

CX

MONTHLY TECH NEWS

FOR ENTERTAINMENT AND BROADCAST

CX60, JUNE 2011 · \$5.50

HOT SUMMER, COLD RAIN

Bogans Boogie, CX is there!

LIONEL RICHIE

and the art of PA distribution

LIGHT ME UP

Venues make changes

INSTALLATIONS

Bread and Butter, 100v lines explained

NEWS PAGES

- Church Production
- Feature Installation
- Production Diary

ISSN 1320-5595



REVIEWS: CLAY PAKY SHARPY. EAW KF200
 3 WAY BABY PA. RTS COMMS MATRIX PANEL.
 PROTOOLS 9. CHROMA-Q COLOUR CHARGE
 LED. STREAMBOX AVENIR - HIGH DEF VIA 3G.

NEWS: SAD SUICIDE.
 BAD SHOWS. SHOW
 US YER RACK, AND
 MUCH, MUCH MORE!



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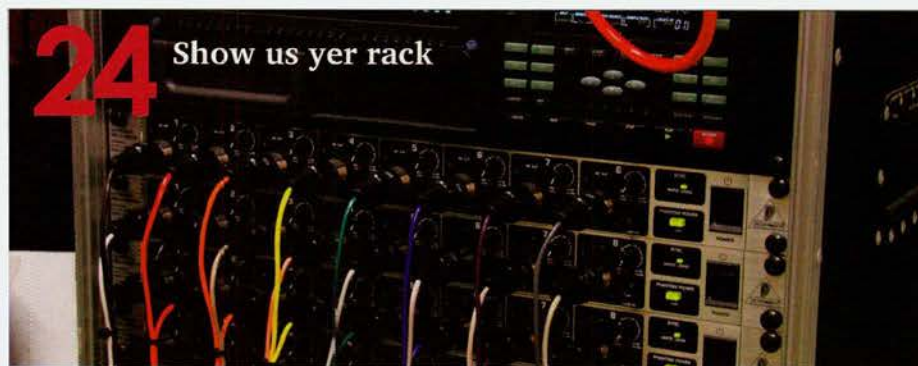
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TABOOS

We talk about suicide this issue, with respect and with alarm. CX will always honor industry folk who pass on. We get queried about obituaries, and here's the thing: generally CX always tries to attend funerals, and collect material for an obituary. It's the worst part of the job here.

There are times this isn't possible, so we have to work with what we've been sent. Which is why, occasionally there is no obit, or the photo is poor, or the information is brief. In which case, send us what you have, and we can post the obit properly in our History section of the website at juliusmedia.com

WHAT WOULD YOU DO?

Standing outside a funeral chapel in Melbourne I realized my wallet was missing. I'd woken at 4am and been in transit from Sydney until 10. Now it was 11am, and I had \$2 in my pocket and no identification. No money to get back to the airport, no ID for the ticket and no way to bail my car from airport parking that night in Sydney, let alone get home to the northside.

Alex from Lex AV gave me a lift to the wake at the Esplanade Hotel. Tiny Good from Showtech Australia loaned me \$200. I hated to ask, but he was very gracious. Then taxi driver Jeet Singh (pictured) rang my daughter, whose number is in the wallet. My wallet was in his cab. He said he remembered me that morning because I was polite to him. He would drop it over at the end of his shift. I gave him a \$100 tip and he seemed surprised.

For a while there I felt really desperate and didn't know what to do. If you find yourself in this predicament give us a call here at CX so we can attempt to help you.



ANDREW MCMANUS

Promotor Andrew McManus recently made repayment arrangements with creditors owed almost \$2m. The scheme will return them 30 cents for each dollar outstanding.

There's always angry creditors when this happens. With a circle of reckoning. But generally most people in showbiz support McManus, because he is committed to the industry and has returned a lot over the decades. He will return and continue to promote shows, and take commercial risks.

Andrew McManus spoke at the funeral of Terry Turner from ATS a year or so back. Many promoters would not even attend the funeral of a crew member, and some if they did would even face animosity from the crew community.

VENUE HIPOCRACY

Sydney's Easter Show is at the same venue as Big Day Out. BDO is limited to 50,000 punters and forced to hire platoons of police and security. Why then did CX find ourselves crushed immobile outside the show-bag hall at 2pm on Good Friday with the organizers later boasting they had a

record 150,000 punters?

It was seriously dangerous, with just one crowd control guy at the entry to the bag hall and legions of families with strollers and prams just one panic away from death by stampede.

Our emailed enquiry to the Sydney Royal Agricultural Society (Site owners and managers) about site numbers and security on Good Friday went unanswered.

GEARBOX: CX-TV

We have added a 30 minute ipTV show onto CX-TV, called GEARBOX. Here you'll find the product reviews from THIS issue of CX, along with tech people talking and a quiz show. CX Subscribers are in line to win a prize, and this month Matty Haworth from Kalgoorlie (WA) wins a Sennheiser Style-Your-Mic!

Last month we soft launched GEARBOX (Episode 1) and had 11,000 views. Not bad considering they all came from you - we didn't put the Episode on YouTube, so the only way we got views was from CX NEWSLETTER.

If you subscribe you also get CX-E, the online electronic version of CX and from this issue, you can hit on a product review and go direct to the video package. Try it out!

This month we also re-launch CX-TV NEWS, in a new short and fast format. Hey - thanks so much for all the feedback as well. Nothing is better than a morning meeting here at CX HQ where we digest what you tell us!

As always, email juliusmedia@me.com

Julius



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CX News

DEVICES, PEOPLE & CONCEPTS

Issue: Vol 3, CX60



XANADU: THE HARD LESSON

Failure is always an option in showbiz

When administrators Worrells walked into the Xanadu tent at Docklands, the clock started running down. They decided to run the show for one more week, and many suppliers formed the impression that the final week of box office would provide a return.

But there was a catch which arrived in the form of a letter, allegedly sent by regular mail, that arrived towards the end of the week. Some suppliers have alleged that it said the administrators, Worrells (a large insolvency practice), would not pay for anything unless suppliers had a written purchase order.

"That was not what we believed", said Tony Davies at Chameleon Touring, who provided the lighting for the musical. "We believed they

(the receivers) would pay that final weeks rental and for the bumpout and transport".

A curveball arose- the show was being staged in a tent and not a venue. A theatre venue would act to protect its name and ensure practices were safe and legal. A load out would be properly managed.

Davies was laid up at home nursing a badly broken ankle. Seething with anger, he arranged for the immediate seizure of the lighting desk, and says he told the administrators they needed to make a deal. "They said we were trespassing, and they would sue us for the weekend's cancelled box office", Davies claims. "I told them I didn't

Continued Page 10 ----->

Vale Jock Bain

{ And why roadcrew in their 50's deserve more recognition }

Touring audio guy Robert 'Jock' Bain took his own life in Melbourne. There's no other way to write this.

He left his son Harry, and family behind but he was alone with a bottle of Vodka at the end.

Because he was gregarious, generous and popular the end came as a terrible shock to his other family - the road and tech community around the world. Jock was well known, and well regarded as an audio guy in the UK and in Australia. He was based in Melbourne.

Born in Scotland his family migrated in the late 1960's, and Jock flunked economics at Uni to work in audio. He had a dream run, touring the world and working out of the UK for major firms like Brit Row.

He met Heather and they had Harry in 1994. They live in Queensland.

"He read books without pictures", Michael Lippold reminisced of the Midnight Oil days at the funeral. "And he didn't swear. Much".

Jock was a knowledgeable and intelligent guy.

His younger sister Ruth eulogized of the shock and horror of his death. Her husband told how close they all were.

So how does this come to be?

"He missed the life", a friend said. "He was doing less shows. Everyone thought he would only do AAA tours, in fact he probably would do anything", said another.

By returning to his childhood haunts and family in Australia he cut off the major tour work - and he had worked

Continued Page 10 ----->



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NEW DEVICES



BABY DIGICO

DiGiCo's SD11 is the smallest system (both in size and price) that the company has ever produced. It's equally at home as a desktop console or mounted in a 19" rack. It has DiGiCo's Stealth Digital Processing with 12 touch sensitive moving faders below a 15" touch sensitive screen.

16 Microphone preamps, eight line outputs and two mono AES I/O are provided and users also have the option to connect a DiGiCo D-Rack to the CAT5E port. This provides a remote I/O rack frame with an additional 32 Microphone inputs and up to 16 outputs.

Under 20 grand.

www.grouptechnologies.com



EAR PA

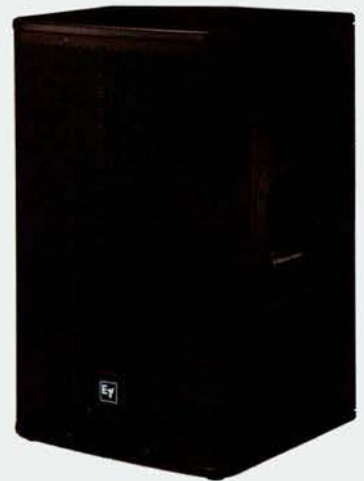
Audio-Technica's 'EAR PA' series are personal ear-pieces for use with In Ear Monitor (IEM) systems. The units in the 'EAR PA' series are selected from Audio-Technica's earphone/headphone range and are especially suited to the demands of live performance.

They offer excellent audio detail especially in the mid range, provide a flat, honest response that doesn't artificially lift frequencies for effect, and they go loud!

The range includes two ear canal models and one headphone. The ATH-CKM70 at \$99rrp features a mirror finish stainless steel housing and a newly developed 12.5mm diameter driver. It delivers an output of 106dB/mW and frequency range 5-24,000Hz. The ATH-CK70PRO at \$199rrp couples a high output balanced armature driver to a horn shaped conductor which increases output level whilst maintaining crisp audio articulation.

Audio-Technica's studio/mastering ATH-M50 headphones tops the EAR PA range as the headphone option for \$249.

www.tag.com.au



ELECTRO VOICE LIVE-X

The benefit of Bosch owning E.V. are starting to appear as new products emerge, following a quiet period. Bosch are not like most large conglomerates - they insist on research and development, and take a long view.

As a result E.V. have a range of powered and unpowered entry level loudspeaker systems; the Live-X. Releasing powered and unpowered models is less usual, but it nails the needs of more people. There are times, usually with installations, where its preferable to house amps somewhere, and there are times, usually for mobile use where onboard amps are a Godsend.

Live-X are wood cabinets, the 12" and 15" boxes will sit like a wedge or pole mount to the 18" sub. In the passive range is also a dual 15" and horn box. The class D amp delivers 1,000 watts (12" and 15" models).

Probably the biggest seller may be the ELX12P, powered 12" box, its retail price is \$1,349 before you start to haggle.

<http://www.electrovoice.com/livex/powerd.php>



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This is a great idea - Sennheiser will custom your microphone. Words, images, colours, the whole nine yards. Syntec in Australia say it only takes a couple of weeks, top.

Here's how it works: first log on to styleyourmic.com.au and choose a mic. There are three Evolution 800 vocal mics, two 900 series, and three SKM wireless handheld models.

www.styleyourmic.com.au



HXR-NX70

Sony's new rain and dust proof HXR-NX70 camcorder is a professional camera compact enough to go anywhere and capture the action in a rainy or dusty situation, they say.

The HXR-NX70 contains the Exmor R CMOS sensor which delivers superior performance in low light situations where natural ambiance is desired, boasting roughly double the sensitivity of conventional CMOS sensors.

A high-resolution 3.5" touch-screen display lets you compose and view your shots while zebra and peaking indicators help you make precise focus and exposure adjustments. A built-in GPS receiver gives you the ability to "tag" your shooting locations and the time zone will adjust automatically as you travel the globe on assignment. Your locations can be tracked on Google maps and all GPS data can be extracted with a PC.

