliser housed in a single rack unit.

Combining a high quality, powerful sounding preamp with GKL's own interpretation of the legendary Pultec PEQ-1A – without the valves – the MA-PEQ is a simple to use front end for recording, or at line level, mixing.

Price: \$2285
Mixmasters: (08) 8278 8506
or www.mixmasters.com.au

For anyone familiar with the functionality of the original Pultec PEQ-1A, the solid-state equaliser on the MA-PEQ is relatively simple to use, identical in every way to the original, apart from the addition of a handy 6dB boost switch on the top-end (the original had attenuation control only up high, which many engineers have found frustrating over the decades since).

The GKL MA-PEQ channel strip has an all-discrete signal path, is quiet as a church mouse in slippers, and possesses +/-30V DC power rails that provide extended headroom for the balanced line mono output.

This is a high-quality unit. While it may look simple and uncomplicated, it gets the job done quickly and efficiently. The only frustrating absentee is the dearth of any kind of legending around the bandwidth control knob on the midrange filter. Simple broad and narrow Q symbols would have done the trick.

The +68dB preamp stage is an uncomplicated beast: phantom power and 20dB pad switches reside just to the left of the main stepped gain control. This solid rotary switch is a Grayhill, and gain divisions are in 4dB steps, which is nice. Other companies use 6dB increments, which can often seem a tad crude to me. Beside this is a secondary rotary switch, the mic/line/boost control. This provides... um, a 6dB boost for both mic or line inputs, undermining my previous comment about the crudity of the scale. Oh well...

The only other control on the whole unit is a hard-bypass switch for the EQ on the far right. This is good for A/Bing your EQ settings or removing the EQ circuit from the signal path altogether if you're only using the preamp stage.

Finally, there's an eight-segment LED style VU meter, which works pretty well, offering some fairly basic information about the nature of your gain structure at the output. I say basic only because, here again, there's no information on the faceplate about what the eight segments represent or measure. Why GKL hasn't, at the very least, written -32, 0 and +28VU (clip) beside the LEDs I will never know. Seems like madness that this information should be restricted to the pages of the manual.

Anyway, that's it. There's nothing more to this unit.

As with anything we buy in pro audio, we all look for value in some form or other. With the MA-PEQ, the value is in the quality, not endless options and added features. A good test of such a unit is whether you would use it often enough to justify its cost, but while I can't say I've bought it, I have used it every day since it arrived.

The GKL MA-PEQ is well built from quality parts and gets the job done. If you need a decent, uncomplicated outboard preamp/EQ in your setup, this is well worth checking out.

MEET THE FAMILY

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PROLIGHT+ SOUND 2015

2015's Prolight+Sound was held across six massive spaces, including two outdoor areas and a concert hall, putting more lighting, audio, staging, control and things-we-don't-really-have-names-for yet in one place than most will see in a lifetime. CX were on the ground, five strong, absorbing it all and getting back out the other end. Jason Allen reports.

2015 was my first year at Prolight+Sound. I had been warned it was big, which I shrugged off 'cos I thought I'd seen big shows before. I really hadn't. In addition to the three indoor halls, one of which has two stories, two outdoor piazzas with line array shootouts and mobile stages and the totally decked-out Festhalle courtesy of PRG, the enormous MusikMesse co-locates, taking up a further six halls and an outdoor agora. Now, I thought I could ignore the MusikMesse side, until I figured out how many manufacturers of microphones, studio gear and monitors were hiding there. My mistake. After four days, my feet and my brain were both very, very tired.

Imagine my distress when it was announced that in 2016, Prolight+Sound will get bigger, and flipping around with MusikMesse to take up most of the enormous Messe site. This is market driven and reflects the growth in the pro industry and contraction in musical instrument retail. Also reflecting the more 'pro' focus, the exhibition days will change from Wednesday-Saturday to Tuesday-Friday, reflecting the fact that us techies have gigs on the weekend. MusikMesse will run Thursday to Sunday to get more consumers through the door. This will make the decision as to which side to be on harder for all the microphone and monitor manufacturers, I expect.

Light it up

While major audio desk releases dominated the show news and gossip, there were quite a few noteworthy new products on the lighting side. Robe let loose with not one, not two but TEN new products on the very well catered and extremely well presented stand. These include the BMFL Blade (a version of the BMFL spot with added shutter blades), new DL Range fixtures; DL7S Profile, DL4X Spot, DL4S Profile and the DL4F Wash, two new versions of Robe's ParFect LED PAR fixture, a new LED batten fixture, the CycBar 15, a LED moving light spot fixture called VIVA and the LED Strobe, pronounced 'stro-bay' to rhyme with Robe.



PRG puts on a show in the Festhalle.
Yes, that's dancers with flamethrowers
on their arms.



ROADTESTING THE DOT2



dot dot dot

There was major interest over at the MA Lighting stand with the launch of the Dot2. MA pushed the boat out with dozens of the new, flexible and affordable control family on hand, and you couldn't get near them for the duration of the show. The dot2 range consists of three consoles; dot2 core, dot2 XL-F and dot2 XL-B. You can expand with two wing solutions; dot2 F-wing and dot2 B-wing, and add a dot2 Node4 (1K) network output node. On the software side, there's the dot2 onPC console software and the dot2 3D visualisation software. The range is designed for small to mid-sized projects and venues, with intuitive operation at the core of its design. It's intended to be easy to operate, and after a brief tour with one of MA's product specialists, even this audio guy felt like I could give lighting a go.

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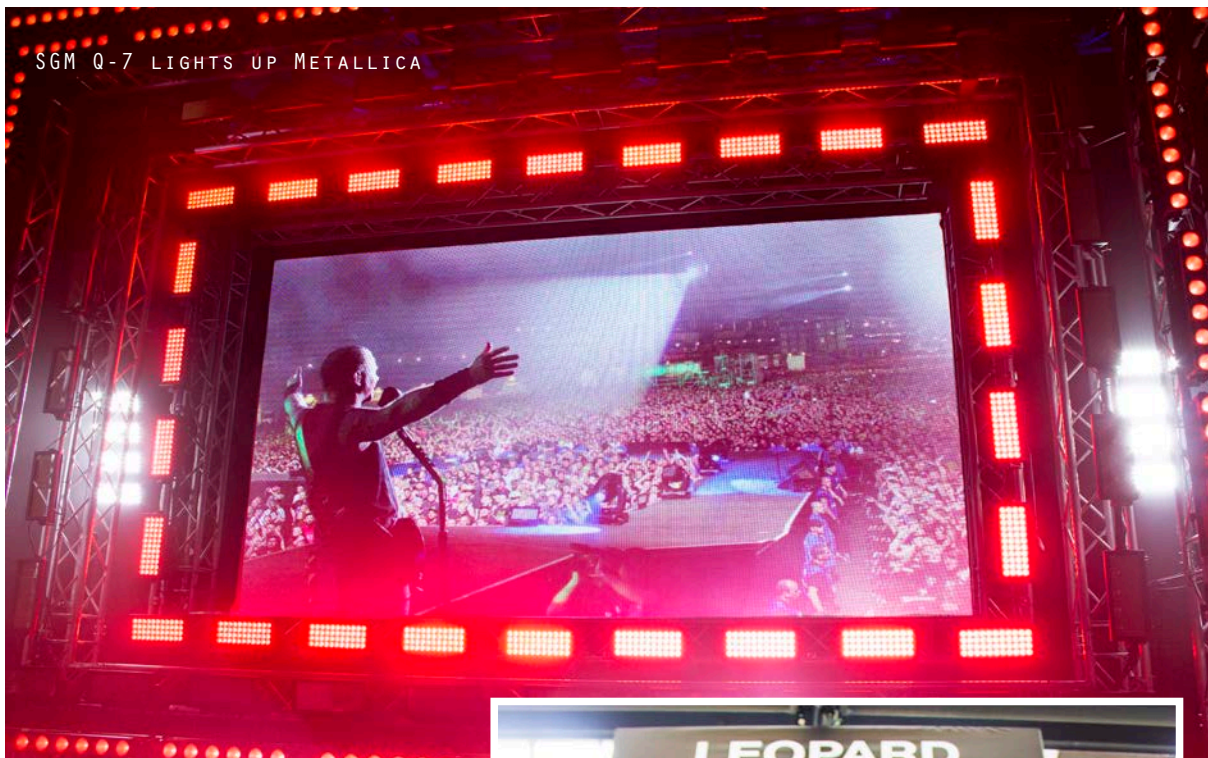
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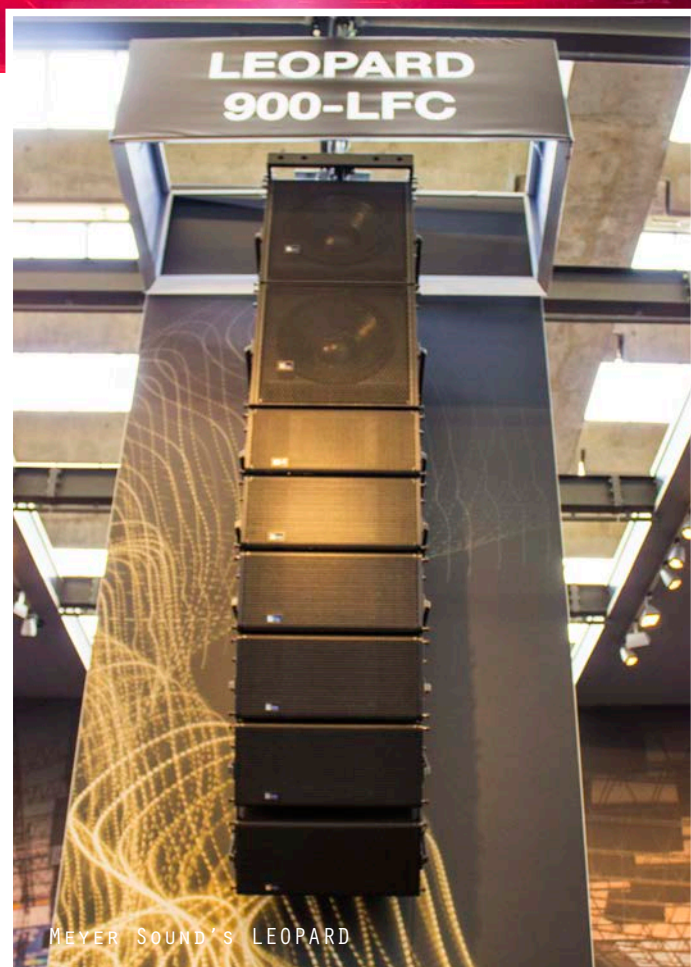
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PROLIGHT+SOUND 2015



Best in show

The SGM Q-7, a compact, low-profile RGBW flood, blind and strobe won the Prolight+Sound International Press Award for 'Best Lighting Product'. As proven by the regular shows on the SGM stand, it is astonishingly bright. Its 2,000 LEDs put out 28,000 lumens, and if that's not enough for you, you can get the Q-7 W pure white version and fry your audience with 60,000 lumens. Another great little product on the SGM front was the G-1 Beam, an adorable little battery powered, wirelessly controlled, moving head LED beam, rated at IP65. To prove both its portability and weatherproofing, they had units that could chase you around on remote controlled dollies, and four units doing water ballet in a tank.



Release the Leopard

Big, or more accurately, compact sized news over at Meyer Sound with the release of LEOPARD, the latest addition to the LEO family of line array product. Along with its low frequency partner, the 900-LFC, LEOPARD joins Meyer Sound's flagship LEO Family as its smallest and most versatile members, optimised to run with a hang of six or more elements per side. Each element consists of two 9" drivers and one 3" compression driver, measures 68cm x 28cm x 55 cm and weighs just 33.6 kg. It can be run as a standalone system or easily hung under other LEO family products as fill.

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HD12-A

ACTIVE TWO-WAY SPEAKER

RCF's HD 12-A offers extremely linear response, high output and precise low frequency control.

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PROLIGHT+SOUND 2015



KV2'S DAVE CROXTON WITH ONE UNIT OF VHD5.0

VHD5.0 CONSTANT POWER POINT SOURCE ARRAY
is designed as each part of the system is proportional in size to the frequency wavelength it reproduces. The radiated power of each bandwidth therefore remains consistent and balanced in relevance to the overall frequency response. This ensures the sound remains the same in every seat in the house.

VHD 5.0 MID HIGH MODULE
The VHD5.0 Mid High Enclosure incorporates eight front loaded ten inch low mid drivers and two horn loaded eight inch mid drivers. The two beryllium compression drivers in a custom design enclosure covering the frequency range 500Hz through to 20kHz.