Priced at around \$3,500.

<http://pro.sony.com/bbsc/home.do>



ROLAND R-1000

In the 20 years of CX we've seen tape give way to modular digital multitracks, and then Pro Tools go from dedicated hardware to software alone. Now comes the R-1000 which is one of the more sensible multitrack recorders we've seen.

It is a single stand alone device, with all controls on the front panel - there have been other similarly configured boxes but not with 48 tracks in one package. A removable hard drive will give up to 20 hours record time (500Gb).

But the best thing here is that it hooks up to Roland's REAC system, which is a digital multicore solution that is fast gaining traction. The R1000 is also very friendly with the family of V-Mixers that Roland is releasing. Strapping the recorder onto the console means virtual soundchecks are easy, as is capturing a live mix. It will also hook up to any console that has a MADI output, of which there are many.

Not quite onsale yet, but close. Expect to pay less than six grand.

www.rolandsystemsgroup.com.au



Then the fun begins - you choose a color for the basket, and a color for the mic body. Next, choose an image - or upload your own! The customization of the chosen microphone costs around A\$219 or A\$299 if the basket is chrome. That's on top of the buy price for the mic.

It's a great idea for rental - get your own brand on the mic. There is also a radical customization division who will make a 'work of art' if you need more bling.



VARI LITE: NEW AND LESS COSTLY

The Vari*Lite VL400 Spot comes with a 400-watt MSR Gold 400 MiniFastFit lamp that delivers 9000 Lumens of output, a zoom range from 15° to 36°, and a mechanical iris for continuous beam control. A drop in frost glass assembly on an independent armature allows users to soften the overall beam at any time.

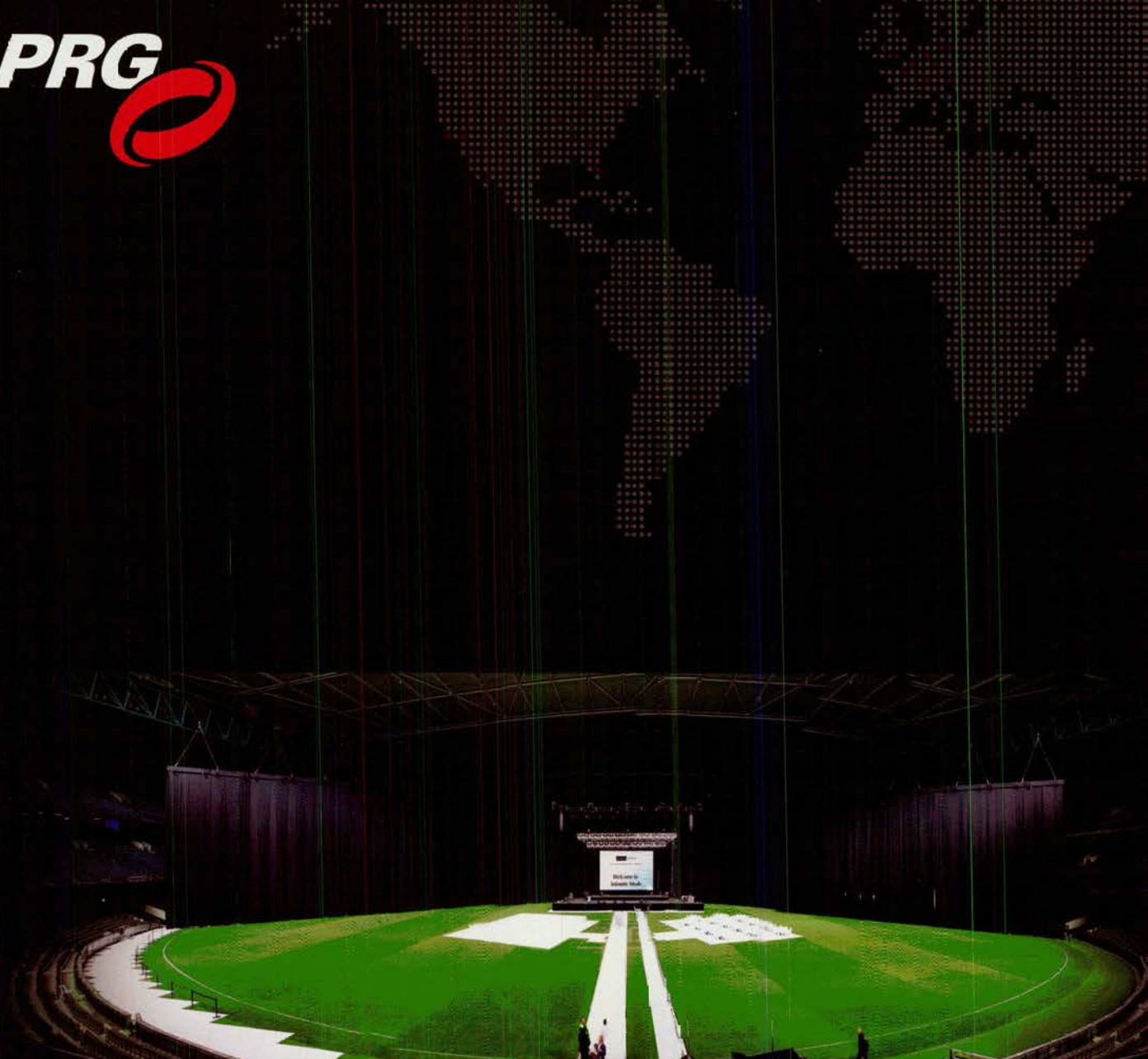
The VL400 Spot luminaire forsakes the more theatrical CYM colour mixing system opting instead for 14 fixed colours on two independent colour wheels for rich colour projection and snap colour changes. Doing away with the CYM system also reduces the number of motors and components in the fixture. Widespread use of direct drive motors further reduces the number of parts making the 400 even easier to maintain.

Vari*Lite have several new releases scheduled across this winter.

Priced at \$8,200.

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BROADCAST WIRES



JOHN BOWRING ACS

The industry was shocked at the sudden passing of John Bowring, head of equipment sales and rental firm Lemac and cinematographer. He died suddenly, victim of an aneurysm whilst on a Hong Kong stopover, flying home from the annual NAB convention in Las Vegas.

His funeral attracted 1,500 people to Docklands, and many TV networks paid tribute to his life and times.

Ron Johanson, National President of the Australian Cinematographers Society, paid tribute: "John was a working cinematographer and owner of Lemac with his wife Sue. He was

a truly generous supporter of the ACS and the whole Australian Film & Television Industry. If a job needed doing, JB would see it was done. If a problem needed solving, JB solved it. If someone needed helping, JB would help".

"John will be missed by all those he touched with his wisdom, his intellect, his single mindedness and his generosity of spirit. He has left a gap that will take some time to fill, if at all."

John Bowring is survived by his wife Sue and their children, Jack and Kate.

NAB

The NAB (National Association of Broadcasters) show in Las Vegas (April) reported total attendance of 92,708, up from 88,044 in 2010. International attendees numbered 25,691.

At NAB stills photographers were buying lighting and audio to add onto their HD/SLR rigs, and branching into video.

Still at the low end, the iPhone is now part of newsroom systems, as stringers and freelancers can shoot and report live using systems like Vericorder. A simple App download enables the phone to connect direct to a newsroom server through a Vericorder commercial account. A cheap adaptor cable allows a professional mic to connect via the headphone socket on the phone. Instant live news reports are now possible from the four corners of the planet using just the iPhone.

EARTHQUAKE TAPE CRISIS

The broadcast industry is struggling with a critical shortage of tape after the Japanese earthquake. Stocks of HD CAM SR tape are critically low, and Betacam media is now being rationed.

Recycling is relieving some of the pressure, resellers such as Film and Tape Sales in the eastern states of Australia have de-gaussing machines. They say they have stocks, but are limiting quantities.

Some stock is now priced at a premium, obtained from un-usual sources. Facilities such as Foxtel use vast quantities of tape.

There is no indication when Sony can bring its Sendai Technology Center back online.

The transition to digital has accelerated.

MASSIVE UPSWING ONLINE

Netflix has increased its domination of internet bandwidth, from twenty to thirty percent of all usage in the USA in just months. Netflix streams TV shows and movies in real time, at a usage cost of around 1GB per hour viewed. They charge just US\$7.95 a month.

Adding YouTube and other online video sites combined with Netflix will bring the online video usage to sixty percent by year end, says Sandvine Consultancy.

Ooyala Inc, a modular video hosting company for business video, say the online TV advertising market will surge to \$5.7 billion for online TV adverts in the USA alone, within three years.

Innovate Media Group have just launched OCULA, an online video

hosting platform offering that charges media firms a small fee per view, and hosts their videos free. CX-TV has been using VZAAR, a similar platform, which has from this month dynamically resized downloads to suit a users internet connection speed.

While TV on mobile phone didn't quite launch the way it was hyped, all these new services can be viewed on phones, tablets, PCs and TVs where an Xbox or other online service are connected. Ooyala offers broadcasters new ways to package pay per view, and allows the viewer to stop, start and rewind any content on any platform, even transferring from PC to phone without interrupting the program.

If you're serious about your sound

Live X

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FEATURE INSTALLATION

PRG Showdrapes and HME devise fast change system

Melbourne's ETIHAD stadium recently added an intimate mode allowing arena concerts for twenty thousand people.

With seventy thousand seats in the round, the arena can now be scaled down thanks to an innovative curtain system supplied by PRG Show Drapes division, formerly Bytcraft.

In just three hours, the roof is closed and the curtain system installed, totally transforming the stadium.

Production Resource Group recently acquired Bytcraft Entertainment which is now known as PRG Australia. The Show Drapes division has made drapes for everything from small theatres and schools up to Opera.

Then Etihad were seeking an 'Intimate mode' drape system.

"We designed the system to be as safe and user friendly as possible, requiring minimum labour for setup and retrieval, whilst retaining optimum effectiveness for the purpose", Rodney Paton Showdrapes Manager told CX.

"HME devised an excellent curtain hoist solution that has a low profile. Fabric selection was our heavyweight wool drape which has all of the required characteristics. Curtains are manufactured in overlapping 3mt wide increments which allows for airflow in the event of strong wind gusts, thus alleviating undue pressure on the truss system".

The venue has a massive opening and closing roof, so it can be used for an AFL match one day, and with a three hour turnaround, become a closed off intimate venue.

The system has 36 lengths of 5 metre truss, that becomes three 60 metre runs in a 'bay window' layout. Each truss is loaded with an overlapping pair of drapes with a 20 metre drop. This totals around 4500 square metres of fabric, from 1,800 flame retardant Australian raised sheep.

Each truss has a pneumatic wheel system to protect the playing surface. At the base of the drapes are heavy duty PVC covers, as the drapes lower they collect inside the covers that then fold over the truss for storage.

Excellent Australian innovation!

α

THE SKY IS THE LIMIT



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www.claypaky.it



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CHURCH PRODUCTION NEWS



PERTH ADAMSON

C3 Church Hepburn Heights in Perth led an extensive review during the latter part of 2010 to select new audio. After trying many brands of sound reinforcement, the church chose Adamson's Metrix system.

The system consists of 2 x Metrix-t and 1 x Metrix-w cabinets flown per side, plus 1 x Point12A for center fill, reinforced by 2 x Dual 15" Metrix Subs - all powered by MC2 amplifiers and XTA speaker processing.

The system was supplied by CMI Music & Audio, which designed and installed the system in conjunction with Perth-based installation company 3 Monkeys. The brief was to give the church maximum coverage and also allow for the

fact that the building has had noise issues with its neighbours in the past, making directivity paramount.

'The system just sounds fantastic,' said Mr Rowan Hunter of 3 Monkeys. 'It sounds so good and is so small, it's just perfect.' Mr Hunter has had a close association with the church over many years and led the install team. 'We used just two Metrix T boxes and one Metrix W per side, yet the SPL hits all the right spots,' he added.

The C3 church is a multi generational, dynamic and vibrant international movement of churches founded and led by Phil Pringle of C3 Church Oxford Falls in Sydney. C3 Oxford Falls also has an Adamson loudspeaker system, as does Australia's largest church, Hillsong's Baulkham Hills campus.

CHURCH TRAINING FIRM



SYNK is a new group training initiative that has hosted successful training days in Sydney recently. A co-operative led by Trevor Beck, Peter Smeesby and Kevin Watts,



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they supply church and team specific training.

"A sound guy doesn't necessarily want to be an engineer", Trevor told CX. "It's like you get a Ferrari, and have no idea how to drive it", added Peter Smeesby, referring to the complexity of some installations.

"We don't want to do vocational training. It's best to engage an entire team including music. The biggest thing is to de-mystify and build confidence", said Trevor.

"There's also the lessons of stagecraft", added Peter, "and teaching people how to run a soundcheck".

Kevin and Trevor did team training in church together a decade or so back. "We found a few weeks later it had all fallen apart again", Trevor says.

SYNK also train school groups, preferring to work with the whole arts team towards a school objective, like staging a musical. "That way you have buy in from everyone", says Peter.

The guys behind SYNK have serious professional experience in audio, TV and vision. They have a passion to share. "With an active faith, it's hard to be selfish", concludes Trevor.

www.synk.com.au

GATEWAY



Gateway Church in Southlake Texas sets a great example of high production values. Opened late 2010, their newest campus seats 4,000 and is loaded with three Digico SD7 consoles.

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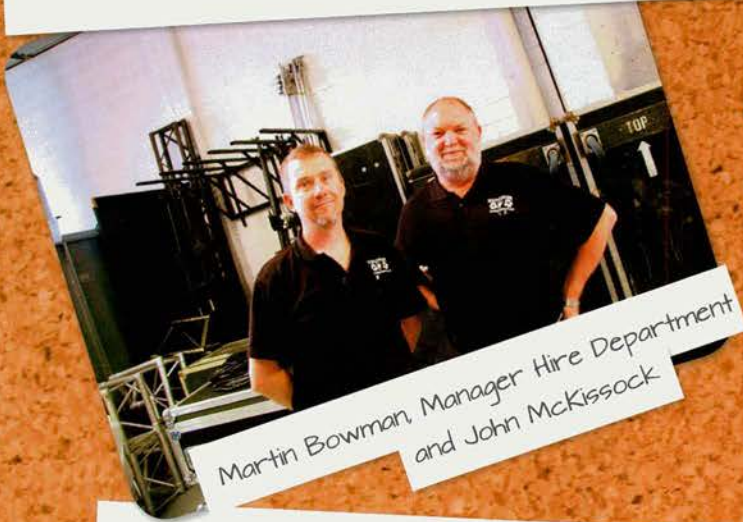
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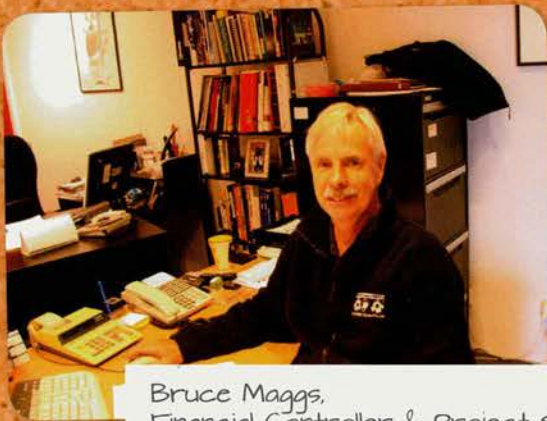


Everything has its place

CX recently called on an old mate, lighting industry innovator John McKissock. In between talking about his niche imports such as Swefog and Zero 88, we were impressed at the order and efficiency all around us.

Here's a photo tour of the facility, which is everything a boutique specialist stage lighting company should be.

CX



Bruce Maggs,
Financial Controller & Project Sales



Cable city



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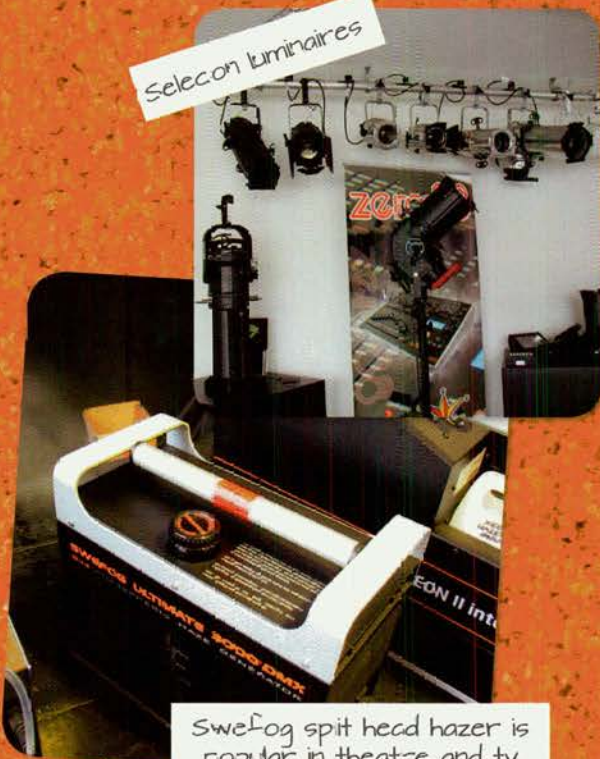


Factory view

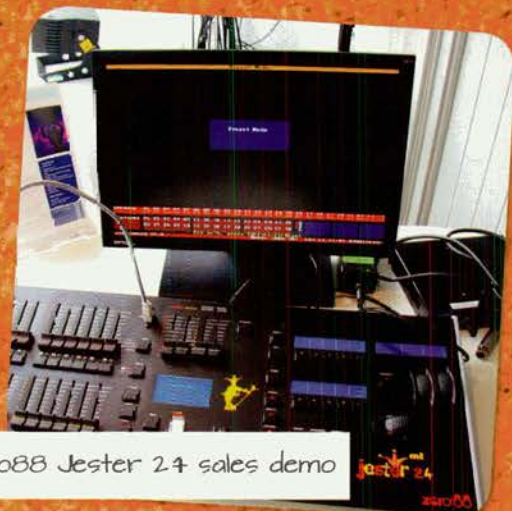


Peter Rees, Assistant Hire Manager

Selecon luminaires

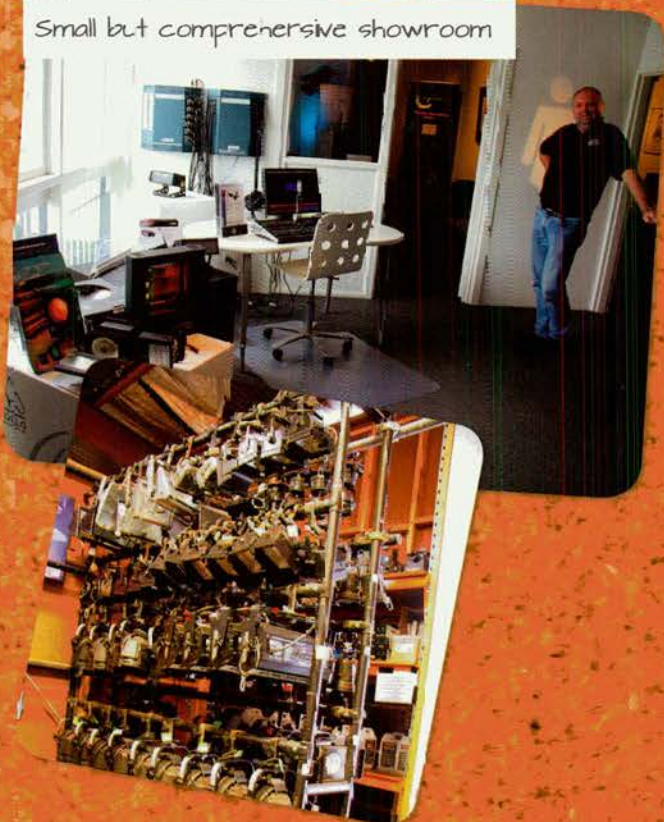


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SHOW US YOUR RACK

In the words of Austin Powers "I don't think that's something one dude should say to another dude. Yeah. A little creepy. Mhmm". Unless of course you're saying it to an audio dude - we love showing off our racks. So today it's my turn.

But before we get onto my box of goodies, I'd like to extend an invitation to you dear reader, to show us your rack. If you've a fancy rack of audio toys (or video or even lighting ones!) you'd like to share with our little community, shoot us an e-mail - juliusmedia@me.com. Make sure you include some nice high resolution photos and an explanation of what you've got and why you have it.

For today we'll start with what I like to call "The mobile multitrack recording rack of doom". It's actually a lot smaller than I'd originally planned as I figured out that the original fridge sized unit wouldn't fit into my car, nor would I or anyone else be inclined to lift it onto a stage. I think the doom name still sounds cool though.

This rack was built to do live = multi-track recordings of gigs. There are a lot of very nice trucks

for hire which will do the same or even a better job, but not everyone can afford a truck. Nor is it always possible to park one. The rack does 48 channels of recording at 48kHz, and is completely transparent to the gig.

48 channels of passive transformer isolated splits populate the back panel, with 48 way Roadworx multicores providing returns into wherever the channels need to end up. You can sit the rack in-between the multicore and a console, or even between stage lines and the multicore plate. Mic pre-amplification and analogue to digital conversion is handled by 6x Behringer ADA8000 units, which

aside from having global phantom power are actually pretty decent converters. These output Lightpipe to a pair of Alesis HD24 HDD recorders.

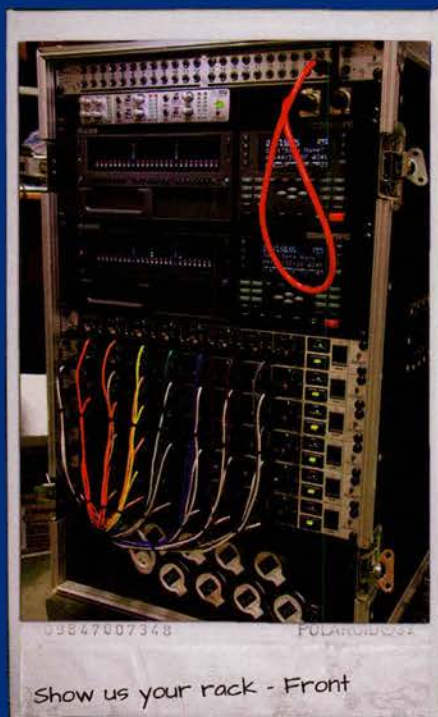
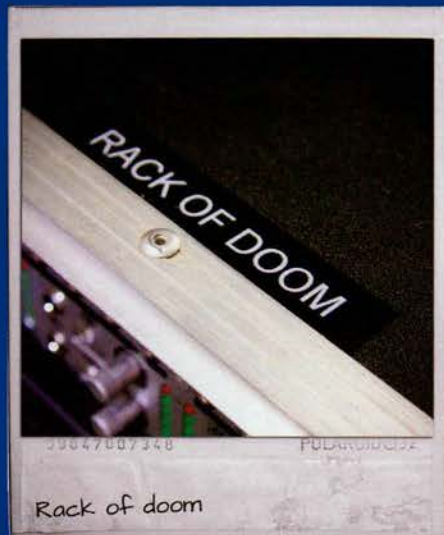
Monitoring is a simple plug and play affair - the analogue outputs of the HD24 units are tied to a 48 way patch bay in the top of the rack. Whatever channel you want to monitor is then manually patched from here to the input of a simple headphone amp. A pair of LED worklights make it easy to see the front and back panels even on dark stages, and a sealed panel design with forced cooling keeps the whole lot operating at a reasonable temperature.