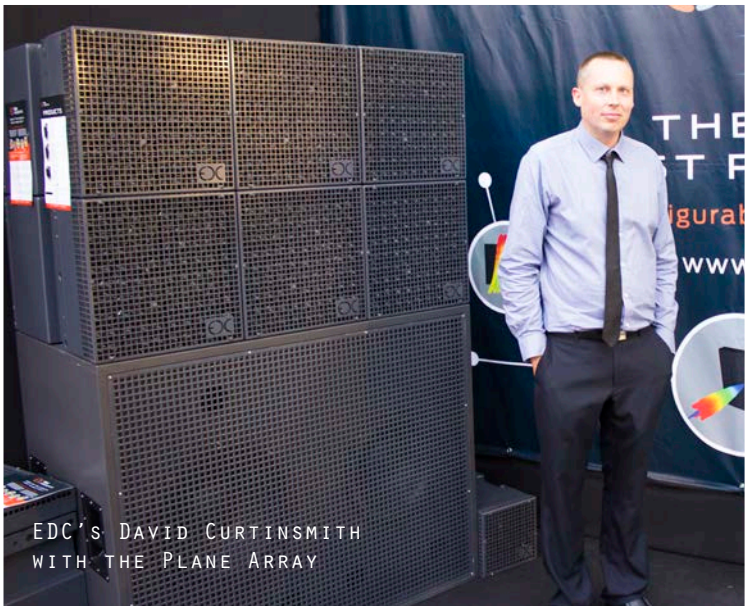
VHD 8.10 LOW FREQUENCY MODULE
The VHD8.10 Low Frequency Module has eight front loaded four ten inch drivers and two horn loaded eight inch mid drivers. The two beryllium compression drivers in a custom design enclosure covering the frequency range 500Hz through to 20kHz.

point and shoot

Over on the other side of physics, KV2 Audio announced the VHD5.0, the latest version of its 'Large Format Point Source System', where 'Large' doesn't begin to cover it. This long-throw system claims it can cover an audience of up to 20,000 people with two units. It's a three-way design with a 3" compression driver, two horn loaded 8" and two horn loaded 12"s, all fitted with neodymium magnets. Left and right versions of the speaker are made to create larger format vertical arrays. Powered by one new VHD5000 amp per unit, Australian KV2 audio distributor Dave Croxton claims you can cover 50,000 people with four units and four amps with less cost and set-up than a comparable line array system.

on a Plane

Totally taking us by surprise was the EDC Plane Array, purportedly the 'world's first' plane array loudspeaker system. Not to be confused with a planar array, the EDC Plane Array is made of elements just 42cm x 42 cm that pack in no less than 100 1" drivers and nine 5" drivers backed up with 5,500W of amplification. According to inventor, Sydney-based David Curtin Smith, these produce 141.8dB peak SPL of totally shapeable, 3D wavefronts that can be controlled to suit any application. The elements are steerable from 0 to 150 degrees, and are scalable. Theoretically, if enough elements are placed almost anywhere in any venue, they cover about everything, steering around any surfaces or areas they're not



EDC'S DAVID CURTIN SMITH WITH THE PLANE ARRAY

meant to cover. The first units had just been made before PL+S and it was their first public outing. We wish you success, EDC.

other perspectives

Hall 9 at Prolight+Sound hosted a variety of manufacturers across staging, lighting control and other peripherals. Hall 9.1 was the second story of that building, and hosted Chinese manufacturers of just about everything. Yes, there was substandard product, but there was a fair amount in the other halls too. It struck me as quite hypocritical and definitely xenophobic to 'quarantine' the Chinese manufacturers in this out-of-the-way location, particularly when you consider that some of them actually manufacture products for the 'real' brands in the other halls. Note: we know who you are. It's a matter of time before we'll look back to this with incredulity, as it parallels the rise of Japanese manufacturing in the 1950s and 60s.



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| Bette Midler | Diana Krall | Herbie Hancock | The Killers | Nelly Furtado | Seal | Tony Bennett |
| Billy Idol | Dimmu Borgir | Hooobastank | Kings of Leon | Nickelback | Sevendust | Tony Levin |
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Auditoria's Scott Willisallen with Giulio Rovelli of Italy's Agora.

CMI's Peter Trojkovic

Brain Vayler & Michael Case of d&b audiotechnik



From Left: Tony Hosking, Col Park, Dave Croxton, Julius Grafton & Julian Young



Tim Hall (ResX) & Tony Davies (Chameleon)



Steve Devine & Graeme Stevenson



Colin West & Matthew Kenny of Framelock Barriers



From Left: Lenka Satankova (ULA Group), Jeff Georgiou (Mega Vision), Sean McKernan (Concert & Corporate Productions), David Jackson (Creative Productions), Ryan Varley (Entertainment Technology Group), Roger Hind (Theatriks), Luke Hall (Ateam Plus), Cuono Biviano (ULA Group), Josef Valchar (Robe lighting), Darren Russell (Elite Sound & Lighting)

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Midas M32R

Lightweight digital with heavyweight performance



BY JIMMY DEN-ODEN

I'm rather taken with the M32R. I wasn't too sure initially what to expect from it, but I think it's fair to say whatever expectations I had were certainly exceeded.

M32R is essentially an M32 which is rack width and includes rack rails in the box. I'm not sure why

you'd ever want to rack mount it though, since doing so would imply you need to mount other stuff in the rack with it to get the gig done. You don't need other stuff when you have an M32R, which is good since at >600mm depth you'd need a custom rack to fit it.

The console itself looks pretty good. Midas hired Rajesh

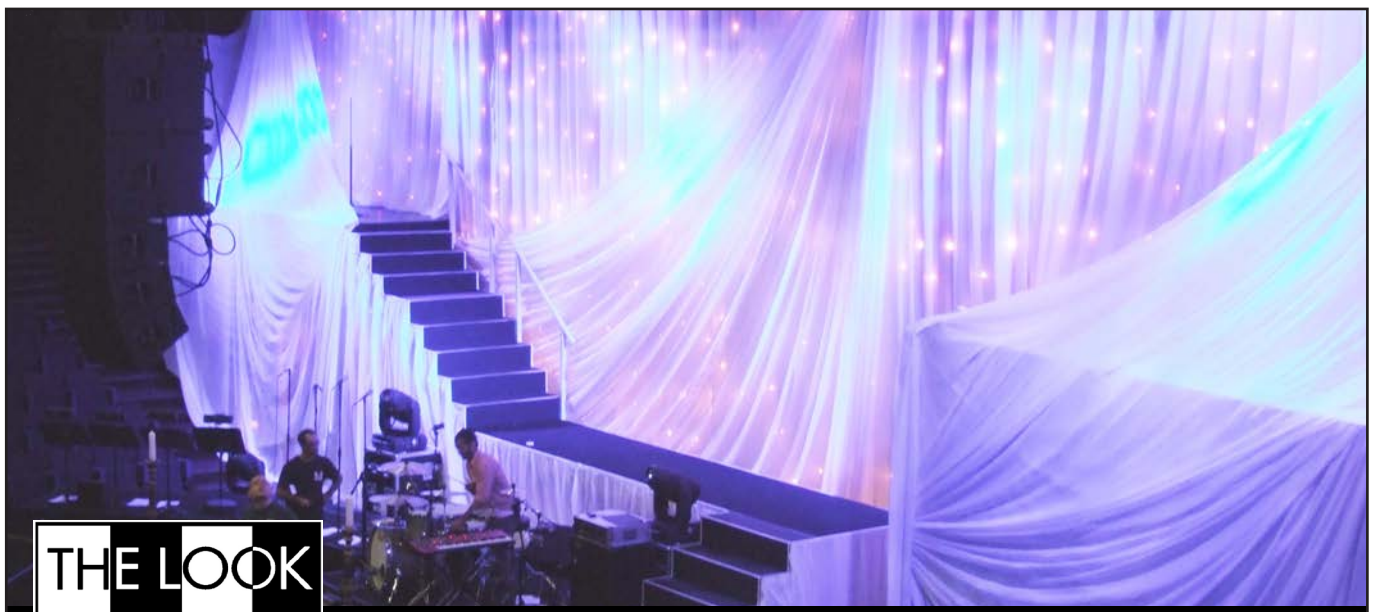


Kutty who worked for Bentley to help with the physical design of the thing. For a relatively compact console it still looks physically imposing, which helps evoke that "substantial" feeling that is so inherent to Midas desks. The control surface isn't too cluttered, carrying encoders for all the commonly used channel functions. The fader area is split into two banks of eight plus a master section.

Onboard the console has a bunch of IO – 16 Midas preamps with XLR inputs, line inputs on jack and even RCA, plenty of assignable outputs on an array of connectors, as well as talkback input and monitor outputs. That's all great, and it doesn't end there either.

Digital IO includes dual AES50 ports, which open up the option for remote IO using a DL16 or DL150 rack. An "Ultranet" port facilitates connection to personal monitoring systems, and the internal card slot on our test unit came fitted with a DN32-USB interface. Other card options include 32 channel ADAT, MADI and Dante interfaces. You're pretty well covered to connect modern digital multiplexed protocols to the M32R, and even recording from it is pretty straightforward too.

Finally, there's a network port which allows for WiFi interface between the M32R and a variety of apps.



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The M32MIX and M32CUE apps for iPad and iPhone/iPod touch are free to download and provide different levels of control options to engineers and on-stage musicians. The M32 Editor for Mac or PC allows remote control over the console as well as pre-show programming of scenes. One of the most appealing aspects of this is the ability to use a real keyboard to name channels and the like!

Hands on, ears open

I was genuinely surprised by how easy I found it to get around the M32R and make it do the things I wanted it to. There's no ignoring the fact that at 5" the screen is tiny, and yet somehow this doesn't seem to impede general workability of the desk as much as you might expect. Quick access keys either side of the screen allow you to jump pages and tabs within those pages, so it's still pretty easy to access everything. The less commonly used functions are placed toward the back of the "stack" of tabs – just one example of how a good deal of consideration has gone into the user interface. Naming channels using an encoder is never an ideal situation, but somehow Midas has even managed to minimize the amount of annoyance involved. Hats off.

Functions such as patching can be executed in blocks of eight channels, which is a pretty good way to save time when you think about it. The fader banks default to left bank for inputs and right bank for outputs, but it's possible to press two input bank select buttons together and thus access 16 input faders simultaneously. The "fader flip" function responds to whichever output bus you have selected. The talkback section has two

programmable buttons which can run momentary or latching, and there's a good monitor stage too.

In addition to the internal 100 band RTA, the console has 16 virtual effects inspired by units like the PCM70, Dimension D, and the DN360. Online they look pretty similar to their 'muses', and with whatever authority I can claim to make such comparisons I reckon they sound pretty faithful. They certainly sound good.

The whole console sounds good. The last Midas I spent a lot of time with was an XL200, which sounded nice and had around the same sort of channel and bus count as the M32R, but required a forklift or 10 people to move. I'm not going to try to claim that they're sonically identical, but they're close enough that you'd need to think really hard about the extra labour, cable and outboard costs associated with using a large format analog console. Especially when the digital alternative sounds this good. You can hit the M32R preamps pretty hard before anything bad occurs, the EQ is good and responsive, and the dynamics processing works well. Even the headphone driver sounds good.

Admittedly the M32R doesn't feel as nice as a Heritage 3000 or an XL8. I paired up some faders and noticed that they don't track the same way at the quiet end of the movement – the paired fader doesn't get all the way to the bottom of its track. Electronically they track correctly, so it's more a visual annoyance than anything else. The faders don't feel as nice as those on a heritage, but Midas reckons they're rated for one million life cycles, so you can't really argue with that. You can't ignore that the M32R is a fraction of the price of a Heritage, and with this in mind I reckon the build quality is pretty solid.

As much as I could fill half the mag talking about the M32R I'm not allowed, so if you'd like to find out more



about the scene recall, assign section, or "acoustic integration" with Turbosound speakers just head to the Midas website.

There's some talk on the Midas site about how the AD and DA converters are 192kHz 24 bit units, and the console has "future proof 96kHz capable open architecture design". I'm not really too sure if this is what it actually runs at or something which will happen with a future software update. Really though it doesn't matter – you don't need buzzwords to sell a console like this, you just need to let people hear it.



BRAND: MIDAS

MODEL: M32R

RRP: \$5899.00 INC GST

PRODUCT INFO:

WWW.MIDASCONSOLES.COM

DISTRIBUTOR:

WWW.NATIONALAUDIO.COM.AU

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NTi Audio XL2



BY JIMMY DEN-OUDEM

Way back when it had only just been released, we reviewed the XL2 from NTi. Since then a few software revisions have happened, and a range of companion products have been released. It seems an appropriate time to take a look at what the current software and hardware options offer, since it's a lot more than it used to be.

Overview

XL2 is an audio and acoustic analysis tool that can be used with a variety of sources and inputs. It does many things, and there are several accessories available which make it even more powerful.

As an acoustic analyser, the XL2 can provide FFT analysis, make RT60 measurements, determine Polarity and Delay, and optionally provide 1/12 octave analysis as well as pass/fail measurements. Another option is STIPA, which allows the device to make speech intelligibility measurements in PA systems, and this function includes automated averaging and ambient noise correction. As an audio analyser, it can show level RMS, THD+N, Frequency, Scope, 1/3 or 1/1 octave spectrum analysis, and FFT analysis.

Really though, the shining beacon of functionality on the XL2 is its sound level metering functionality. It supports sound level metering to a number of different

international standards, it can display and log various levels with several weighting options, logs data as well as audio to an internal SD card, and can even be Type Approved thus providing evidence admissible in court.

Using the XL2 can be very simple or extremely complicated. The device allows for multiple configurations to be built and stored. Functionality of each configuration is defined, and various elements can be locked out. You can then set the XL2 to ask which configuration is to be used when it starts up, thus offering a simple method of operation for less technical users. In full mode, all options are available.

Navigation of the device is done with a rotary encoder, plus menu, page and escape buttons. Additional buttons allow start/pause and stop of logging, as well as muting of the internal speaker, adjustment and display of SPL limit parameters, and power / backlight. It's very simple to get around, and if you have a good understanding of the various parameters of the measurement functions, you'll have a good time with it.

If you don't understand the parameters, you'll do well to get onto the NTi audio website and check out their excellent range of webinars discussing all things measurement.

Accessories

First up, licensing. Various options are available for the XL2 – Type Approval, Cinema Meter, Extended Acoustics Pack, and STIPA among them. You don't need to buy a new device, or even send yours away to get these functions added – you just need to buy the function

from your local distributor, which in turn makes available an activation key for you to download. Plug the XL2 in via USB, copy the key across, and restart the device to access your new function.

STIPA is a measurement system designed to determine speech intelligibility in PA systems. This might not sound like a really exciting function, but for anyone installing EWIS systems it's more relevant. Such systems usually need to achieve specific targets in order to be signed off, and being able to provide nice accurate measurement data makes this a lot easier (which makes getting paid for your installation a lot easier!). STIPA measurements with the XL2 are done using a specific test signal, which you can download from their website and burn to a CD.

The MR-PRO is the pocket sized signal generator that is designed to accompany the XL2. It looks like a smaller version of the same thing, and navigates in the same way. MR-PRO has XLR output and input sockets, and can act as a cable tester too. It can produce a variety of sine and square wave signals at selectable frequency and output levels. In addition to this it offers polarity and delay "chirp" signals, and even has an internal WAV player loaded with several nice identifier signals. You can load your own content too.

NTi Audio offers a number of different reference mic choices depending on your requirements. The main choices are between type or class approval classification and SPL handling capability. There's even a ruggedised mic for outdoor measurement. A level calibrator is available which allows the user to make sure



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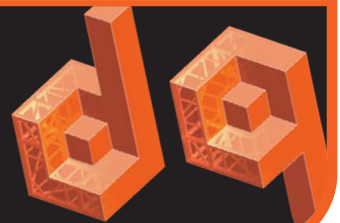
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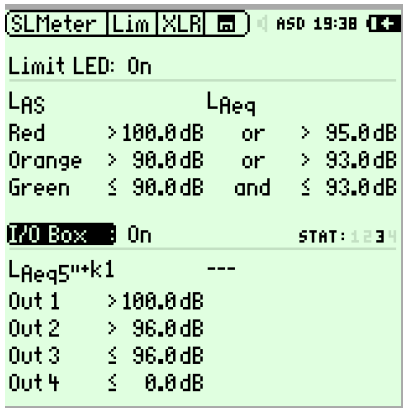
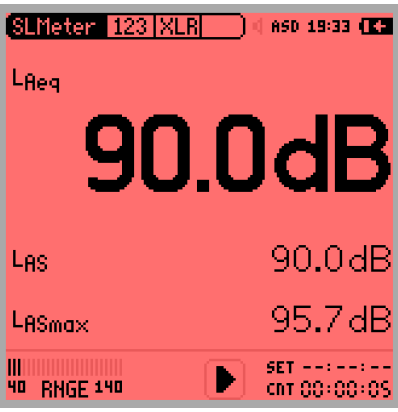
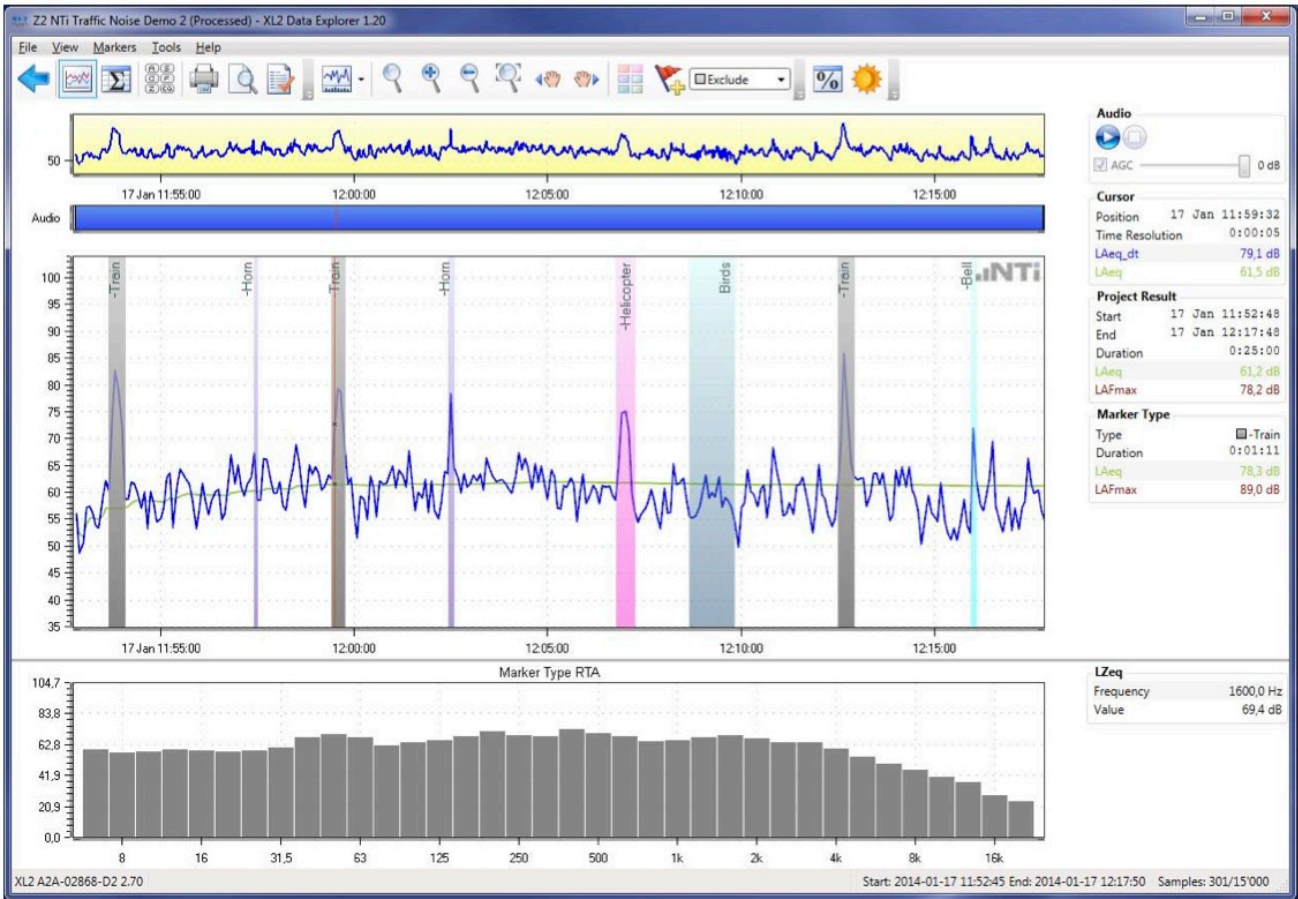
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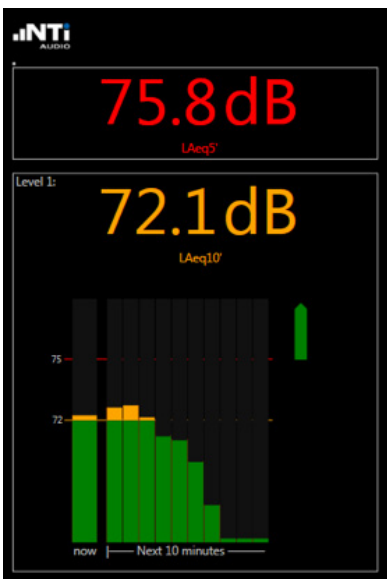
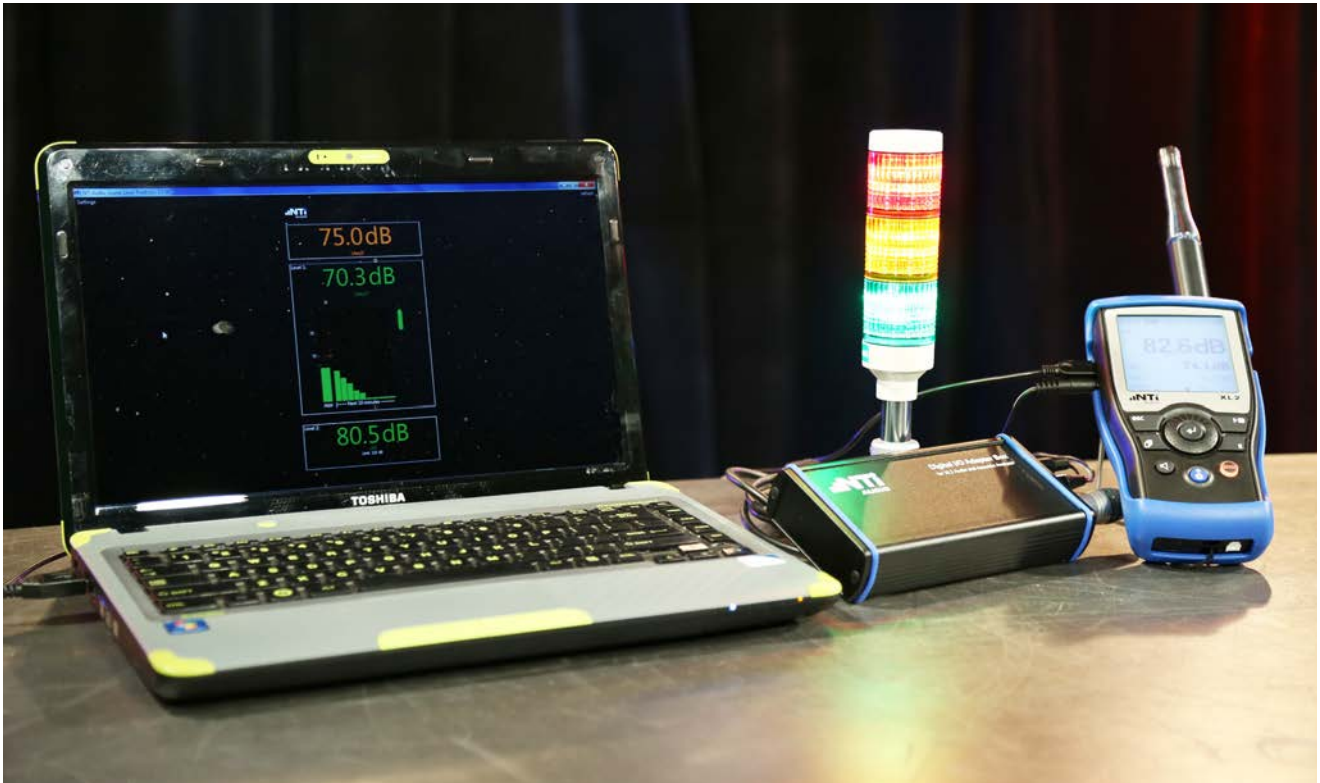
accurate measurements are made regardless of environmental and atmospheric conditions.

The Digital IO box and companion stack light product are used for quick and obvious visual indication of SPL monitoring levels. The XL2 has a tri-colour LED on its front panel which responds according to user defined SPL parameters. The DIO box and stack light can be programmed in the same way but with unique level parameters. The XL2 can respond to any measurement parameter – not just slow or fast A weighted SPL. This means it can be used for applications where measurements like time weighted averages are important – it can even handle gliding window measurements.

If you need to tie SPL limiting into the PA system to satisfy council requirements or similar, the Digital IO PCB gives you programmable outputs, which you can in turn interface to your system processing to engage attenuators or mute outputs.

Software

Since muting the whole system isn't always (or ever) an ideal solution, NTi has developed a level predictor software program. It runs on an external PC and connects to the XL2 via USB, and gives the user a clear indication of level history as well as prediction of future levels. When SPL trends toward exceeding the preset limits, the software shows the words "REDUCE LEVEL" in big red text on the screen. Everyone can understand that!



The XL2 Projector application shows a large version of the XL2 screen and allows you to operate the device in realtime on an attached PC. It works very well and is largely plug and play. When an SPL limit is exceeded, the on screen "backlight" of the app changes colour to yellow or red depending on the level.

Conclusion

We liked the XL2 last time we looked at it, but we like it even more now. Whether measuring a room acoustic prior to specifying a sound system or SPL logging at a festival to prove noise compliance to a local council, accurate data is often worth a lot more than the cost of acquiring it. The true value in this product is to be found not by looking at the shiny blue and silver hardware, but at the information that comes out of it.

The XL2 supports very advanced data and also audio logging. You can define the interval at which data is captured (at up to 100ms frequency), as well as which values are recorded. Spectra can also be logged, and you can even record audio on the SD card automatically. All this data can then be copied into a computer and analysed using the Data Explorer software.

Data Explorer gives a visual representation of recorded sound levels over the duration of an event. Spurious peaks can be quickly identified, zoomed in on, and the associated audio called up and played easily. Anomalies such as traffic or aircraft noise can be excluded from logged values, better allowing event organisers to accurately show compliance to relevant authorities.



BRAND: NTI AUDIO
 MODEL: XL2, IO BOX, STACK LIGHT
 RRP: XL2 WITH CLASS 2 MIC - \$2720.00 INC GST.
 DIO Box - \$999.00 INC GST.
 STACKLIGHT - \$480.00 INC GST.

PRODUCT INFO:
 WWW.NTI-AUDIO.COM
 DISTRIBUTOR:
 WWW.AMBERTECH.COM.AU

RUSH Gobo Projector 1

Wonderfully portable projector



BY JIMMY DEN-ODEN

It took all of three minutes for the entire of the CX office to reach a consensus about the RUSH Gobo Projector 1, and the consensus is that we all think it's great. But why?

I guess it's important to understand the function of a gobo projector – most commonly they're used for corporate branding. Be it outside a nightclub, or at the base of an escalator in a shopping centre, a good gobo projector just needs to get the job done reliably and with a minimum of fuss. Often these things will run 24/7, or need to be switched by some kind of timer system.

It's been a considerable while since I saw a dedicated gobo projector release. That's not to say there hasn't been one, but the last gobo specific fixture I can remember hit the market more than a decade ago, and it used a discharge lamp. It was bright, but it was also fragile and got very hot during operation. Of course the option to use a theatre style ellipsoidal or profile fixture is always there, but again they get hot, they're fragile, and they're definitely not very portable.

The RUSH Gobo Projector 1 uses a 20W LED light source which is completely convection cooled.

Most of the rear body of the fixture is heatsink fin, so with this many fins each one only needs to disperse a little heat. This means the unit remains quite cool even after many hours of operation. Convection cooling uses no fans, so the fixture operates silently.

The projector accommodates "E size" gobos with a maximum image diameter 24 mm, and a maximum thickness of 3mm. The gobo is installed into a carrier ring, which is then inserted into the fixture optical path and attaches magnetically to the rotation mechanism. The mechanism can rotate clockwise or counter-clockwise at a couple of different speeds, or stopped in one position. The magnetic gobo carrier makes it easy to level the projected image if required.

The RUSH Gobo Projector 1 is a compact device to start with, and made even more so thanks to a telescoping front lens assembly. The front lens holder simply pulls out on a pair of notched rods, with fine focus then achieved by rotating the front lens. The fixture is supplied on a yoke with mounting holes and a reasonable degree of tilt allowed for. It literally takes all of 10 seconds to position and focus the fixture, and when you're done with it just pull the power, slide the lens in, and drop it in your backpack. It's wonderfully simple, and completely effective.