Ambient mics plug directly into the A2D converters on the front panel, and the unit travels with some NTG2s and M11s as well as Manfrotto clamps and mic cables. In the event of a failure there's enough isolation in the system that the gig will continue unaffected.

The 192 XLR connectors and various other bits took about 2 days to build, along with some metal fabrication and custom mounting. Future plans for the rack include addition of an Apogee Big Ben as well as an RME ADI648 MADI converter, which will then allow a backup recording to be made via MADI on and HDSPe based system.

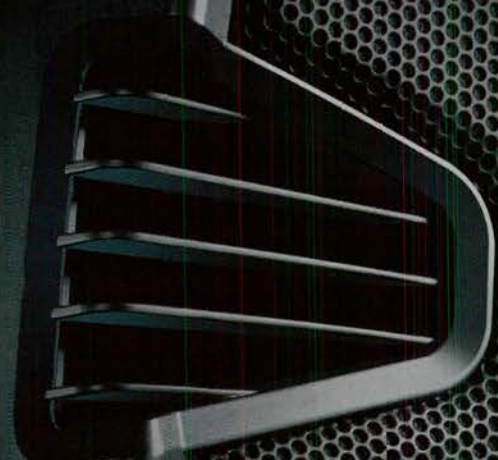
CX

By Jimmy Den-Ouden



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WHAT-IF?

What If I add another chain hoist to the truss?

This issue comes up regularly, and is one to file under the category of "trap for young players".

Assume we have a truss that is carrying an all-up mass of truss and load of a nice round 2,000kg.

We pick this truss up at each end with a 1t chain hoist, and each hoist is carrying 1,000kg.



Now, suppose we want to up the total load (including truss) to 3,000kg.

What do we do? That's easy, isn't it?

We simply add a 1t chain hoist to the middle of the truss, right? - WRONG...

What we actually see is ~19% of the load at the end points, and ~62% of the load in the centre.



This distribution changes if we move the end lifting points in from the ends (say) 1 metre.



So why does this happen???

Consider 2 trusses, of half the length and half the load, each rigged from 2 motors.



If we then join these 2 trusses together and combine the centre load, we would get half the load in the centre, and a quarter at each end.

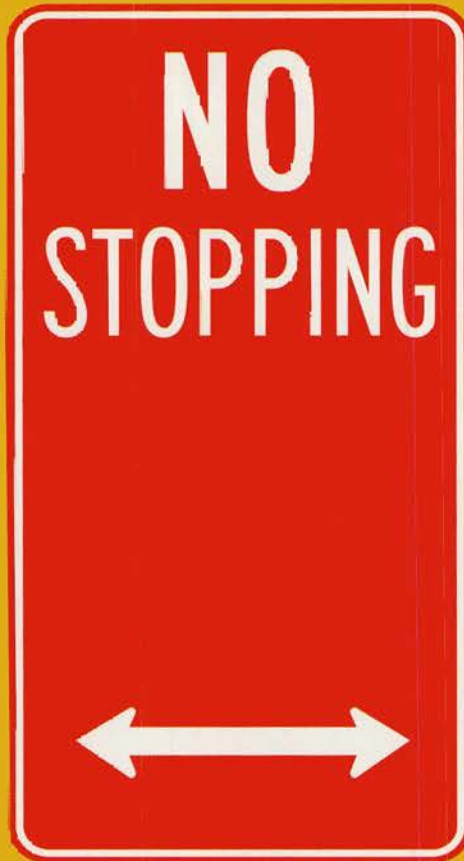
The maths is a little more complex than this, hence the numbers in the diagrams above.

So be careful when you're designing your rigging and choosing your hoists, because although the answer might be 3, the other side of the equation isn't necessarily 1+1+1.

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

By Andrew Matheison





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SYDNEY OPERA HOUSE LIGHTING OVERHAUL



Kyle Brockmann in the Opera Theatre control room, console is the ETC EOS

With more shows, there are more demands on the house crew. CX takes a look at how Head Of Lighting Toby Sewell has adapted his team to face new challenges

By Catriona Strom

The World Heritage Listed Sydney Opera House is one of the busiest cultural and tourist precincts in the world, welcoming around 8.2 million visitors every year. With approximately 1,700 paid performances per year, restaurants, bars, retail outlets and guided tours, the building operates 24 hours a day, 363 days a year.

Within this unique building lives a wide range of venues and facilities including the Concert Hall which is the largest interior venue at Sydney Opera House, the Opera Theatre which is a proscenium arch lyric theatre with an orchestra pit and a combination of hand and powered flying systems. The smaller theatres include the Drama Theatre, a medium sized proscenium arch theatre with a combination of hand and powered flying systems and twin revolves, the Playhouse, an intimate performance venue with a seating

capacity of 398 and the Studio which is flexible venue with a seating capacity range from 220 to 350.

Since taking on the role of Head of Lighting at Sydney Opera House in 2007, Toby Sewell has steadily been overhauling the lighting department of this famous venue.

Toby is an ex student of the Western Australian Academy of Performing Arts where he studied stage management. During his second year of the course he realized that lighting was a creative and viable career. After a stint as a freelance technician in Perth he moved to Sydney where he secured a job with the then Australian Opera Company, (now Opera Australia) staying with the Opera Company for over fifteen years.

"The Opera was a brilliant training ground due to the size and frequency of shows the opera company did," said Toby. "It was also an invaluable experience for me as a designer, due to the core role was sitting next to lighting designers, assisting them to

realize their production & then for me to recreate their shows in other venues. I was able work with many great lighting designers, directors and set designers as well as being able to tour Australia and internationally."

Adapting shows to go into another venue, whether it's the Arts Centre Melbourne, Queensland Performing Arts Centre, the Festival Centre Adelaide or His Majesty's Perth, taught Toby a lot about lighting positions and a variety of lighting fixtures which were all invaluable training for his current position.

Toby's last couple of years with Opera Australia saw him designing numerous productions, before he returned to WA to teach for a year at WAAPA. Upon returning to Sydney, Toby got his rock n'roll and corporate fix, working as a Production and Account Manager for Chameleon Touring Systems for four years. Working with Chameleon gave him exposure to a variety of new Australian venues, the ever expanding Chameleon hire stock and extreme production deadlines.

With a growing young family, Toby decided it was time for a job with more normal hours and in September 2007 he secured his current position of Head of Lighting at Sydney Opera House.

"Through my previous work with Opera Australia I thought that I had a fairly good understanding of Sydney Opera House, its staff & what it produced, the reality is I was aware of less than half of the houses overall output," commented Toby. "In the first year I was very keen to introduce some new blood and we were able to employ three new Lighting Supervisors within the first six months to extend our existing knowledge base. I wanted to inject some new ideas and faces into the department and to be able to pool ideas." The Sydney Opera House employs eighteen permanent full time lighting staff, six seasonal casuals and a pool of approximately ten to fifteen casuals.

Changes in the House

The biggest constraint that Toby has encountered was the building itself. Its age and the lack of modern infrastructure are an obstacle he is working to overcome. In particular are the foyers which have very little infrastructure - power, data runs or empty conduits to facilitate the consistent use of these venues. Toby also discovered that trying to get things changed within the building can be a fairly lengthy process at times. The building has a huge inventory of conventional lighting fixtures some of which are over forty years old and all of them work consistently and constantly.

One of the first changes implemented by Toby was the building of a DMX over Ethernet system in all the venues before he even looked at buying some big toys. "Through the selection process we decided to install an ELC DMX over Ethernet system which was preferred over its competitors. I saw it as more flexible, and having an extra physical outlet on the nodes was a big plus," he revealed.

Since Toby's arrival at Sydney Opera House, more and more of the lighting and design elements for productions have been produced in house extending the venue staff's existing skills base & knowledge. However over an eighteen month period it was calculated that a considerable amount of money was being spent in hiring moving lights, so it made sense for the Sydney Opera House to consider purchasing its own fixtures. The Production Services department put forward a business case to the SOH Trust and funding was approved to purchase a moving light package with a financial return to come from the sub-hire to productions.

Toby organised a moving light shoot out with leading industry brands including Vari-lite, Robe, Martin MACs and Coemar units for mid size moving light profile 700 watt and LED Wash fixtures. Ultimately it came down to someone being able to deliver a package to meet the desired feature set and budget. Show Technology came in on price with the amount of fixtures and service that were desired.

After the selection process the Sydney Opera House took



Show Technology's Simon Barrett with Toby Sewell, grandMA Training Session

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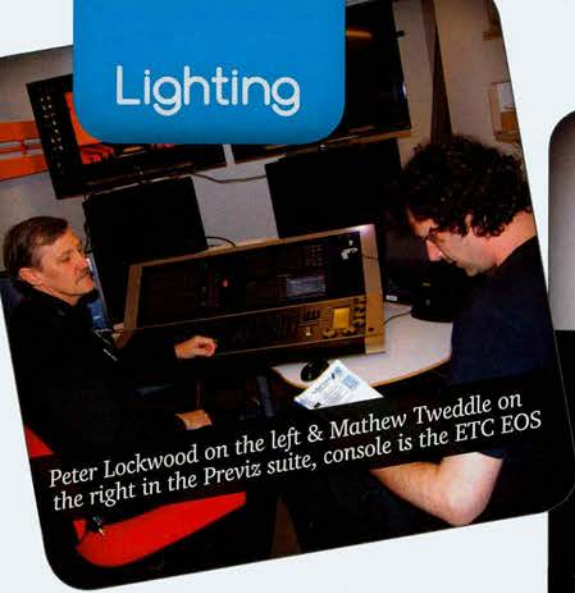
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Lighting



Peter Lockwood on the left & Mathew Tweddle on the right in the Previz suite, console is the ETC EOS



Toby Sewell



Cecilia Bartoli in the Concert Hall using 12 x GLP Impressions and 4 x Martin MACIII

-----> Continued From Page 29

delivery of eight Martin MACIII, 10 MAC700 and 14 GLP Impression Zooms to add to the Vari-lite VL1000, MAC250 Entours and High End StudioSpot and StudioColors that were already on site.

"The MACIIIs were ideal because they are such a big impressive lamp which will work very well in the Concert Hall and the Opera Theatre," said Toby. "The MAC700s and the GLP Impressions can work as an exclusive package as a rig on their own or with the MACIIIs in the bigger venues.

"The main draw card for me with the MACIII is its lens aperture which gives a nice, big beam coming out of the lamp, good flexibility, and a lovely animation wheel. They are also an incredibly quiet fixture which was one of my major considerations as we quite often use the rig to supplement the Sydney Symphony's commercial shows.

"I love the MAC700s for their size and versatility plus their animation is a great bonus. They are a great unit to put anywhere on the floor or hang off the box as side or front light."

Toby first saw the original GLP Impressions when he lit Jerry Springer: The Opera and he was incredibly impressed by their output and saturated colours.

"I was fortunate enough to attend PLASA in 2009 where GLP introduced me to their zoom unit and I knew they would be the perfect fixture for us to do Sydney Symphony concerts, as they are so quiet, as well as the rock'n'roll shows," he reported. "They are also fantastic for events held in our foyers because we can gang several of them together and not have to worry too much about power consumption."

Controlling the House

After a comprehensive evaluation of current control surfaces was completed, an extensive upgrade of lighting control consoles has seen the Opera House purchase three MA Lighting grandMA2 light consoles, three ETC ION2000 consoles, two ETC EOS12000 consoles and two ETC EOS8000 consoles.

There is a grandMA2 light console in the Studio, one is used as a stalls console in the Concert Hall and one is located in the Pre-visualisation Suite.

"I love the grandMA2 for its ease of use and it's potential," stated Toby. "I've used the grandMA Series 1 consoles for a good period of time and I was always impressed by their ease of use. I wanted to offer our

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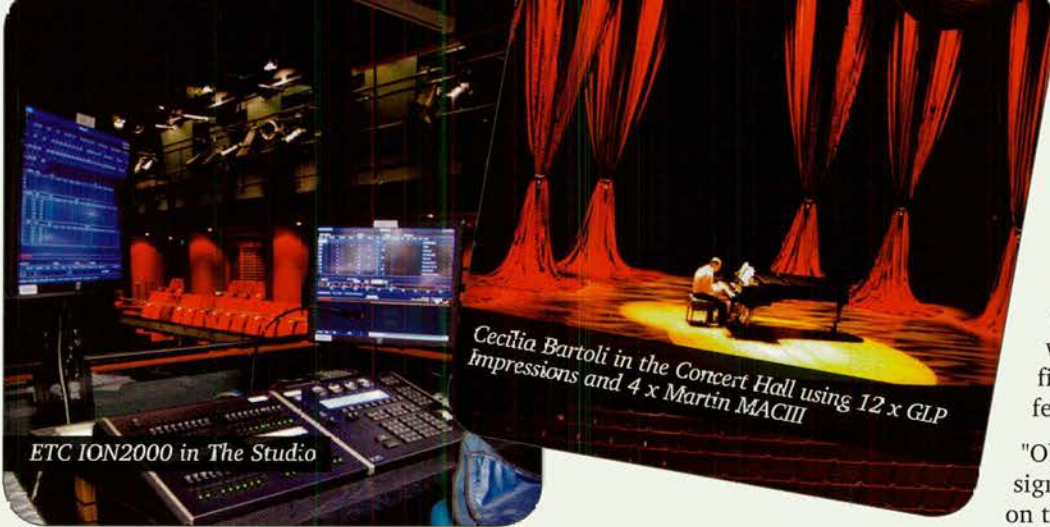
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ETC ION2000 in The Studio

Cecilia Bartoli in the Concert Hall using 12 x GLP Impressions and 4 x Martin MACIII

operators the opportunity to use an industry leading console rather than just a theatre type console. Our job descriptions continually change and evolve and we are currently doing more live music programming with moving lights, so the grandMA2's are an essential tool for these shows and over the next few years we can breed some brilliant operators."

Every venue in the SOH has a control room console of either an ETC ION or EOS which have replaced the aging Strand 500 series consoles.

"It's been a fairly easy switch over for our operators as the logic and syntax is very similar from the Strand to the ETC desks," remarked Toby. "When opting for the ETC consoles I consulted with our clients such as Opera Australia who are very comfortable with the ETC consoles. I found a lot of the theatre designers were much more comfortable with the ETC consoles and philosophies. Sydney Theatre Company and Bell Shakespeare had purchased ETC

IONs and so it made sense for us to have ETC consoles as the control room consoles.

"The ETC consoles are much more intuitive in how they use moving lights than the Strand consoles. We've had really positive feedback from our operators on both platforms: the EOS and the ION."

Next on the list

One of the next items on Toby's enviable shopping list will be some new follow spots because as the rigs get brighter by the day, the follow spots need to catch up.

"Currently we have Robert Julian Cyranos in the Concert Hall and Super Korrigans in the Opera Theatre, plus some Manon's that are used in temporary positions" he explained. "In the near future for the Opera Theatre we are looking at the Aramis because of the size, beam

angle and 2.4K spot."

Toby also hopes to upgrade the 2000+ dimmers, which are spread across the five venues, over the next few years.

"Obviously this would be a significant cost but it has been on the cards since I got here and is now moving forward," he commented. "The efficiency of modern dimmers will partly sell itself in both the energy savings and benefits of not having to swap modules out between dimmer and hot power.

"We're also looking at improving certain technical locations within the house such as the Opera Theatre follow spot position which has been on our radar for quite some time. Infrastructure in foyers needs to be addressed too. We'll also be upgrading a number of conventional fixtures in the Playhouse, Studio, Opera Theatre and the Drama theatre. The Concert Hall use & requirements are constantly evolving in how it is being used by our clients and I'm looking at trying to put in a contemporary standard rig that is more up to date and fits into the existing lighting positions. So we're looking at automating a lot of it with some new moving lights and some silent colour changers in the roof."



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PRODUCTION ROUNDUP

This month we look at the touring musicals

Hairspray The Musical

Sydney Lyric Theatre from June 11
Production Designer: Eamon D'Arcy
Lighting Designer: Trudy Dalglish
Sound Designer: Michael Waters
Technical Direction: Richard Martin
Lights: PRG
Audio: Jands

Dr Zhivago

Melbourne Her Majesty's Theatre,
 ends June 25
 Opens Brisbane July 6
Set Designer: Michael Scott-Mitchell
Sound Designer: Michael Waters
Lighting Designer: Damien Cooper
Lights: PRG
Audio: Jands

Wicked, The Broadway Musical

Adelaide, Festival Theatre,
 ends June 4
 Perth from June 19
Scenic Designer: Eugene Lee
Lighting Designer: Kenneth Posner
Sound Designer: Tony Meola
Lights: PRG
Audio: System Sound

Rock of Ages

Melbourne Comedy Theatre.
Sound Designer: Peter Hylenski
Lighting Designer: Jason Lyons
Set Designer: Beowulf Borit
Technical Supervision: Brian Downie
Lights: PRG
Audio: System Sound

Mary Poppins

Sydney, Capitol Theatre, now playing
Scenic & Costume Design: Bob Crowley
Lighting Designer: Howard Harrison
Sound Designer: Peter Grubb
Lights: Chameleon
Audio: System Sound

Love Never Dies

Melbourne Regent Theatre,
 now playing.
Set & Costume Designer: Gabriela
 Tylesova.
Lighting Designer: Nick Schlieper
Sound Designer: Mick Potter
Lights: PRG
Audio: System Sound

Jersey Boys

Sydney, The Theatre Royal,
 now playing
Scenic Designer: Klara Zieglerova
Lighting Designer: Howell Binkley
Sound designer: Steve Canyon
 Kennedy
Lights: PRG
Audio: System Sound



Nick Eltis, Production
 Manager at Dr. Zhivago

SHOW BUZZ

► Rock of Ages and Dr. Zhivago are said to be each doing around \$1m per week at the box office in Melbourne. While tickets are generally available with few sellouts, the shows (across the street from each other) have legs for the rest of their Australian tour.

► Xanadu the musical collapsed with high drama in Melbourne, leaving Chameleon, Norwest and Tri Point Rigging amongst many creditors. The rights to the show were acquired from a US college tour, and the first big mistake was trying to stage the show in a tent, with obvious restrictions on sightlines. At the end of the day, audiences just didn't buy tickets.

BIG ACTORS

Walking with Dinosaurs is back, having toured the USA, Asia and parts of Europe. It is the most successful Australian entertainment concept thus far, having grossed \$350 million since 2007.

Owned by production house Global Creatures, the show does not have to pay through the nose for talent, but it does have very expensive animatronics and puppeteers. The giant creatures in the show were all designed and built at Creature Technology Company in Melbourne.

Global Creatures found a willing investor in Gerry Ryan, who heads the Jayco caravan company. He first provided \$150,000 for the prototype creature, and went on to back the show.

Soon Global Creatures will open King Kong - Live on Stage. It is an ambitious musical, set in the 1930's and directed by Daniel Kramer. Theatre designer Peter England is working on the \$5 million show.

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Hot Summer Cold Rain

POWA PRODUCTIONS SEEN ON THE ROAD WITH MORE THAN JUST PA AND LIGHTS

By Julius Grafton

Some surprises emerge as Julius and Jimmy drive into Bogan Central to see the outdoor rig for a Red Hot Summer gig. Only thing is, it isn't hot and it sure wan't summer. Read on...

Powa Productions boss Geoff Knight and I squelched around the site outside Bateau Bay Hotel, an hour north of Sydney. It was lunchtime on Easter Saturday. I'd driven through low cloud and solid rain to get there. It hadn't looked promising for the second last Red Hot Summer tour outdoor gig.

But the rain has passed here, leaving the ground ominously soft. "We might need a tow truck to get out tonight", says Powa tech John Bosua. There are patches of blue sky, and punters are starting to set up folding chairs and unfurl picnic rugs.

"Woah, there are some actual good

looking people here", yelled stage crew member Cam Batton in between attacking a road burger. He was still nursing bruises from a violent attack at the previous show, where a female punter had bashed him for failing to facilitate a one-on-one with Jimmy Barnes, star of the show. The Bateau

“As we sit in the back lounge of the bus, and admire the mirrorball, Geoff mapped out his entourage.”

Bay mob ranged in appearance from old through to family groups. They were streaming into the fenced corale outside the pub, the first of apparently 3,000 tickets sold.

Geoff explained the workings of his stage. It comes as a trailer on his B double, the A trailer is a 26 foot pan. The stage measures 12 x 8 metres, and the roof is 5.5 metres above the deck. Today the deck is set a little lower than its usual 5 feet, because the soft ground gave Geoff reasons to be careful.

Onstage is the most outrageous array of stage gear, all set in soundcheck order. But I am ahead of the story.

RED HOT SUMMER

Duane McDonald of Regional Touring came up with a concert tour headlined by Jimmy Barnes, with Noiseworks. Thirsty Merc and Attack of the Mannequins were on today's lineup. The tour took in a lot of Eastern Australia over summer, and was winding up at Easter when we caught up.

This was a leg of dates starting in Newcastle on the Thursday before Easter, then Bateau Bay on Saturday and then moving down to Rutherglen near the Victorian border for a Rock In The Vines concert on Sunday with Barnes, Jon Stevens and some different acts.

"We will overnight tonight, we need to load in at 8am tomorrow", Geoff said. It must have been the look on my face, because he added:





Geoff Knight

"We have a crew bus and separate drivers".

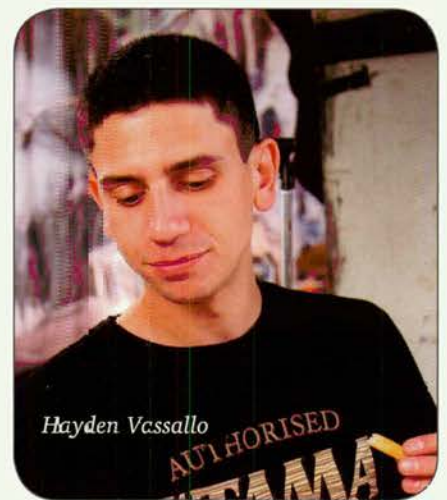
I was still doubting the sanity of this schedule. But the Bateau Bay show went down at 7.30, and Geoff was confident they'd be on the road within 3 hours, notwithstanding getting bogged. But then he showed me The Bus.

Powa have one of only a few genuine tour coaches in Australia, this one acquired from country singer A'cam Brand. It is a 44' Dennison tag axle coach, fitted with twelve bunks and designed for overnights. It has a forward lounge, kitchette with coffee machine, toilet ("only for number ones!") and the bunk section is sealed off. At the back, through a pneumatic door that opens and shuts silently at the press of a button, is the rear lounge and mirror ball.

Visions of debauchery on the road swim into view. But this bus is spotless - absolutely clean. Not a spec of dust. Carpet vacuumed. How can this be? In a CREW bus?

Now I can see how Geoff's crew of twelve, including three drivers, can make this work.