BRAND: RUSH BY MARTIN
 MODEL: RUSH GOBO PROJECTOR 1
 RRP: \$934.00 INC GST
 PRODUCT INFO: WWW.MARTIN.COM
 DISTRIBUTOR: WWW.SHOWTECH.COM.AU

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Danley SBH-10

The skinny big horn



Danley Sound Labs subscribe very much to point source technology – in fact they don't make any line source products at all. The SBH-10 outwardly appears somewhat at odds with this, because it looks like a column speaker – but it isn't. Think of a speaker with a 25 foot deep 10 degree horn attached to it, then imagine removing everything except the last 12 inches and still having it work the same way. That's kind of what the SBH-10 is, and how it achieves this is pretty cool.

The SBH-10 uses eight transducer sections, each of them five inches in diameter. Each section is fitted with a "Paraline" device which shapes the sound it produces. The sum of the individual transducer sections is the same output you'd get if you just stuck one transducer at the end of a very long horn. On paper the description sounds really weird, but in practice it works really well.

Most impressive of all is that there is no driver to driver interference, delay, phase inversion or DSP used to achieve this – it's all done using physics. You plug the SBH-10 into one amplifier channel and send it one signal, and the cabinet does the rest. Danley has a

BY JIMMY DEN-ODEN

video online which explains pretty well how the Paraline device works, and it's worth checking out. As best as I can understand the science, it looks like the whole thing is very phase coherent too. The online video is interesting and well worth a look.

The SBH-10 is big. It stands nearly as tall as me, and it weighs nearly as much as I do. Reality is that while the SBH is probably a bit on the impractical side to tour, it would be an excellent installation product. Nominal horizontal coverage could safely be considered to be around 120 degrees, and within its operating frequency range of 77Hz-15kHz (+/-3dB), the SBH-10 can sustain a continuous output of 127dB SPL. That's just a bit terrifying, but remember Danley is a company which makes PA systems the right size for stadiums and such.

Power handling is 1300 watts continuous or 5200 watts peak, and you'll need an amp capable of driving a 4 ohm load to run the SBH. The good news is that pretty much every decent amp on the market is 4 ohm capable. To give us a full range system for test, Danley Australia also lent us a THMINI subwoofer. The THMINI is a single 12" and it kept up with the SBH pretty well until the point where we turned the whole system up really loud.

I've referred to speakers in the past as linear, and I think that's a pertinent descriptor here – the SBH doesn't seem to colour the sound. It has no specific "character", it just sounds like whatever you put into it. As much as the SBH is certainly good for music and playback applications, that's actually not really what it's designed for. It's designed for speech intelligibility in difficult environments, and with pattern control this good it's certainly going to help put sound exactly where it's needed. Truly it can be said that the SBH-10 is more than the sum of its parts.



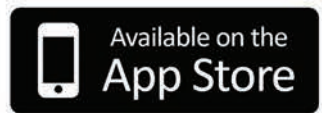
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Robe CycFX

Something different



BY JIMMY DEN-OUDEM

We're sort of at a point now where LED is not only a practical and viable lightsource, but it's starting to become the accepted norm for many applications. Robe got onto the LED bandwagon pretty early on and their product line has matured well over time as a result. Only a few years ago, 5W LED modules were complex and difficult things to make, not to mention expensive. Now 15W chipsets are becoming commonplace, and indeed you'll find eight of them inside the CycFX 8.

CycFX is available in an 8 or 4 module unit, and these check in at one and half a metre respectively. Two CycFX 4 makes one CycFX 8, albeit with a bit more control circuitry. Operation is largely the same, with more engines and accordingly more control channels being the only discernable differences between the two models.

The 15W RGBW LED engines in each unit are each located behind a lens, all of which are mounted on a common zoom assembly. Zoom range runs from a tiny 8 degrees through to a very respectable

67 degrees, and getting from one end of the range to the other takes virtually no time at all. On the topic of all things fast, the whole head assembly tilts through 270 degree range and does so very quickly indeed. Too fast to bother timing in fact.

Mounting the fixture is easy thanks to dual Omega brackets with a choice of three mounting positions and dual safety wire attachment points. You can also just sit the unit on the ground, and I didn't find anything in the literature to say you can't mount the CycFX vertically if you want.

Control is via DMX512, and you have a choice of four modes requiring 14, 21, 45 or 53 channels. 8 or 16 bit control is available for tilt, zoom, colour and dimming functions, and there's even a SunStrip emulation control mode. There's even tungsten lamp emulation and fade effects when you run at 2700 or 3200K.





rates up to 20Hz, and you can even run the fixture in standalone mode.

I think the final word should go to application. You can certainly use the CycFX as a Cyc light – the tilt and zoom control over the beam would give you some good options to achieve nice flat lighting. But I think it could do more – a bunch of these on some vertical trusses would look great behind a band – I love the idea of a big sweeping parallel beam effect. Even with no movement, just a staggered zoom effect running through a bunch of these would look great. I think the applications for CycFX are considerably wider reaching than its name would have you believe. I like it.



Robe has long provided good colour temperature selection support, with the virtual colour wheel a feature of every one of their LED fixtures I can remember reviewing. CycFX 8 is no exception, and added to this are a range of pre-programmed pixel effects which do a bunch of different things. Strobing is available at



BRAND: ROBE MODEL: CycFX 8
 RRP: CycFX8 - \$5079.00 INC GST.
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Editorial by Cat Strom

*Photography: Ricky - Chino Lemus & Ashley Mar
The Script - David Youdell • Red Hill - Robert Miles*



RICKY MARTIN'S One World Tour HAS IT ALL: THE HITS, THE DANCE ROUTINES, THE DRAMATIC STAGE AND THE LATINO FLAIR. WITH EIGHT DANCERS AND A FULL BAND, RICKY PERFORMS IN BOTH ENGLISH AND SPANISH AND NO ONE CAN DISPUTE HIS SHOWMANSHIP.



It's a good vibe show that has everyone on their feet shaking their bon bons from start to finish. After Australia, the show travels to Mexico for a few dates before taking on the US where the production is expected to be even larger.

FOH audio engineer Chris 'Privet' Hedge comments that the mix for Ricky is quite complicated due to the wide variety of songs in the performance. Essentially the show can be divided into four categories for the audio starting with the more modern songs with quite a lot of track, a rock section with a degree of playback, an organic ballad section with a duet and finally a Latin dance section.

"It's a very busy mix and I don't use much automation on the console, just cuts and VCA's at the start of each song and then after that I mix it on the fly," Chris added. "Generally I use DiGiCo consoles, on this tour I have an SD10, and with their latest software release they've pretty much got it nailed. It just suits the way that I mix, it's easy to access everything with one touch. It's not technology dependent and they've really thought about the ergonomics.

"Most of it is fader pushes and I know what I need to access in a hurry and at certain places in the set so I've just got my muscle memory in for doing a single screen console. It's touchscreen, everything is one touch, it sounds great - what more do you want?"

When it comes to onboard effects there are no delays used in the show although Chris uses several reverbs, in particular the Cathedral, and Wood Rooms which are generally shorter reverbs.

"Really these rooms do it for you and it would be better to have an effect that can make the reverb go away in some of these places!" joked Chris. "I have an off board Bricasti M7 Reverb which is the main tool I use on Ricky's voice. Basically it just fills out the middle of his voice and gives it more texture. I also use an Avalon VT-747SP Compressor which has a gentle compression, he's a very controlled singer so you're not dependent on compression to keep him in the right place in the mix. In general he finds the right place in the mix. It's about the EQ and keeping him totally correct."

The PA used in Australia was an L'Acoustics K1 system with a total of twenty-four boxes plus an extra eight K2 in the main hang, twenty-four SB28 subwoofers, eight K1-SB subwoofers flown and twenty V-Dose for the side.

"I always prefer an L'Acoustics PA in fact if I never saw anything other than L'Acoustics and DiGiCo I'd be happy," remarked Chris. "Other systems are good but I just like the tone of these."



With microphone selection Chris tends to favour 'the same old chaps' he has been using for years such as AKG414 on overheads, Shure SM57 on the snare, Shure Beta 98 on percussion, and SM81 on the overheads of the percussion as they are required to be more directional than the AKG414's.

Monitor Engineer Steve May is from the UK but calls the Gold Coast home, although he generally works overseas for such acts as Bryan Ferry and Eric Clapton. Steve also prefers DiGiCo, in this case an SD7 chosen for its sound quality and user friendliness.



CHRISTOPHER 'PRIVET' HEDGE

SHANE BUDINI

STEVE MAY

TIM JONES

"I have over eighty inputs and forty outputs on the console," he said. "Most of it is locked in scenes so it's not too busy. I try not to use any outboard gear unless someone specifically asks. Onboard I use percussion plates, a live room setting and a drum reverb plate."

Other than a set of side fills for the dancers so they can hear the beats of the music to keep in time, the stage is clean with everyone using in ear monitors. The



molds are a mixture of JH Audio, Ultimate Ears and Sensaphonics with Sennheiser G3 IEMs.

"I find that the Sennheiser IEMs are a little bit more forgiving than the Shure versions and you can generally pick up the G3 or 2000 models anywhere in the world," commented Steve. "The most difficult part of mixing monitors for Ricky is learning Spanish! He often forgets and talks to me in Spanish. He uses a Sennheiser radio microphone with command function which allows him to talk to me at any time at the push of a button."

Production, lighting and video design is by Richard Neville and Alex Grierson of Mandylights with Federico 'Churry' Lafuente as lighting director. The production had to be big, yet versatile and scalable due to the variety of venues on the tour, and as mentioned in the audio write up, it had to cater to the four different sections of the show.

"The main idea is that the stage can change shape to match whichever section is being performed," said Richard. "We also wanted something that was clean and had a defined design to it. Consequently we came up with the idea of the four cubes and that everything would divide into four on the stage."

The cubes, along with the rear wall, are the main elements to the stage and lighting design although Mandylights were keen to have a design that did not necessitate the entire rig being used at the same time.

"There are many layers stacked up on top of each other, sometimes the cubes obscure the back wall and when all the cubes are up in the roof together we can't use all of the video," explained Richard. "Even after sixteen songs we are still revealing new looks to the stage and new combinations of lighting in different positions. Just like Ricky's music changes and the show evolves musically over the course of two hours, so does the stage design."

Each cube houses eight Martin MAC Viper Profiles upstage and eight MAC Viper AirFX downstage plus eight Molefay Duets and four Atomic strobes. The video surface on each pod is 5.4 metres wide by 2.4 metres high. The pods are controlled by Kinesys with the Kinesys positional information fed back to the D3 Media Server thus making the D3 aware of where all the video surfaces are within the show.

"That allows us to do some pretty cool movement effects and track video up and down," said Richard. "We wanted to push the cubes past just being a lighting and video effect that happens on top of everything else. We spent a lot of time during programming the show and rehearsals working out ways that Ricky, the dancers and the band can interact with the cubes. For example, at the top of the show the cubes hide the entire show and the band is enclosed by them. Ricky is then revealed through one of the cubes."

The back wall comprises of ninety Martin MAC101 LED moving heads on soft ladders as Richard wanted a huge wall of light that could go very high yet was easily scalable. Whilst normally rigged at 50ft it can go to 70ft if required.



CRAIG GORDON

CHRIS DAVIS

RICHARD NEVILLE

ALEX GRIERSON

CHURRY LAFUENTE

"The MAC101's are cost effective, something that is important when you need ninety fixtures, and they are bright, punchy and incredibly fast," added Richard. "We have some closing cues towards the end of 'Cup of Life' where the wall just goes crazy and we've had a lot of fun with them. We've got some massive, really fast effects from the MAC101's."

Richard made the decision not to use a straight front truss on this tour as the design can be very high and he felt a front truss would clutter the overall picture. As a result ten Vari-lite VL3500s are used for sidelight whilst twenty-eight Sunstrips across the front of the stage act as footlights.

"It keeps it a bit more theatrical and we can do some nice sidelight on the dancers rather than 'tennis court washing' the stage with front light which is a pet hate of mine," said Richard.

A total of 3500 LED pixels are built into acrylic panels on the set, pixel mapped and driven via ArtNet from the D3 Media Server.

"We really wanted to extend the video surface down behind Ricky and the band, and rather than just placing normal video panels we decided to get a bit more creative," began Richard. "We took inspiration from the tours' graphic design which is a pixelated world map and came up with the individual LED pixels. There are forty-eight panels of LED that Mandylights custom made sprawled across the stairs and back wall."

Ricky was very keen to incorporate a Ford Mustang car into the show so a stage lift was built so the car can appear and then track forwards.

For control there's a full size MA Lighting MA2, with about 2000 cues, and a MA2 light for back up, with much of the show timecoded but a fair amount manually operated. The band often do their own thing so the control set up has to be quite flexible. The D3 Media Server currently operates independently and is operated from FOH too.

"The content we had made takes advantage of all of the surfaces moving, it's not just one giant video that plays out across everything and looks really boring," added Alex Grierson. "It all just works properly with all the lighting and the automation."

As the D3 Media Server runs the entire video system taking in positional data from Kinesys, it knows where the pods are in real time and it can then calculate where to put the image.

"We do a couple of songs where it is 'virtually' projecting onto a couple of the pods and because the D3 knows where they are they can be treated as a projection surface," said Alex. "When the pods move, D3 will map the contents accordingly so out the front it all looks correct and it matches up correctly."

The D3 also deals with the camera inputs taking the line cut from the director and feeding it to the screens. There are four manned cameras; two long lenses front of house and two in the pit as well as two PTZ and two PAV cameras onstage.

Backstage in video world there's a Grass Valley Kayak DD 2 M/E Digital Switcher with Shane Budini directing.

"Directing video for Ricky is very quick because it's Latin music and he's very dynamic with lots of dancers and the band," said Shane. "It's an interesting cut, with lots of things to see for the audience. The biggest challenge

for us is the LED setup and the integration of D3 into the system, that's quite tricky."

Kinesys operator Chris Davis has nineteen Liftket hoists being controlled by the Kinesys Vector system, each on their Elevation1+ variable speed chain hoist control.

"The idea of the show is that there are four moving pods, each with a video screen on the two fronts, and each pod, except for the upstage one as it's not a full pod to fit in with the set, has four motors to do basic up and down moves to form different shapes," remarked Chris.

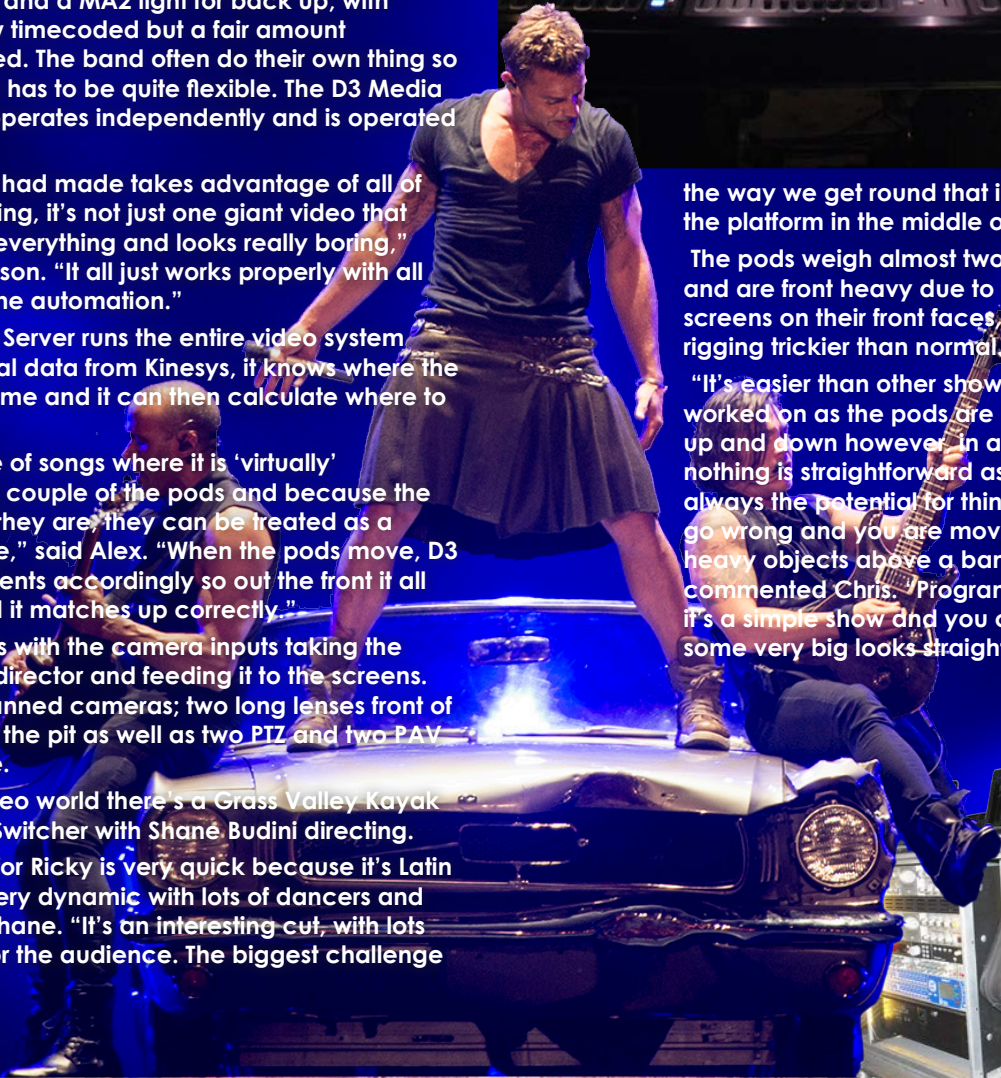
"There's also Ricky's platform downstage centre which is used twice during the show: at the start to reveal him and later he does a song on top of one of the pods and



the way we get round that is to have the platform in the middle of the pod."

The pods weigh almost two tons each and are front heavy due to the video screens on their front faces making rigging trickier than normal.

"It's easier than other shows I've worked on as the pods are straight up and down however in automation nothing is straightforward as there's always the potential for things to go wrong and you are moving very heavy objects above a band," commented Chris. "Programming wise it's a simple show and you can get some very big looks straightaway."



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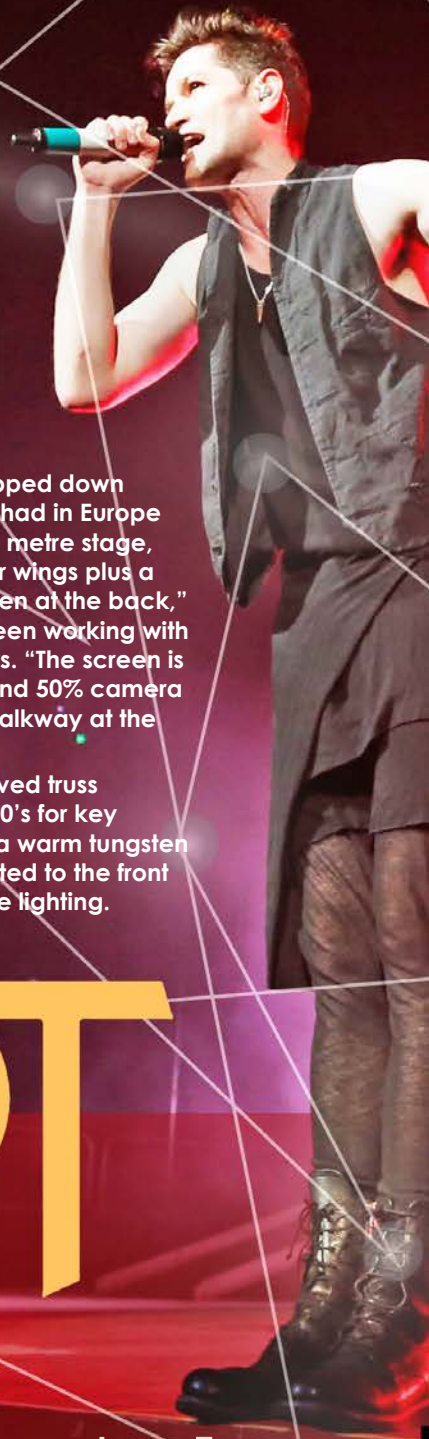
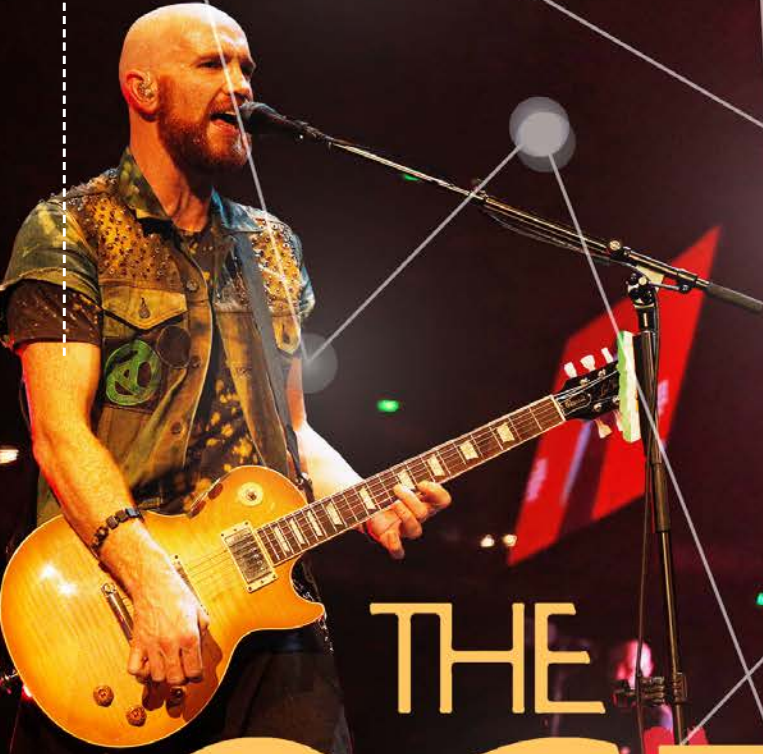
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THE IRISH ROCKING TRIO THAT IS THE SCRIPT BROUGHT THEIR ARENA TOUR TO AUSTRALIA WITH FABULOUS LIGHTING DESIGNED BY JAMIE THOMPSON OF MIRRAD AND SUPPLIED BY CHAMELEON TOURING SYSTEMS



“It’s essentially a stripped down version of what we had in Europe with a standard 18 x 12 metre stage, a backline and monitor wings plus a large 16 x 8 metre screen at the back,” said Jamie, who has been working with the band for eight years. “The screen is used for 50% content and 50% camera work and sits upon a walkway at the back of the stage.”

Out front is a giant curved truss housing Vari-Lite VL1000’s for key lighting and providing a warm tungsten glow. Jarags are mounted to the front of the truss for audience lighting.

THE SCRIPT

LIGHTING DESIGNER - JAMIE THOMPSON





Four straight trusses sit behind this over the stage with the first supporting mainly wash lights in the form of Martin MAC2000 washes as well as three Clay Paky Alpha Beam 1500s for a little more effect. The back truss is all MAC2000 whilst the two middle trusses have a selection of Clay Paky Mythos and VL3000.

“The Mythos are great and I like to use them like a very bright Sharpy with lots of beam and gobo effects,” added Jamie. “They also zoom out incredibly wide but retain their definition and essentially, they’re everything I have ever wanted in a fixture. The VL3000 is simply a great workhorse profile.”

They're great for eye candy and make the rig look really big.”

On tour with the band and crew were Mirrad's Avolites Sapphire Touch console along with an Avolites Quartz as back up.

“I've always used Avo and just love the way they work,” remarked Jamie. “They're quick and easy to operate and achieve great looks. I've always described the

At each side of stage there are three staggered trusses packed with Mythos lights. On the floor are B-EYE K10s and K20s plus GLP impression X4's on top of the walkway for eye candy.

“On the UK tour we had the B-Eyes all pixel mapped but we don't have enough production time in Australia to do this,” commented Jamie. “However we do have them in shapes-mode so we can use the rotating outside rim plus we've been using a lot of the inbuilt effects too.



Sapphire Touch as a designer's desk rather than an operator or a programmer's desk. The interface is really nice and clean – you're not scanning it constantly for fixtures and features – everything's in front of you."

Video content, also designed and supplied by Mirrad, is supplied via an Ai S8 media server which offers 4 and 8 display ports/DVI outputs and up to 4 layers per fixture group. In this case only 2 outputs are used with Jeffrey Brown in charge.



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Although the festival organisers are not industry professionals, Robert reports that they have become quite skilled in production over the years, judging by his experience this year. The festival site is a 25 minute drive from Geraldton putting it basically in the middle of nowhere.

"It's a cool looking site as it's all red dirt with a backdrop of the hills," said Robert. "There's a symmetrical domed hill, in front of which the tin roof and tree-trunk post stage is set, and that looks spectacular."

The lighting on the stage is moderate with the decision to also concentrate the lighting onto the hill. It's an effective, big-look for a minimal amount of lighting fixtures.

"Unfortunately the site managers often do one thing wrong - which is very important and a pet concern of mine - they park the trucks parallel to the stage," added Robert. "You'd think it would be a relatively small concern on a fairly large outdoor site however the reflection you get

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back from a truck parked parallel to the stage, even if it's 150 metres away, is still really loud onstage. All they've got to do is park them at an angle. A truck body (or a shed) 8 metres long and 3 metres high is enough to send a massive snare reflection back at the stage with a half a second delay that knocks the hell out of everybody on stage in terms of timing."

A seasoned veteran on the Australian touring circuit, Robert can handle just about any PA or mixing console although his preferred choice is d&b audiotechnik and an Avid Profile.

"However I have found that some digital consoles are intolerant if the configuration changes," he commented. "I find that with the Midas PRO series, the files don't translate well whereas on this gig I had an SC48 console whose file translates well from a Profile. DiGiCo boards are pretty good if the firmware is the same. But even if you edit offline, I think it's the biggest challenge for FOH guys; keeping up with so many file formats for so many models of so many consoles."

The PA comprised of a flown Nexo GEO S system with ground stacked RCF S8028 subs, which Robert is always happy to use, with Nexo PS15 monitors.

"It's a solid, robust PA which is not temperamental and that's what you want when you're out in the country," said Robert. "My normal concern at these gigs is whether the PA is large enough to cover the area required especially when there are no delay stacks. My logic is that if people can spread out, they will do. It really helps if FOH is set up close to the stage."

On the day, Robert reports that his main problem was the flies, although of course they disappeared at sundown. Despite the red dirt being wetted down prior to the gig, dust was a nuisance although that was more a problem for Phase 1 Audio who provided all of the audio and lighting!

FOH ENGINEER
ROBERT MILES

HUNTERS &
COLLECTORS



MARK SEYMOUR & THE UBERTOW



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BY ANDY STEWART

FIVE GOOD REASONS TO LIMIT YOUR OUTPUT

But no, this isn't an article about making stuff louder with look-ahead limiters. This is a general warning shot across the bow of anyone who thinks there's no downside to creating digital multitrack session files with 100, 150 or even 200 channels of audio. The downsides are many and varied...

When it comes to album production there's a certain truth to the old adage, "nothing beats a good limitation."

But whether you agree with this cliché or not, there's certainly a downside to the capacity of modern computer technology to facilitate 150+ channel recordings. There are fantastic benefits too, of course, but the pitfalls are insidious and often interwoven with the technical advancements.

AUDIO INFLATION

Modern-day track counts have gone the way of house prices in the last two decades – into the stratosphere! So much so that when I recently transferred an old 24-track master tape into ProTools, I was genuinely shocked at how incomplete the file looked.

"Where are all the overdubs?" I thought to myself. One thing was certain... this mix was going to be a doddle!

THERE'S NO LIMIT!

When a recording format poses no real limitation to the number of overdubs an artist can dream up and then capture, there's a very real chance the tracking stage of a production will get out of control fast if there's no-one there to manage it.