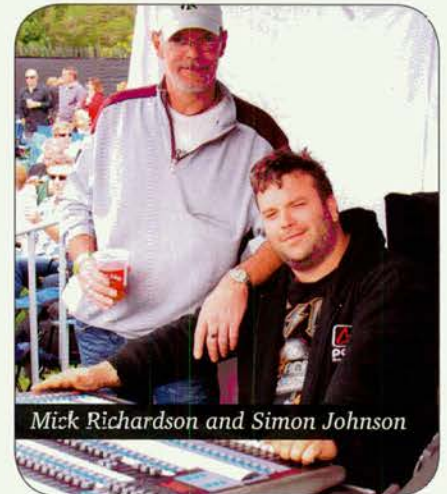
Continued Page 36 ----->



Hayden Vassallo



Brett Millican



Mick Richardson and Simon Johnson

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Midas Pro 6



Attack of the Mannequins

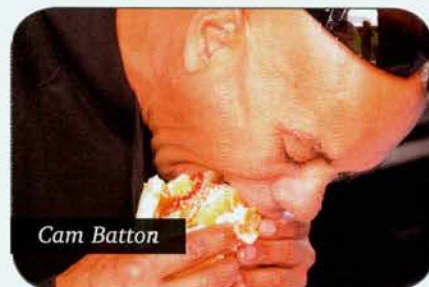
INFRASTRUCTURE

As we sit in the back lounge of the bus, and admire the mirrorball, Geoff mapped out his entourage.

The Volvo FLT B double hauls the stage, and 26 feet of gear in the pan. A Volvo FM rigid hauls the majority of the production, and tows a generator trailer. The rigid truck is the largest I've seen, with a 32 foot pan, lazy axle and a twin steer setup that Geoff had added on when he was busted overweight. It will now carry more than 20 tones. "It doesn't matter how you load it", he says.

Powa specialize in complete infrastructure and it is a compelling argument to a promoter of a certain sized show. Today's show could use a larger stage - four bands worth of backline eats the stage up.

But if the stage is only just deep enough, with limited wing space for monitors and backline tech's, the PA is overkill. Which is how you need it, outdoors. Powa have their own PA towers, a triangular arrangement of three trusses that go 12 metres high, and allow a tonne of PA to be flown within an hour.



Cam Batton



Monitors: Mike Cole

The lighting rig also has all the readies, with Robe the moving light of choice along with 72 Pars and 16 blinders.

Power runs off a primary 150kva generator, with a 70 kva unit running as a backup. The audience blinders are run from the backup unit, to keep it under load and ready. If the primary unit fails, the cutover takes less than a minute, whereupon less lighting would be used to keep the show running.

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PA

I knew Powa specialized in EV loudspeakers, because I've written about the AC/DC tour (2000) and Savage Garden tour where they supplied a large X-Array system. In recent times they've added the EV XLC line array, and today there are twelve boxes a side - probably twice as much as you'd ever need for a show this size.

System tech Tom Watterson tells me the top three XLC (model 907dvx) boxes have 90 horizontal dispersion, while the nine below (model 127dvx) go 120 degrees wide. He points out that the XLC has an upgraded driver specification, with a DVX 12" woofer, two 6.5" midrange XLC and a pair of 3" diaphragm high frequency drivers in each box. They run on Dynacord H5000 amplifiers.

Ten double 18 subs sit on the ground each side of stage, well matched to the vertical arrays. (See side box) These are driven with EV P3000 amplifiers. On the front of the stage are four EV XLD boxes as front fill.

On stage is a PM 5D monitor console, which is at the top of the midrange of professional consoles chosen for stage monitors. Electro Voice again is the speaker brand of choice here, with 16 XW15 monitors on stage, and XB and XN boxes for side fill. A pair of single 15" subs supplement the drummers wedge. All of these are amplified by EV P3000.

Out front is a Midas Pro 6 digital audio console wired back to the stage rack on Iris Net. This is once again at top of the middle range of professional solutions for this task.

TRIPOD TIME

Powa engineered a PA tower solution that is good to handle up to one tonne of line array. Today it has 750kg flown.

John Bosua from Powa explained how these are set up.

"The PA towers have a hinged leg allowing them to be assembled flat on the ground. We can assemble them in two formats with either 9 metre legs or 12 metre legs".

"We use CLS 300mm tri truss for our legs. We have an electric winch and pulley arrangement to raise the towers. The winch is bridled to the the fixed legs at the ground end, and the cable from the winch is attached to the ground end of the hinged leg. We use four people to lift the centre of the tower to a height of 1.5m and place a 1.5m piece of truss under the hinge. This is the minimum starting height for the winching process.

"Once the hinged leg has been winched to position we attach safety cables between the bases of all the legs. This prevents the legs from splaying when a load is applied to the tower.

"At 12 metres the towers can lift 1 tonne, but each requires a minimum weight of 750Kg to be stable in high winds".

LIGHTS

Simon 'Junior' Johnson is the Powa lighting director, and this time around also the LD for Jimmy Barnes. This is an ideal situation, since he can design around what is available.

Continued Page 38

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Trucks & buses

-----> Continued from Page 37

Control was on an Avolites Pearl Expert console, with 72 channels of Jands HP dimmers. Movers came from Robe, with 4 x Robe 700 spots and 4 x Robe 575 wash on the back truss. 4 x Robe 1200 wash were on the floor at the rear of the stage, 4 x Robe 250 wash on the downstage edge of the stage and 2 x Robe 575 wash say up on the side fills.

Scattered around were the mainstay of concert stages everywhere, 72 x Pars (24 x CP62, 40 x CP61, 8 x CP60). 16 Blinders came in various sizes, and were run from the backup 70kVa generator, to keep the main 120kVa unit stable without the sudden demand of blinders.

Two Robe 400FT Hazers did the business.

SHOWTIME

At 1.30 Attack of the Mannequins take to the stage and the crowd swells. The pub lawn has a row of food and beverage outlet tents down one side, even a coffee van. The punters have arranged themselves into areas of blankets or fold up chairs, with standing zones down the middle.

It's a rock show - the sky goes blue, the ground dries out and the beer

is on tap. Jimmy and I sample the beverages, and look around to see whether we are oldest (me) or youngest (him), and decide its all ages here.

Powa's PA is just idling along, it is

plenty loud but clean, and everything seems neat and tidy.

Geoff bids me farewell and heads off to a hotel room to get some sleep before his shift as bus driver, overnight to Albury.



Australian Made Subs

Powa's subwoofers are based on a Lorantz Audio design modified for the perfect truck pack and are loaded with 2 C465YB3 Lorantz 18 inch drivers.

"These Drivers have been great", said John Bosua. "We have had a long and low maintenance run with these speakers and they are Australian made which means repairs are cost effective.

"Mike Barabasz of Lorantz audio services has been our speaker Guru - any issues we have had with any loudspeakers he has given us a good honest evaluation of the problem (it can be hard to find an honest person nowadays) and he's given us practical remedies for our problems.

Powa crew

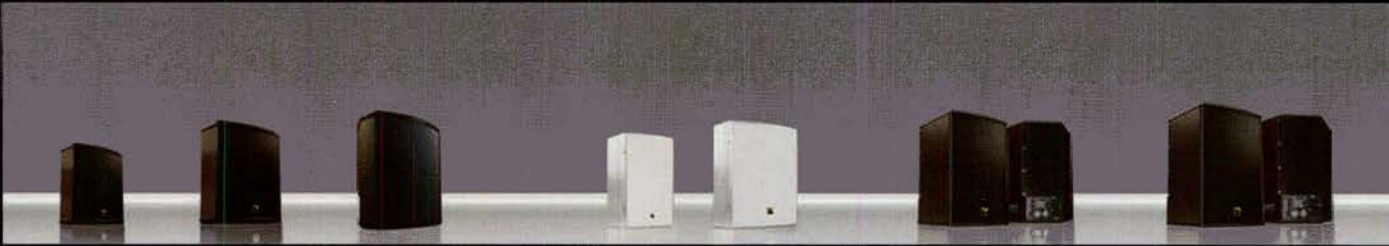
*Geoff Knight - Production Manager
Chris Sheppard - LX Systems
Casy Lorraine - LX Rigger
Tom Watterson - FOH Systems
Kalo Taylor - SR PA Rigger
Andrew McCurry - SL PA Rigger
Brett Millican - Stage Manager
Ian Chadwick - Mon System Tech
Harry Parsons - Mon Rigger
John Bosua - Carpenter & Service Engineer
Michael Flannery - Generator Tech*

Jimmy Barnes crew:

*Simon 'Junior' Johnson - Lighting Designer
Chris Tate - FOH operator
Mike Cole - Monitor Operator
Hayden Vassallo - Guitar Tech & Drum Tech
Cam Batton - Guitar Tech*



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JANDS HPC DIMMER

Sometimes an Air Gap is a good thing...

By Jimmy Den-Ouden

Lighting has changed a fair bit in the past decade. Nowadays we use more moving lights, LED fixtures, hazers and other things with motors in them. The commonality between all these devices is that none of them run well off a dimmed circuit - they require hot power. Consequences of trying to run these devices off a dimmer range from nothing through to broken light and dimmer, and maybe more.

JANDS have finally come up with a solution. The new HPC series dimmer is the latest addition to the popular HP range, and now includes Air Gap technology. Okay, so maybe it's a fancy way of saying they've put bypass relays into a dimmer. But the fact is that somebody needed to do it, and JANDS have. So I reckon they can call it whatever they want.

How it works is very simple. Each channel is a conventional dimmer - different dimming options are available including 220 and 470 microsecond rise time versions. But the fun doesn't end there - each channel also has relays which enable it to be switched permanently off,

permanently on, or work as a DMX activated switch. Controlling these is very simple - there's a button and a multi colour LED above each channel's breaker. Pushing the button cycles through dim., on, off, and switch modes. When you reach the desired mode for the channel, hold the button to store the selection. If the rack loses power it comes back up in the same state, so assuming you set it up right you're not in danger of applying dimmed power anywhere you shouldn't.

Could you run a small lighting rig and PA system off this box simultaneously? Technically, yes. But it's a bad idea. Even though you'd be supplying hot power to the PA, you'd still be combining dimmers and audio power distribution into one box which is a no no. It might be a last resort option if your audio distro fails.

Why the HPC is a good thing

Because copper is expensive, and so is time. The HPC is solid enough to tour but I reckon the real market for this product lies in install. Typically a theatre would employ a patch system to distribute power and dimming to its various lighting bars and rigging points. If you wire all these points to a big rack of HPC units instead, then you can just select on the rack what you want each outlet to do. Soft patch your console to the relevant dimmer channels and you're done. Gone is the need for an unsightly patch bay, along with the need to

spend time installing and using it. HPC might bear a higher initial cost than plain old non Air Gappy dimmers, but there are some definite long term labour savings to be had.

As expected from JANDS, the HPC is built like they mean it. Solid. Dual speed controlled fans maintain optimal operating temperature. DMX input and output is on 5 pin XLR which is a good thing (I may be waving the red flag here, but I still believe 3 pin XLR sockets on lighting gear encourage people to use a mic lead where a DMX cable belongs. They are not built to the same spec as each other!). The setup menu is LED based with 4 navigation keys. It's not entirely intuitive until you look in the manual, but chances are most users will never even get into the menu anyway. The unit is RDM ready, and there's an option for Ethernet control too.

α

What & Where

Brand: JANDS

Model: HPC

RRP: Starting at \$4495.00 inc GST

Product Info:

www.jandcs.com.au

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SYDNEY THEATRE COMPANY PUSHES GREEN

It's not easy being Green, but it really is worthwhile



*Helen Thomson, Jacqueline McKenzie & Sara Zwangobani in Sydney Theatre Company's In the Next Room or the vibrator play by Sarah Ruhl
Photography by Brett Boardman*

Home to the iconic Sydney Theatre Company, the Wharf in Walsh Bay has been in the news a lot of late, largely due to the 'Greening the Wharf' programme, which aims to reduce the theatre's carbon footprint by as much as 70%.

The programme entered the implementation phase late last year and, while the major media focus has been on solar energy and rainwater harvest, Greening the Wharf asks that every aspect of the theatre's operational and production decision-making be considered in terms of environmental impact reduction.

As Head of Lighting, Graham Henstock was charged with exploring 'greener' luminaire alternatives. Part of his proposal was the installation of Philips Selecon's revolutionary PL1 LED fittings.

"Of the fixtures I saw during my research, the PL1s stood out as they combine a significantly higher level of output with the flexibility of focus and control that we require at the highest level of professional theatre" says Henstock.

Renowned for issues with colour shift when dimming, LED fittings have been regarded with skepticism, particularly in theatre applications, where colour, value and saturation are critical. The fully tunable high output light engine of the PL1 supports colour temperatures from 3000K to 5600K and full RGBW colour mixing, with a maximum output similar to that of a 500 watt Fresnel or PC.

I have been pleasantly surprised by

the PL1s usability and impressed by both the smooth dimming curve and the level of colour saturation that can be achieved as part of the colour-mixing process" says Graham. "The PL1 is one of the very few fixtures I saw that managed to avoid the majority of problems that are common to LED fixtures. They produce a single, crisp shadow, which meant both an absence of chroma-shadowing and that their barn-doors actually work! There is an impressive evenness to their field of light."

Noise generation and size are equally important considerations in hushed theatrical settings, where new luminaires need to co-exist with previously-installed equipment. "The onboard fan of the PL1 is mercifully quiet. In addition, the unit

is relatively compact, which means we had no trouble incorporating anything into our existing lighting rigs" Henstock explains.

It is estimated that the Wharf will realise substantial annual savings under the programme; around 555 tonnes of CO2 emissions each year. Achieving these goals requires a concerted effort across the board.

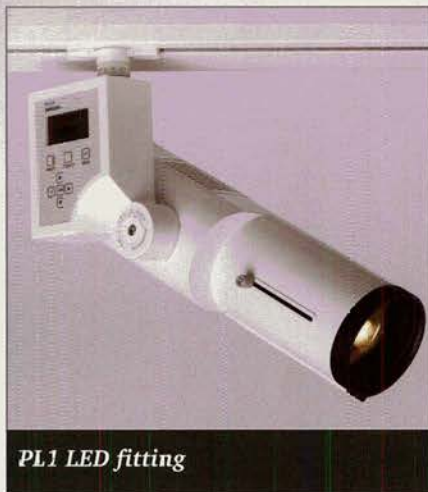
According to Graham, this represents a shift in day-to-day thinking, as opposed to a series of purchase decisions, "This is not a once-off event, but an ongoing approach to the way we create theatre. As such, it involves a constant assessment of how we utilise power and whether the same effect can be achieved in a less power-intensive manner. As a flexible, low wattage-lighting fixture, the PL1 is one of the tools that help me reduce the company's power usage".

Greening the Wharf extends beyond the Company's immediate environment, as productions are often staged at other venues and tour to other regions. In the case of "In the Next Room or the vibrator play", running at the Sydney Opera House Drama Theatre then touring, Lighting Designer Hartley T A Kemp outlines his view on striking the balance between an aesthetically pleasing production and reduced energy use.

"It is important to serve the production well. Art comes at a cost, so seeking to reduce energy use is important and there are many ways in which this can be done without compromising the end result."



Graham Henstock
Head of Lighting -
Sydney Theatre Company



PL1 LED fitting


The play is set in the late nineteenth century, in the home of a doctor pioneering the use of 'electrical therapy' (vibrators) to treat hysteria. Harley explains the inspiration for his design. "Electricity, electric light, candlelight and natural light run through the core of the play, which explores the links between the power of electricity and the power of love. It's been a fantastic piece to light" he says.

"Graham introduced me to the PL1s and I'm really pleased to have been able to use them" he continues. "I've found them to be invaluable in bringing this show to life. The ability to replicate nearly any colour in the swatch book, to create colours by free mixing and to fade between colours seamlessly makes a big difference to the production."

In a world where "green-washing" is becoming the norm and the public tines of corporations striving to

prove their green credentials, STC has implemented a programme for change. A subtle shift in thinking brings an awareness of environmental impact to the business of creating entertainment.

According to Graham Henstock, he made the logical choice when selecting Philips Selecon as the preferred luminaire supplier, "I was drawn to Philips Selecon's products because I could see that the company was paying considerable attention to the environmental impact of their business. Their focus on incorporating recyclable materials into their fixtures, as well as their commitment to developing luminaires that utilized lower-wattage light sources, demonstrates a philosophy that nicely complements that of the STC's ambitions."


Here's hoping this thinking is not restricted to one Company and venue alone, but heralds the way forward for the entertainment industry. 

Full Equipment List - Sydney Theatre Company Greening the Wharf

- 10x PL1s
- 20x PL TR1 White Floodlights with accessories & spread lenses
- 50x SPX 15-35 Zoomspots
- 30x SPX 25-50 Zoomspots
- 30x Rama High Performance resnels
- 10x Acclaim Fresnels



Jacqueline McKenzie & Josh McConville in Sydney Theatre Company's *In the Next Room or the vibrator play* by Sarah Ruhl
Photography by Brett Boardman



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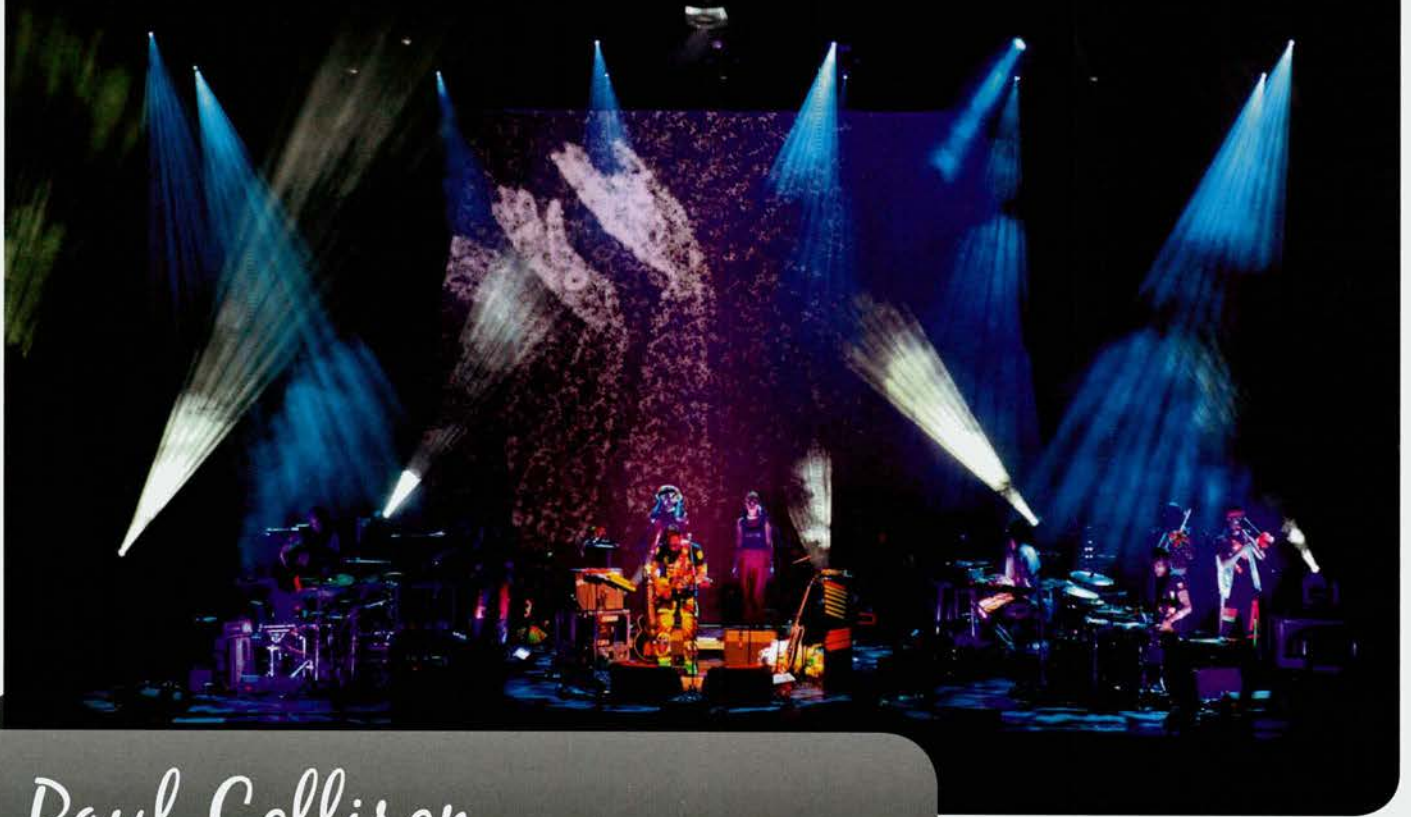
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PROFILE





Paul Collison takes to the road with a Martin M1 console

Sufjan Stevens did shows in Sydney recently, two at the Sydney Opera House and one at the State Theatre Sydney, followed by a tour of Australia and New Zealand.

It's difficult to explain a Sufjan Stevens show but reviewer Jimmy Bollard makes a brave attempt on Adelaide's Rip It Up web site: 'Completing the madness is the visual display on stage. In keeping with the surrealism of his recent music, Sufjan and his band are decked out in fluorescent costume. Nothing new there. But when coupled with tin foil headdresses, Evel Knievel jumpsuits, flashing collars and cabaret boas, it makes for a pretty eclectic wardrobe. And this is just the tip of the iceberg.

The real visual stimulant comes from all the projections and lighting displays. There are two screens onto which images are projected - one behind the band and a thin veil that periodically drops in front of them - and on these are an array of optical splendours. The animated works of Royal Robertson come to life on Get Real, get Right; an ever-changing

volcanic cross-section lights up on Vesuvius as the band appear to be burning up right there onstage; unnerving, oscillating polygons constantly reappear; while during set closer Impossible Soul, a giant crystal cardboard cut-out descends from the ceiling. Then a magical thing happens towards the end of this song when hundreds of multi-coloured balloons disperse throughout the theatre. This isn't just a gig, it's not just a concert, it's a production. Sufjan is living proof that music affects you on more levels than the superficial, it appeals to more senses than just the aural."



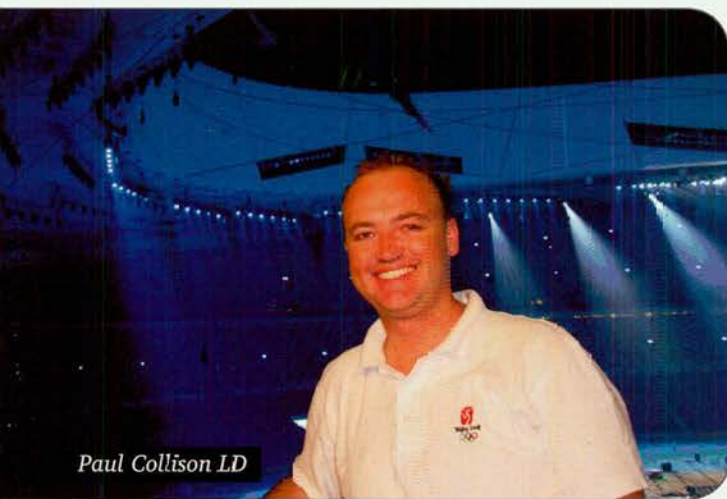
Martin M1 Controller

With an eclectic mix of folk and pop music with a touch of rock opera, Stevens employed the talents of local lighting designer Paul Collison to light the two hour musical journey. With an ever-changing lighting system from venue to venue and very tight time schedule, it made no sense to try out a new lighting console. However sense is something Mr Collison rarely has.