This aural inflation, while it can be fantastically powerful, can have a number of detrimental effects on musical outcomes, the worst of which – in no particular order – go something like this:

1: WHO'S KIDDING WHOM? THOSE OVERDUBS SUCK

Computer recordings can take the pressure off an artist's ability to stand up and perform. When musicians can say to themselves, 'This is it... it's time to produce the goods' – that's when they typically excel.

Computers, if left to dominate this aspect of the process, are terrible at applying 'red-light' motivation.

When no pressure is applied: if the sense of occasion is diminished by an artist's expectation that their part can be compiled from 50 takes, or made up of layers of performances, they will tend to rely on these external techniques to achieve the outcome, rather than their own skills and abilities. This encourages lacklustre takes rather than magical one-offs.

The worst form of this is where half a dozen tracks, consisting primarily of mediocre performances, are recorded to take the place of one good one. More and more often this technique is used to conceal bad playing or an unrealised part. When this sort of layering technique infests a production the results are typically messy, indistinct and hard to mix. Unless it's specifically designed to create a sound, indiscriminate layering usually leads you nowhere fast.

2: BUDGET CONSTRAINTS

Gratuitous overdubbing can blow your budget faster than a stick of dynamite.

Let's face it, there are very few single, EP or album productions around these days that have a limitless budget. Frankly, I've never come across one, unless you want to perversely include those with a budget of zero.

Putting those penniless productions aside for a moment, an artist's imagination for overdubs will nearly always run deeper than their hip pocket. These days one of the last remaining constraints that stop too many overdubs from being applied is, in fact, money. If your budget is tight, be careful how much stuff you add; the knock-on effects are significant.

Songs with too many overdubs take longer to record, longer to edit and longer to mix, and consequently cost more (if you're not doing it yourself). They can cause confusion in the artist and producer about what's beneficial to the song – which eats into the schedule. They can soak up hours, if not days, of a mix engineer's time that could otherwise have been devoted to landing the project.

Housekeeping – time that's devoted to organising files, applying fades, colour-coding like instruments etc – can, in fact, end up dominating a process if there are too many overdubs scattered around a session file in no particular order. Indeed, when a song file gets big enough, this process becomes a whole step in itself, like recording or mixing.



3: FOUR JIGSAWS IN ONE BOX

When overdubbing goes unchecked, one thing that can happen is that the recorded parts don't fit together when it comes time to mix.

As I've no doubt discussed in other CX articles, just because you have an idea for a part in a song, doesn't necessarily mean it works in context with all the others, particularly if half the parts are muted while you're performing it.

All too often, extra overdubs either clash with existing tracks or play a too-similar role to others that are already well established. When this happens, the clarity of the performance can start to blur like an out-of-focus lens. You don't necessarily notice it at first – some never do – but the result are nearly always the same. Listeners disengage because there's too much information competing for their attention.

In many circumstances, even mix engineers sometimes don't have the luxury of time to investigate the nuances of the countless overdubs at their fingertips. Performance details are therefore quickly lost in this hubbub of confusion, leaving the poor listener with exponentially less hope of ever discovering what may have been good about some aspects of the buried performances.

4: REPEAT PERFORMANCE

Unless they're for a specific reason that adds production value to a song, some overdubs wind up undermining other performances and vice versa. The main reason this occurs is that often the perspective on how all these various overdubs fit together is either being lost, or has never been tested.

The solution to this is in-progress mixing – a performance stocktake if you like.

In-progress mixes allow you to get a clearer idea of where a project is at, particularly if a song has already had several overdubbing sessions thrown at it. If there's never been a stocktake mix made by the time you've accumulated 150+ channels of audio, chances are some of it will either clash with other parts, or be extraneous to the final mix.

The trick is to stay as lean as you can throughout the recording process, cutting out the dead wood regularly, even though you may still ultimately end up with a large track count. It's not so much the sheer number of channels that matters as how well they all fit together.

5: TOO MANY MICS

But accumulating tracks isn't just about the number of musical ideas being thrown into the mix. The other culprit is the recording process itself. Too many mic and line options can bloat multitrack sessions faster than pancakes for breakfast.

Here again, in-progress mixing can provide an engineer with enough insight into the final sonic landscape of the song that they can then, with some confidence, either delete or 'hide and make inactive' extra mic channels that seem unnecessary. The sooner you can decide that certain recorded tracks are extraneous to the cause, the better. These can be ditched from the working file. If, at some later date, they're deemed vital again – which rarely happens – by all means reactivate them then.

GROW FRUIT, NOT WEEDS

Whether you're working on one song or 100, the same basic rules apply. Cutting out the dead wood and identifying any overdubs that either didn't work, or undermine other elements of the recording, are crucial to the final mix outcome sounding lively, well arranged and musically satisfying to a listening audience.

All too often we assume the processes we've developed, (or have had insidiously thrust upon us by the technology), only have their upsides. Hidden in many of our working methods are pitfalls disguised as technological advancements. It's important for each one of us to identify these for ourselves, because one thing's for sure, marketing managers and software developers never will.

Stay in control of your music as well as your approach. Don't let the technology dominate proceedings too much or you may find yourself throwing money down the drain, and with little to show for it. In most cases – though not always – quality trumps quantity... and it's usually cheaper to produce.

'Til next month...

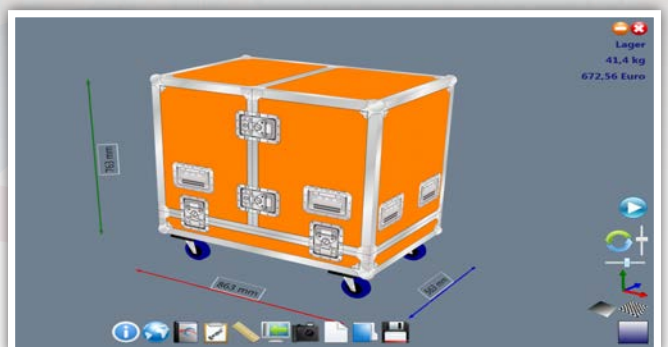
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Broadcast Engineering Training in Australia

HOW THINGS HAVE CHANGED, AND NOT FOR THE BETTER

FOR MANY DECADES, BOTH PUBLIC AND COMMERCIAL BROADCASTERS OPERATED A SERIES OF LONG TERM TRAINING PROGRAMS DESIGNED TO EQUIP PROSPECTIVE OPERATIONAL AND ENGINEERING CANDIDATES THE SKILLS REQUIRED TO WORK IN TELEVISION AND RADIO.

BY JASON OWEN

These included a range of apprenticeship style programs, through to Diplomas and then onto Degrees. This gave the industry a continual flow of highly skilled and qualified people coming through the ranks to replace the natural attrition through retirement or people leaving the industry.

It also gave people a choice of going down the operational or engineering pathways depending on what their passion was. In the program I was witness to at Channel 7 in the 1990's, students completed a four-year program, which included a six-month stint in each department, and a TAFE Diploma. By giving the people a six-month stint in each department they not only learnt about all parts of the broadcast product, but also gained valuable networking and insight into what made the place tick! They developed an appreciation for what everyone else had to do and meant that as people moved on, opportunities would arise that people already had a general knowledge about.

FRAGMENTED

Move forward to today and we have an industry where training is quite fragmented, there are huge gaps in skills training and a very mixed attitude as to whose problem it is to fix. From my experience, training programs today tend to focus on operational skills, and not engineering. Of course technology has helped make this happen, but also peoples perception of what broadcasting is has also changed. People can now go and spend \$10k or less and publish HD quality movies onto You Tube. This in turn has convinced swags of people that they can make it in show business, and the training programs offered today reflect that.

Our world, and lives are highly outsourced, and the outsourcing of engineering is just another example of what world we have built for ourselves. Problem is that even if you outsource your engineering function you still need a vendor with capable engineers to deliver the work you need. It just moves the problem! At the lower end of the gene pool some companies might think, 'well that's their problem to ensure they have quality staff to fix or build my widget'. This is just selfish and quite isolationist. You cannot tackle industry wide issues unless you get industry wide engagement.

Content generators and broadcasters have in general brushed aside the need for highly technical staff because all manufacturers or their dealers offer support agreements that mean they carry the knowledge not

the equipment operator. We have also seen a conflation of technologies that means the skill set for any engineer needs to include in-depth IT skills. Everything in the broadcasting environment is 'IP today', and if its not, it will be within five years.

OB IN THE FIELD

One of the areas where the gap in real engineering skills is most acutely felt is in the field. Outside Broadcasting is a place where expectations are continually growing to that of being in a real studio or controlled environment.

Interdependence and the introduction of connectors and equipment designed for a fixed installation are now commonplace in the field. This means they break, they fail and they are anything but reliable – for example RJ45 and LC connectors.

Because the field is so narrow when it comes to high quality engineers (especially ones with RF knowledge) broadcasters pay top dollar for those people, and those people are continually in high demand.

So how do we resolve it, and is there any reason to resolve it?

Some might argue why fix it?... especially the people that fall into the category above. However, what will happen over the next 10-15 years is that we will see these traditionally trained engineers retire and with them will go a huge wealth of experience and knowledge.

The answer lies in a combined industry response. It's time for all the major broadcasters, outside broadcast facilitators, vendors, unions, everyone to put together a comprehensive program that provides in-depth engineering skills.

This is not a quick fix, and it is not one that has not been tried many times by many well-meaning people. Some training providers offer Diplomas in twelve months! I'm not sure how what used to take four years to deliver and learn can be compressed into just 12 months. Seems that it has become all about 'fast tracking' and compressed learning rather than quality...much the same as many parts of our society.

It's a little sad; the term engineer is quite loose these days. I have worked with people who call themselves engineers yet could not draw me a diagram of a basic audio amplifier circuit, not terminate fairly basic connectors, not understand any decibel scale, nor what reference is. Radio frequency is a whole other issue, with an ever-increasing amount of kit offering wireless capability, the RF skill set needs to increase dramatically inside businesses operating in our space or it will all end in tears.

WELCOME TO THE QUIZ. ALTHOUGH MANY WERE CONTENT TO DEFACE THEIR EDITION OF CX WITH PEN OR CRAYON ON THIS PAGE WITH OUR CX-WORD, WE DECIDED TO ENCOURAGE GROUP DISCOURSE WITH TECH QUIZ TIME. SO WHILE SITTING IN THE AIRPORT LOUNGE, FLOP OUT THIS QUIZ. TEST OR TORTURE YOUR COLLEAGUES, PLUMB THE DEPTHS OF THEIR KNOWLEDGE, AND TRY NOT TO CHEAT.

WARNING: SOME OF THESE QUESTIONS HAVE PREVIOUSLY AIRED ON THE HUMP. WHERE SOPHIE ESHMAN USUALLY WINS, TO THE ETERNAL CONSTERNATION OF CX SENIOR WRITERS JASON ALLEN AND JIMMY DEN OUDEN.

FOR THOSE NOT PLUGGED IN, THE HUMP IS LAUNCHED EVERY WEDNESDAY LUNCHTIME ON CX-TV.COM AND FEATURES 10 UNFORGETTABLE MINUTES OF VIDEO FROM OUR STUDIO, FRESHLY PREPARED JUST PRIOR. ON IT YOU WILL LEARN THINGS YOU ALMOST CERTAINLY DIDN'T KNOW, AND EXPERIENCE THE (OFTEN RANDOM) THOUGHTS OF MEG, SOPHIE, JASON AND JIMMY - ALL CURATED BY THE CX GIMP.

TECH QUIZ TIME!

JUNE EDITION

- 1 A visionary at Alesis went on to form which audio company? (You remember Alesis for the Adat, an 8 track digital recorder that used a VHS video tape as a medium. Spooky, but it worked and sold a storm. For a while.)
- 2 Another name for a profile spot from the USA is what?
- 3 What is a NIT measurement?
- 4 An Albright and a Backmann are names of what?
- 5 At the beginning of Martin Professional, what device did Peter Johansen convert into a smoke machine?
- 6 What was the name of Julius Grafton's first lighting company?
- 7 55 years ago, which company invented gaffer tape?
- 8 Can Gaff Tape fix broken hearts? If yes, explain how.
- 9 Who invented magnetic recording tape?
- 10 A 4.7k or 4700 ohms resistor has which colour codes?
- 11 Which new moving light is a completely sealed system that does not ingest dust or water and can operate in extreme climates?
- 12 Who invented the first visible LED?
- 13 Who invented the first 3 pin XLR type audio connector?
- 14 Which industry magazine publisher has been continually in print for 25 years as of this year?
- 15 Which cartoon show asked the rhetorical question about the wreck of the Hesperus?
- 16 What was the name of the converted bus that AC/DC toured in during 1976?

ANSWERS - PAGE 72



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BIZ TALK notebook reveals diligent sales professional

Too many 'C' and 'F' grade reps out there



with Julius Grafton

A COUPLE OF ROADSHOWS AGO I BLOGGED ABOUT 'C' GRADE SALES REPS WHO TURN UP LATE OR DON'T BRING WHAT IS REQUIRED. LAST MONTH THE CX TEAM TOURED OUR FIRST SECURITY TECHNOLOGY ROADSHOW IN PARTNERSHIP WITH SECURITY ELECTRONICS & NETWORKS MAGAZINE.

We tried to find some tenuous linkage to the A.V. market and aside from Bosch and Hills being there with their Security CCTV products, there is little in common. It was weird being on a Roadshow where we knew almost no one.

Fortunately the Security vendors loved their Roadshow like our colleagues love the CX Roadshow (which we have rebranded and expanded as the ENTECH Roadshow next year).

But it provided an excellent platform to observe sales techniques. Or lack thereof, and compare same with the flock of folk who sell sound, lights and vision gear in the CX / ENTECH market.

Strangely the demographic was similar. Aging sometimes weary and almost always overweight blokes hail dither come slather handshaking. But unlike our market a fair proportion of Asian and Indian (and in between) dudes who frankly sounded more professional than the former group.

The highlight of SecTech 2015 was the hi-def CCTV camera shootout where a room full of blokes got all close together and we turned out the lights. You'd be amazed how good some of those cameras were, including some with infra red sensors for the real dark section of the session.

In packup after Happy Hour (we ran SecTech almost the same way we run CX Roadshow, because it works) I found a notebook. It had methodical notes of sales calls, feedback and outcomes. Staff meetings were detailed, targets measured, and follow ups were made.

I pondered this. Some of the sales guys I overheard on the floor mirrored some of our colleagues here in A.V. and they did not instill confidence. One bonehead actually had the temerity to invite our SEN colleague John to a house of ill repute – a measure that is at best blatantly tactless, and at worst a sackable offense at most firms we know.

The notebook guy would be a prime hire. How do you find a notebook guy, when you are hiring? Asking them to bring their notebooks would probably elicit refusal on privacy grounds.

Next morning I was talking to some of our team at breakfast about this, and we concur that it must be very hard to actually BE a sales person, and even harder to be a GOOD one. Plenty of stories reach us about sales people who mislead, cheat, lie, and don't follow up. In the tech industries, it is easy to mislead.

A few stories are about exceptional situations where everyone is happy.

Inevitably the sales people who don't follow up when CX comes calling end up being the same guys (yes they are usually male) who flip from job to job, headed from being a 'C' grade rep, to an 'F' grade rep. Where 'F' stands for fail.

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The ACETA tribute to Gary Nessel and Strauss Sound Systems presented last month elicited an unprecedented response; such was the interest in the individual, the company and Australian creativity. I received numerous e-mails and phone calls from individuals I had lost touch with, one last seen 45 years ago. In addition, it was pleasing to make new acquaintances based on common experiences and memories. Gary's passing brought many together in a common cause: demonstrating the innate rich fabric of our industry. Numerous questions about Gary and Strauss were answered, however just as many questions were raised, and concerns expressed about creativity and manufacturing in our country that require considered follow up. As ACETA is actively addressing this important issue, it is timely that we respond.

The up and downside of creating and manufacturing in Australia - Where are we at today

It is quite naïve to assume in what seems a borderless environment that no matter where we are or what country we live and function in; we are subject to the same or similar conditions, that the playing field is level for creating and manufacturing, wrong. The reality is that conditions and opportunity vary markedly from country to country. You are subject to the laws of a specific nation, availability of finance and other resources, established operational cost structures (particularly labour costs), logistics, proximity to markets, and levels of (government) assistance to mention but a few defining issues.

Consider the hypothesis, if in the 1960s Strauss was a USA- or UK-based manufacturer, in all likelihood it would have become a powerhouse supported in its development with access to a significant home market and numerous resources that dwarf the Australian reality. In Australia today anyone aspiring to build a creative enterprise is sustained in its growth by a comparatively miniscule home marketplace of 23 million. By comparison, based in the UK or any other European Union country you could trade with easy access to a market place of 852 million on your doorstep (Europe). Based in the USA your home market place represents a population of 319 million with next door neighbour Canada at 36 million. In relative terms we are demonstrably unique in our isolation, that limits access to many and varied resources, not to mention the cost penalty of distance. No matter where you are in the world, component minimum order quantities (MOQs) and the cost of technology and its support are the same. Therefore to be competitive and sustain a healthy business most Australian technology creators and manufacturers will need to export, and what do we confront moving forward?

It seems there is a natural correction taking place. Several indicators say the immediate future will be challenging for many participants worldwide, who will need to understand the challenges before they can successfully address them. It is a buyer's market and the emphasis on logistics, namely getting as much product out the door as possible, to appease investors, will be difficult to sustain. What does this all mean moving forward?

Sustainability will most likely require a more equal balance between marketing and engineering. It will almost certainly mean a more appropriate balance between features and performance. Future success will require a collaborative client-focussed partnership. In the constantly evolving digital domain, a closed architecture approach will no longer be acceptable; the market will demand choice and freedom. One suspects we will see more defined product/system delineation between consumer and industrial/professional, a situation that has become a little blurred

BY FRANK HINTON



In memory of Gary Nessel & Strauss Sound Systems



NOVEMBER 2014 - GARY NESSEL WITH ORIGINAL PARTNER JOHN WOODHEAD

Initially, and for sentimental reasons, this was a story I wished I didn't have to write, however on reflection it was an opportunity and privilege to honour an individual who made his mark and also to celebrate the innate creativity and ingenuity resident in our Australian entertainment technology industry. It was suggested that I offer this particular piece as I was there and for a time close to the subject matter.

Our story begins early in 1962 when two school friends John Woodhead and Gary Nessel founded Strauss Sound Systems. Little did they know their initiative would ultimately become an industry legend. Today John is as active as ever producing high quality speaker cabinets and today

By FRANK HINTON

70 | CX103 MAY 2015 | www.julivieda.com | 25th Anniversary Year

A Celebration of Australian Creativity and Ingenuity

Gary passed away on Thursday afternoon the 2nd of April 2015, approaching 68 years of age, this tribute is dedicated to his memory.

I commenced working at Strauss Sound Systems in the mid-1960s; the company was located in a small flat above a shop at 264 Toorak Road, South Yarra. By the time I joined ownership of the business had changed; John Polter had replaced John Woodhead as Gary Nessel's partner. Before moving on it is important to set the scene, a backdrop to the evolution of Strauss. The youth of the day had abandoned conservatism and abolished conformity; this was evident in fashion and the explosion of colour, the likes of which had never been witnessed before or since. In the absence of computers, mobile phones and their by products, this generation had music and its companion pop culture to call their own. It was their leisure, communication and spiritual nourishment; the world was rocking and so was Strauss. In those days Sound Reinforcement was a rally and for many, undiscovered. The energy and information delivered in performance came directly off stage from instrument amplifiers; the vocal PA and a drummer(s) performing without any intervening technology, balance and dynamics was totally controlled by the artists. Needless to say competence in this area of performance would contribute to the success or failure of an act.

The Strauss response was to create high power premium quality amplification, placing performance above meaningless features all driven by a close engagement with the burgeoning client community. Initial Strauss electronics were based on known circuitry, but as a result of client expectation combined with free thinking and a first principle design approach, unique techniques and technologies soon evolved. The same was the case with speaker systems, at the time our most successful enclosed system was a 2 x 15 or 1 x 18 sealed enclosure (deployed singly or in multiples). At one point I recall we produced an amplifier employing 6 x KT88 valves and 6 x KT88 systems were not unknown. Guitar amplifiers were designated Strauss Polka, Bass amplifiers Strauss Emperor and Vocal PA's Strauss Minaret. These are the product pillars that formed the foundation of the legend.

At the time the six Australian states where akin to different countries; as one of many examples, each produced and consumed their own brand of beer and there was virtually no cross border trading. Likewise most states had one or more amplification producers for example; Melbourne-Strauss, Sydney-Lenard, Brisbane-Vase and Adelaide-Wight. However it was Strauss that transcended all borders with most popular brands of the era choosing Strauss amplification. Melbourne was the centre of the Australian live music scene at the time which no doubt assisted our market acceptance; however it is also generally agreed that Strauss products had achieved remarkably high performance standards. Furthermore, it was quite possible Strauss systems were the equal of, or better than anything available worldwide, a possibility reinforced many times by touring international acts. In the late 1960s we moved to a much larger factory facility at 4 Commercial Road, Highett enabling the introduction of new initiatives including the Strauss Mouse and the lower cost Lancer range of amplifiers. It was in 1969 that design and prototyping of the proposed next generation of Strauss premium products began, including the

the potential to become a significant source of supply of entertainment technology in all its forms. Our creative and manufacturing sector is conveniently compact organisationally and is usually niche by nature. Born of isolation, it is resilient and self-supporting, is proven in the development of high performance technology, and has very little if any baggage. In short, it's a highly desirable international supply partner. But most importantly it is now empowered with its own peak body, ACETA, which is already working to unify, enable resource sharing, develop pro-active promotional programs and lobby government for assistance.

In summary, today it is evident that in certain sectors Australian entertainment technology creators and manufacturers can challenge their international counterparts in export markets and help balance the trade ledger, with no detrimental effect on Australian importers. It's quite the contrary. All participants in the Australian industry benefit from a prosperous manufacturing sector. ACETA is determined to enhance our industry and nation by increasing output and employment, by way of focussed export programmes, the likes of which have never been attempted before. The flow-on effect will impact positively across all trades and professions associated directly or indirectly with the industry that we are committed to and passionate about.

Please note; ACETA follows the federal government directive on who qualifies as a technology creator and/or manufacturer.

MAY EDITION CX103 - GARY NESSEL & STRAUSS SOUND SYSTEMS TRIBUTE

in recent years. It seems apparent that innovation and the aspiration to high standards will be led by the niche and private sector that often see success in a long term vision, rather than the typical short term view of many corporations, driven by the quarterly report to the Stock Exchange.

If we view the content of the preceding section as a reasonable portrayal of the current industry landscape, Australia's creative and manufacturing sector finds itself well positioned to substantially elevate its international influence despite the challenges we confront. We have

ACETA is your industry body, working to protect and further the interest of everyone who works in our profession. We have a new website at www.aceta.org.au, can be found on Facebook at www.facebook.com/AusCETA or info@aceta.org.au

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TECH QUIZ TIME - ANSWERS

1. He formed Event Electronics.
2. Ellipsoidal, commonly seen here as an Altman Ellipsoidal 1k in the 1980's. It was mind bending bright, but the lamp would punk out without much help, since Sylvania simply put two filaments in series inside an axial bubble, and vibration – like from a kick drum – would rattle the two together. Bang - another ceramic fuse blows in sympathy with the lamp. Expensive brightness!
3. A unit of measurement of luminance, or the intensity of visible light, where one nit is equal to one candela per square meter.
4. Rope knots. Would you believe it?
5. His wife's coffee maker. True story, or so he says!
6. Zapco Psychedelic Lightshow. All delivered without drugs, he says.
7. Lowel lighting equipment
8. Yes. Here's a real life example: There was a girl who was suffering from a broken heart. One day she discovered that her interest in Gaffer tape was shared by a colleague.

Over discussing the intricacies of gaffer, they became better acquainted and are now happy together as a couple: Gaffer tape provided the emotional adhesive that she lacked in her life.

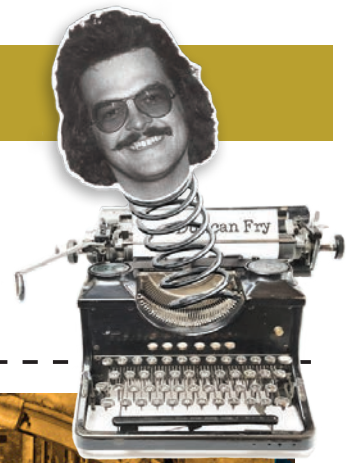
9. Magnetic tape was invented for recording sound by Fritz Pfeumer in 1928 in Germany.
10. Yellow, Violet , Red and Gold.
11. SGM G spot
12. Nick Holonyak, Jr. invented the first visible-spectrum (red) LED in 1962 while working as a consulting scientist at a General Electric Company.
13. The XLR connector was invented by James H. Cannon, founder of Cannon Electric.
14. This one!
15. Porky Pig & Daffy Duck [The Duckster's Ep.]
16. Fixible Clipper – a rear engine 'coach' assembled in Australia by Ansett Airlines. The band managers purchased the bus and had a cargo bay installed with a roller door at the side. It was notorious for breakdowns.

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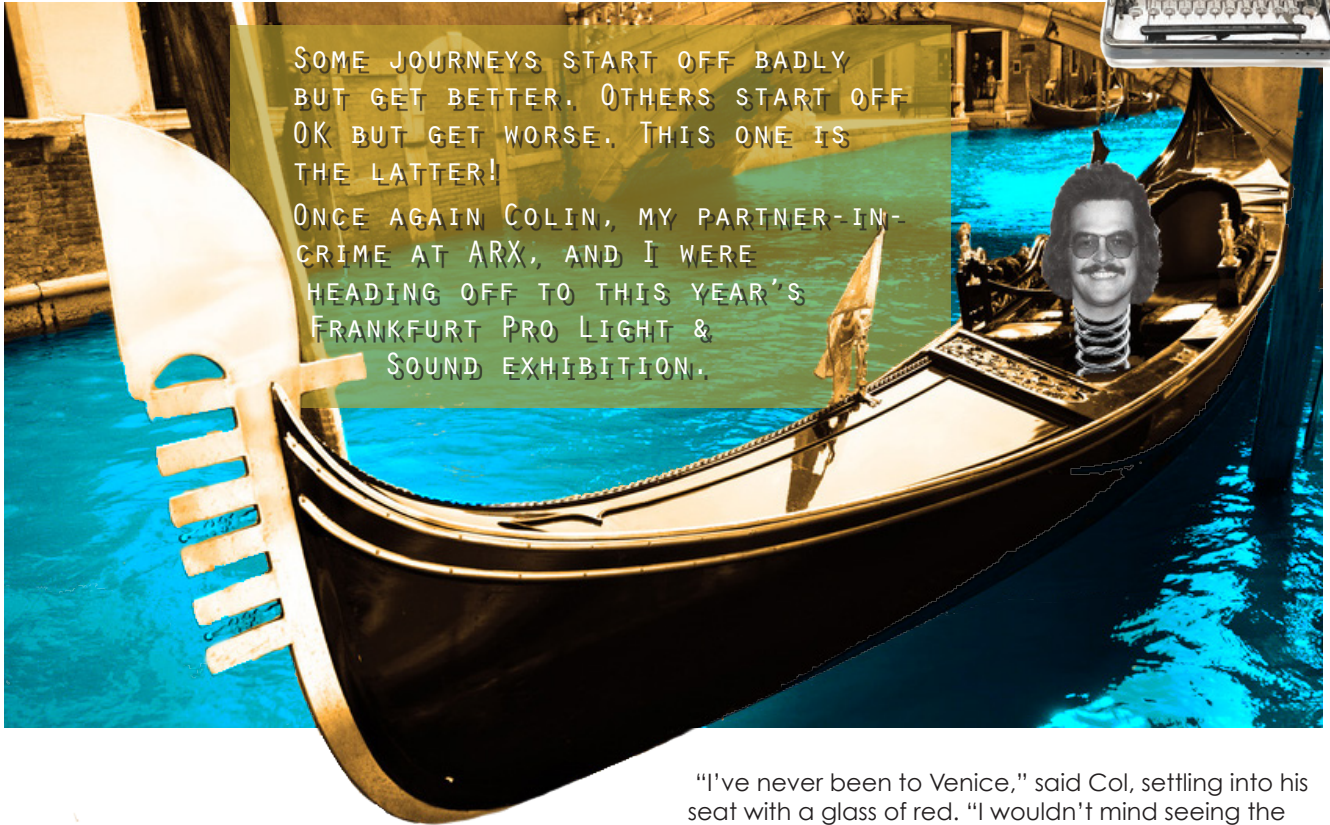
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<p>Australian Health Directory W: www.healthdirectory.com.au</p> <p>JIGSAW Community Services Database Online database of geographical community services W: www.crisissupport.org.au/jigsaw</p> <p>National Aged Care Info Line ☎ (8.30am-5pm Mon-Fri excl. National public holidays) T: 1800 500 853 W: www.health.gov.au</p> <p>Salvo Care Line ☎ T: 1300 36 36 22 (24/7) W: www.salvos.org.au</p> <p>Seniors Portal W: www.seniors.gov.au</p> <p>Entertainment Assist provides crisis support, preventative assistance & education programs for Australian entertainers & back stage people. Tax deductible donations to Entertainment Assist allow us to continue providing critical services to entertainment industry people. Discover ways you can donate to Entertainment Assist by visiting: www.entertainmentassist.org.au</p>	<p>Emergency * Police Fire and Ambulance T: 000 (24/7)</p> <p>Kids Helpline * T: 1800 55 1800 (24/7) W: www.kidshelp.com.au</p> <p>Lifeline * T: 13 11 14 (24/7) W: www.lifeline.org.au</p> <p>MensLine Australia * T: 1300 78 99 78 (24/7) W: www.mensline.org.au</p> <p>Salvo Crisis Line * T: 1300 36 36 22 (24/7)</p> <p>Suicide Call Back Service * T: 1300 659 467 (24/7) W: www.suicidecallbackservice.org.au</p> <p>ENTERTAINMENT ASSIST www.entertainmentassist.org.au</p>	<p>ENTERTAINMENT ASSIST NATIONAL SUPPORT SERVICES DIRECTORY</p> <p>Before times get tough, talk to someone or ask for help</p>	<p>Headspace National ☎ W: www.headspace.org.au</p> <p>Reach Out ☎ W: www.reachout.com.au</p> <p>Beyond Blue ☎ The National Depression Initiative W: www.beyondblue.org.au</p> <p>Carers Australia ☎ Carer Advisory & Counselling Service T: 1800 242 636 (8.30am-4.30pm) W: www.counsellingonline.org.au</p> <p>Counselling Online ☎☎ Alcohol & Drug related concerns T: 1800 888 236 (24/7) W: www.counsellingonline.org.au</p> <p>Life Circle Australia ☎ People diagnosed with serious illness & their carers T: 1300 364 673 (24/7)</p> <p>Sane Helpline ☎ T: 1800 18 SANE (7263) (8am-5pm Mon-Fri) W: www.sane.org</p>	<p>National Children's & Youth Law Centre ☎ W: www.lawstuff.org.au/lawstuff</p> <p>Centrelink ☎ (8am-5pm) Employment Services T: 13 2850 Youth & Student Services T: 13 24 90 W: www.centrelink.gov.au</p> <p>Centrelink ☎ (8am-5pm) Disability, Sickness & Carers T: 13 2717 Employment Services T: 13 2850 Family Assistance Office T: 13 6150 (8am-8pm) Seniors T: 13 2300 W: www.centrelink.gov.au</p> <p>National Gambling Helpline ☎☎ T: 1800 858 858 (24/7) W: www.gamblinghelponline.org.au</p> <p>National Legal Aid ☎ W: www.nla.aust.net.au</p> <p>LEGEND ☎ Crisis Support & Suicide Prevention ☎ Telephone Counselling ☎ Information & Referral service ☎ Online Counselling ☎ Face to Face Counselling</p>	<p>Kids Helpline * T: 1800 55 1800 (24/7) W: www.kidshelp.com.au</p> <p>The Line ☎ T: 1800 200 526 (24/7) W: www.theline.gov.au</p> <p>1800 RESPECT ☎ Sexual assault, domestic & family violence T: 1800 RESPECT (1800 737 732) (24/7) W: www.1800respect.org.au</p> <p>Al-Anon Family Groups Aust ☎ Hope & help for families & friends of alcoholics T: 1300 252 666 (8am-5pm) W: www.al-anon.alteon.org/australia</p> <p>Alcoholics Anonymous ☎ W: www.aa.org.au</p> <p>Relationships Australia ☎☎ T: 1300 364 277 (8am-5pm) W: www.relationships.com.au</p> <p>Family Relationships Advice Line ☎ T: 1800 050 321 8am-8pm Mon-Fri, 10am-4pm Sat except Public Holidays W: www.familyrelationships.gov.au</p>



The Merchants of Venice (Airport)

FORGET THE POUND OF FLESH, HOW ABOUT AN OUNCE OF CUSTOMER SERVICE? (ATTRIB. WILLIAM SHAKESPEARE)



SOME JOURNEYS START OFF BADLY BUT GET BETTER. OTHERS START OFF OK BUT GET WORSE. THIS ONE IS THE LATTER!

ONCE AGAIN COLIN, MY PARTNER-IN-CRIME AT ARX, AND I WERE HEADING OFF TO THIS YEAR'S FRANKFURT PRO LIGHT & SOUND EXHIBITION.

The current Qantas code-sharing tie-up with Emirates had caused a re-scheduling of our normal flight to Frankfurt, stopping at Dubai now instead of Singapore. The plane was late leaving Melbourne, so we were delayed on the tarmac while someone found the keys or some jumper leads. Whatever. By the time it had all been sorted out and we took off, it was at least an hour later and I was sound asleep.

When we arrived at Dubai some 14 hours later, the pilot announced we had well and truly missed our Emirates connection to Frankfurt. Luckily as we left the plane a handful of Emirates staff met us and started handing out boarding passes for all the transit passengers.

"Going to Frankfurt?" one of them asked us. We agreed, and she handed us boarding passes to Venice! Not quite the destination we had in mind.

"Hang on," we said, "we're going to Frankfurt, aren't we?"

"Yes," she replied, "but we don't have any other flights to Frankfurt today, so you're going to Venice, which is on the way. There'll be boarding passes for a Frankfurt flight from Venice waiting for you when you get there."

Taking her at her word, we shuffled off to the Venice flight, stopping only at a Duty Free store to grab a couple of bottles of cognac and Baileys, our traditional jetlag cures.

"I've never been to Venice," said Col, settling into his seat with a glass of red. "I wouldn't mind seeing the place."

"I've been there a couple of times," I replied, "and you're not going to see much of it from the airport! As the crow flies it's about 5 k away, but as the train or road goes it's more like 20 k.

Venice is sinking fast enough without having 300 tonne planes landing on it every half hour!"

"Couldn't we get a car and have a quick look around?"

"No cars in Venice at all!" I said. "It's a bit like Tijuana – you have to park your car and walk across or get a gondola. The train is the best; just step out of the station and you'll fall into the Grand Canal if you're not careful!"

When we arrived at Venice's Marco Polo airport, however, the arrivals hall was totally empty. Shiny marble as far as the eye could see, totally unspoiled by any sight of Emirates staff helpfully thrusting boarding passes for Frankfurt at us.

What to do? We were well and truly on our own, in a foreign country that we're not supposed to be in, without any knowledge of what airline or flight we're supposed to be on, and hoping that someone, somewhere, knew what was happening. As the bard himself would put it, we were 'f****ed and far from home!'

On the plus side though, we could just see the tower of the Piazza San Marco on the horizon!

"Let's go back to the plane and ask them," suggested Col.

Uh oh – no luck with that idea. All the doors leading back to the plane were one-way doors, meant for people to walk down to the arrivals area, not back.

And then we saw it, hidden downstairs in a corner: A small sign that said 'I passeggeri in transito' (Transit Passengers), and an x-ray bag scanner with someone official standing next to it.

We rushed over, and somehow convinced the guy, who spoke a tiny bit of English, that we were in transit to Frankfurt.

"Boarding pass?" he asked, holding his hand out.

"Ah, well, we don't have any yet."

"Hmm, no Boarding Pass." He looked sad, then brightened up. "What airline?"

"Ah, well, we don't know that either."

He looked sad again. "But you have a booking?" He smiled hopefully.

"Oh yes, yes, of course." We smiled and nodded our heads madly like two bobble-head dogs in a car back window.

He breathed a sigh of relief "OK, that will be fine." He put our hand luggage through the x-ray scanner, showed our passports to a very dapper looking official behind a door, who nodded and closed the door, then walked us through the back way into the departures hall.

He shook our hands, wished us a good trip, and disappeared back the way we came. Probably thinking 'At last – they're someone else's responsibility now!'

We walked up to the Departures board. The only flights to Frankfurt were Lufthansa ones. One in about half an hour at 1.30pm, and another at 6.30pm. Both were leaving from Gate 13.

Hoping that one of the flights was ours, we rushed over to the gate, pushed our way to the front of the queue, and explained our predicament to the Duty Officer. She picked up the phone and said "I will call Emirates for you" then unleashed a stream of rapid fire Italian.

She put down the phone and said "Yes, they know who you are, and they will bring the boarding passes over. Please wait here."

We waited at the counter.

After about 10 minutes she picked up the phone again and zapped some more high speed Italian down the phone. "They say they are still coming."

"Do you think we'll be on this plane?" asked Col.

"I don't think so," she replied.

By now the passengers at the gate were boarding the plane, so we had missed the flight and were looking at a 4-hour wait to board the next one.

"At least we can wait in the Emirates lounge," said Col, looking forwards to a couple more glasses of red.

Ten minutes later our Lufthansa Duty Officer exasperatedly picked up the phone to call Emirates for

a third time, and this time her voice had a much harder edge to it. When she finished she rolled her eyes and said to us "Sorry – they are not coming. They say you have to go over to the Emirates desk. Follow me and I will take you there."

She led us through security again, out to the Emirates check-in counter, where the two staff now said that they couldn't issue the passes! They could authorise them, but we had to go to a Lufthansa counter to get them issued. But first they had to find our luggage.

Aaagh – our luggage! With all the fuss we had completely forgotten about it. "Let's just hope someone in baggage handling knows all about it," I murmured to Col.

"It's going to be a smelly few days if they haven't!" he replied.

The Duty Officer looked like she was fit to burst and give them a piece of her mind, but took a deep breath, pointed to where the Lufthansa counter was and then said goodbye to us. We thanked her profusely for all her help, and waited for the Emirates staff while they leisurely tapped away on their keyboards. Finally they said it was sorted out, and we could go to the Lufthansa counter.

Once there, we explained our situation to the girl on duty. She typed something into the computer and said, "Yes, the authorisations are here. Now, where would you like to sit?"

Within a couple of minutes we had our passes in our hands, and were heading through security for hopefully the last time.

"Let's find the lounge," said Col thirstily, once we were through.

What lounge?

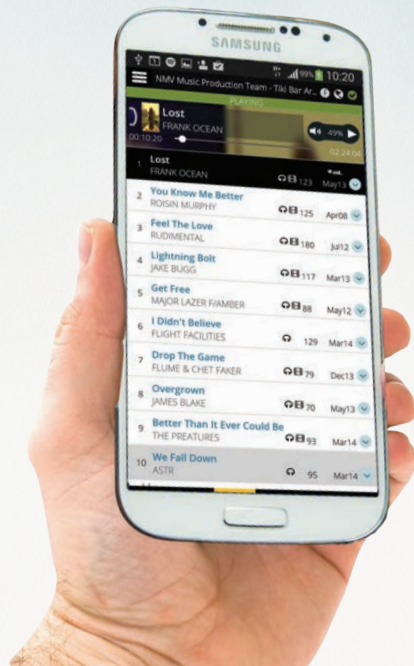
No lounge for us. The only one we could find was a generic lounge that only accepted Gold Qantas Club members, which neither of us was. Too tired to argue, we shrugged our shoulders, and then drowned our sorrows in a couple of 8 Euro beers in a nearby bar. Then, having drained our beers and our supply of Euros, we headed down to the departure gate and tried to stay awake until the flight was called. We didn't want to miss this one!

After we finally made our way onto the plane, six hours later than we had anticipated, I managed to sleep all the way to Frankfurt. Imagine our surprise when after all the problems, our bags were some of the first ones off the baggage carousel! Within an hour of landing we were in our hotel room, freshly showered and dressed.

"What about some beer and sausage in the Old Town?" I said to Col. He looked at his watch.

"Bit late," he said. "It's 9.30 at night. Looks like it'll be a pizza and a good nights sleep!"

Footnote. The service we received from Lufthansa was excellent. They went out of their way to help us and did their best to make the journey a pleasant one. Emirates on the other hand could not have cared less. Their customer service in Venice was non-existent. If it had all been up to them we would still be wandering around the airport!



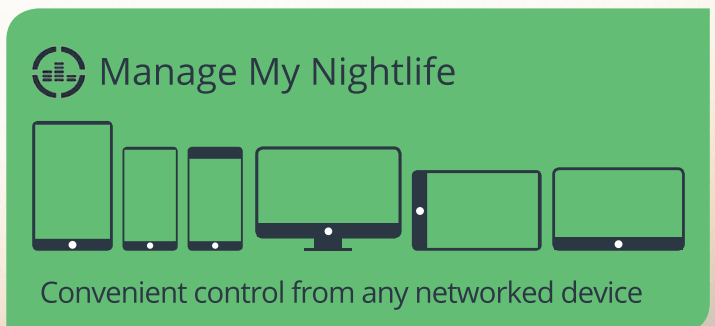
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