"I wanted to use the same control surface on all the shows," he said. "I didn't want to flit between different operating systems so the only way to prevent that is to tour the console and I opted for the Martin M1 console."

Paul had a corflute road case made for the board by Timon Klein Industries; a light but rugged road case meant the console in the case was only 24kg.

"I had used the M1 previously and was impressed by its abilities and features," remarked Paul. "I had thought this was going to be an easy tour to try a new surface on. How wrong I was. Each song had anywhere between twenty and thirty cues. It really was a musical journey and the lighting needed to reflect this.



Paul Collison LD

'I was most impressed by a feature I hadn't put much thought in to. I knew I would be swapping fixtures in and out during the tour. LED wash lamps on one show, old Studio Colors on another. The cloning feature made life so, so easy for me. I was amazed when I turned up to the second show to find I was able to clone LED washes to arc wash lamps with just a tweak of a few colours here and there.

Paul discovered that when it came to changing profile fixtures the same thing occurred and all he needed to do was change gobo palettes and he was ready to go.

'It saved me hours and hours and hours of re-programming each day," he said. "It gave me a chance to really refine the show each day."

The show was followed by rave reviews around the country. Stevens came in to the public eye as a folk singer usually performing with only a banjo and acoustic guitar and many in the audience had not seen this side of the performer.

"The music really leant itself to lots of cues to accent the musical nuances," explained Paul. "Each song had its own cue-stack for all the moving light cues. I ran the key lights manually using the group inhibitive masters to guide the overall level while still being able to control individual keys using the ample amount of faders on the surface."

But would Paul use the M1 for something like this again? "The M1 is a board with mature software. I was really impressed with how quickly I could adapt my workflow from other operating systems to the M1's. I'll be definitely using the M1 for more shows in the future."



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SMART CASE CO

Tony Daley has ten fingers, which makes him a careful roadcase maker. He escaped the frigid Melbourne winters and Nova Forge where he was a part owner, for Queensland a decade or so back. Now he is a partner in Cases.com.au and its alter ego firm, Blue Cat Cases.

Ann Kerr explains: "Blue Cat was and is a custom fabricator. We make cases to order". Down on the floor at the Brendale factory a group of guys are doing just that. "It takes forty five minutes to prepare a design", adds Tony.

After getting established in Brisbane, Tony saw some of his market wandering off to Chinese imports. "I noticed we were losing rack sales - customers are not dumb buyers, they know what they want". Tony looked around for a partner with importing expertise, and found Ann, an accountant.

In 2005 Cases.com.au was born, and it was a runaway success due to



Tony Daley and Ann Kerr

great marketing, right price and - importantly - stock on the floor. The warehouse has stock, and it moves. I saw this myself.

Having both custom fabrication and off the shelf imports is a winning factor. Custom will never die; there are too many expensive, niche and one-off products in audio visual and broadcast that need a tailored case.

Tony is open about the quality differences as well, an imported 'off the shelf' case will not live as long as a custom made one. Having both solutions means you meet demand. The other bonus for the company is the ability to source a job lot of a one-off design, if a customer is happy with the imported product quality and prepared to wait a little.

The one line of business Tony is finding hard to crack is broadcast, "I don't understand why", he says.

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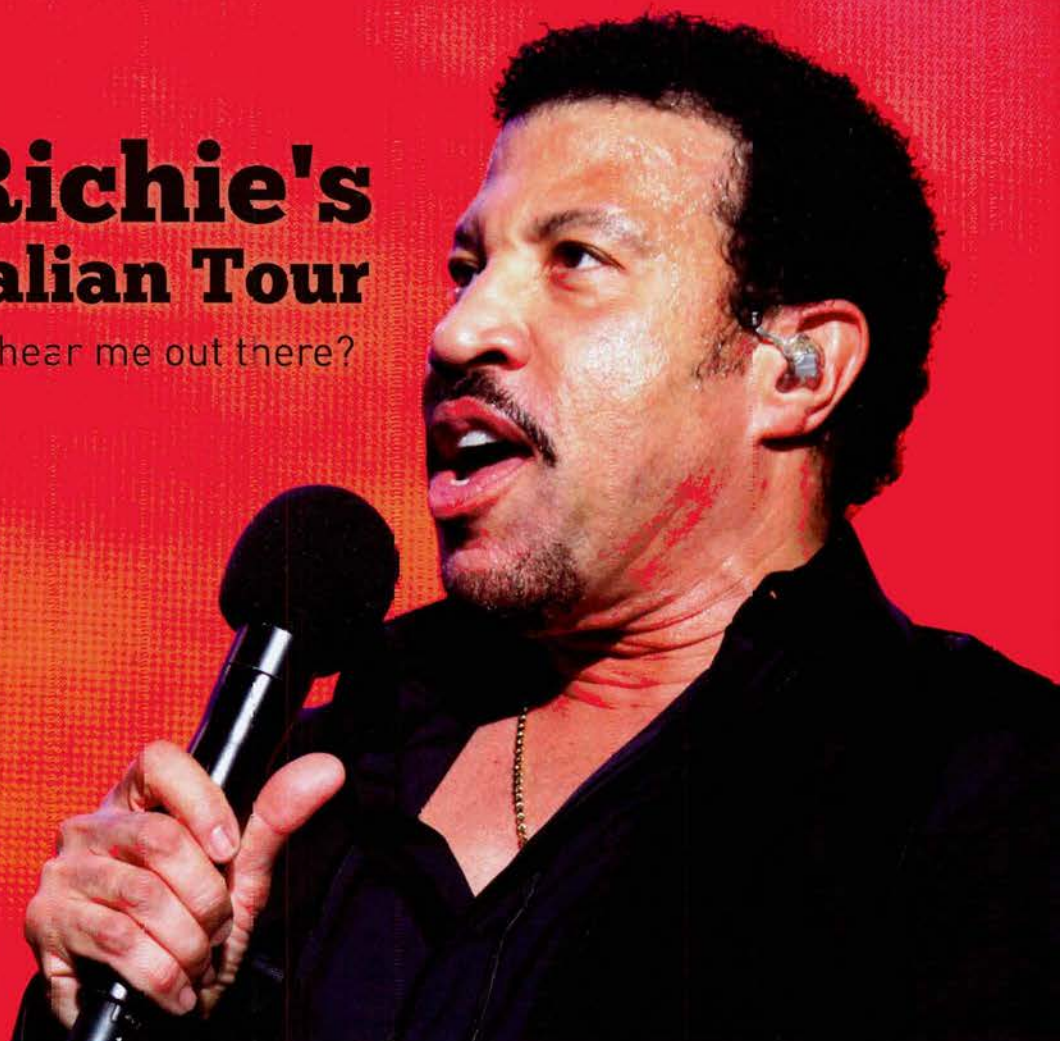


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NEUTRIK

Lionel Richie's 2011 Australian Tour

Hello...Can everybody hear me out there?



By **Brian Coleman**

Late doesn't always mean there's a problem. But some twenty minutes after Lionel Richie's scheduled 'A Day on the Green' 8 pm kick-off at Bimbadgen winery NSW, the great Motown maestro emerged to find his vocal somewhat attenuated in the mix. And what may have appeared to some as a salute to the audience, was actually Richie shading his eyes from the follow-spot whilst peering in the direction of his sound engineer, the legendary John Cooper, as he enquired, "Can everybody hear me out there?"

Whilst Richie could be clearly seen fiddling inside his jacket with his IEMs (in-ear monitors), the main problem was in the FOH where Cooper was utilising the multiple output options of the Venue Profile console to divide the speaker arrays into four separate mixes.

These included separate mixes for the main left and right L-Acoustics V-DOSC arrays, the V-DOSC in-fill for the front rows, and a mix for the V-DOSC subs.

The problem seemed to be compounded by the fact that there were no side-hang arrays left or right of stage where several GAs (general admission ticket holders) - some in excess of 150 degrees off centre stage - strained to hear.

"At the desk there were some conversations going on about how

“The domes are very reflective and there's bucket-loads of snare drums and cymbals crashing down out of that roof...”

much Lionel was able to be heard in the mix down in the front few rows, and I know that their engineer (John Cooper) was working hard to change that," said Ben Suthers, a contractor to equipment supplier JPJ, which is amalgamated with JPS (Jands).

"I went down there a couple of times - I wasn't down there right at the

very start...I went for a walk around to see how the rest of the site was going. But I did go down there (the front rows) after four or five songs and it seemed pretty good down there," said Suthers.

JPJ consigned Suthers to install a secondary PA of 'stacks and racks' (speakers and amplifiers) solely for Richie's Saturday Bimbadgen engagement. This was because it was decided that the main PA (J-Line system), which was being used for Richie's preceding Friday Brisbane Entertainment Centre concert, would go directly from Brisbane to Bowral for Richie's Sunday performance at the Centennial Vineyards.

JPJ's touring crew subsequently made the journey from Brisbane to the Hunter on Saturday arriving around 1:30 pm with the monitor systems, patch, microphones and FOH console etc - and did an admirable job of setting up the production for the first band to go on at 5:15 pm.

After a couple of numbers Richie settled, seemingly at ease with the FOH and his IEM mix as he launched into his trademark style of finessing his audience.

STAGE

Six wedges spanned front of stage, two of which masqueraded as audio monitors but were actually Autocue screens housed in Claire Brothers 12AM wedge casings. The other four wedges, which were the real deal, remained mute.

"All he (Richie) runs wedge-wise is just one mix of four d&b M4s; and they really don't get turned on unless there's a failure with his in-ears," says Paul Kennedy, touring crew Systems Monitor Engineer for JPJ.

"Basically Lionel has a stereo mix, which is running out of one transmitter with several packs on it--

of course one of which he will wear-- and he has a monitor guy who wears another pack listening to what Lionel is listening to. And that same mix is run out of a matrix into a separate transmitter on a different frequency with another couple of packs running off that in case of any radio interference. So, if need be, Lionel can just be handed the same mix in a different pack," says Kennedy.

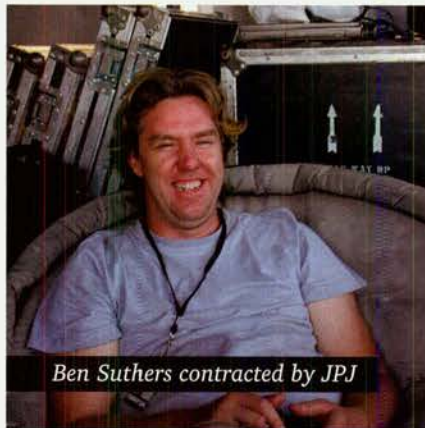
In one such instance, one of Richie's in-ear moulds actually broke off the cable during his Acer Arena performance in Sydney. So while the crew were sourcing the spare mould, Richie had to solely use the wedges for one song.

Vocals and instruments are not the only audio waveforms flowing through the IEM matrix. There are also a lot of talkback conversations, which audiences are completely oblivious to, emanating from various talkback microphones that are channelled into the IEMs. All of Richie's crew are connected by talkback. These include an off-stage Pro-Tools operator who records the mixes to a laptop for reference and even professional release, and an off-stage Autocue operator. And Richie's MD (musical director) and keyboard player Chuckii Booker has an SM98 attached to a microphone

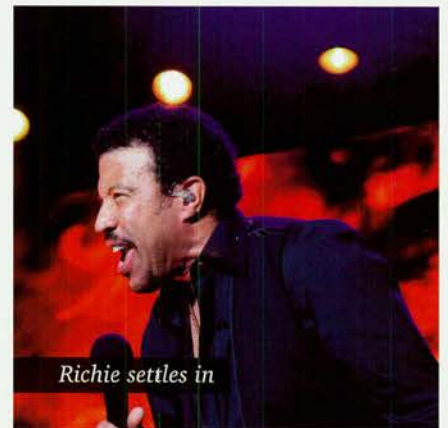
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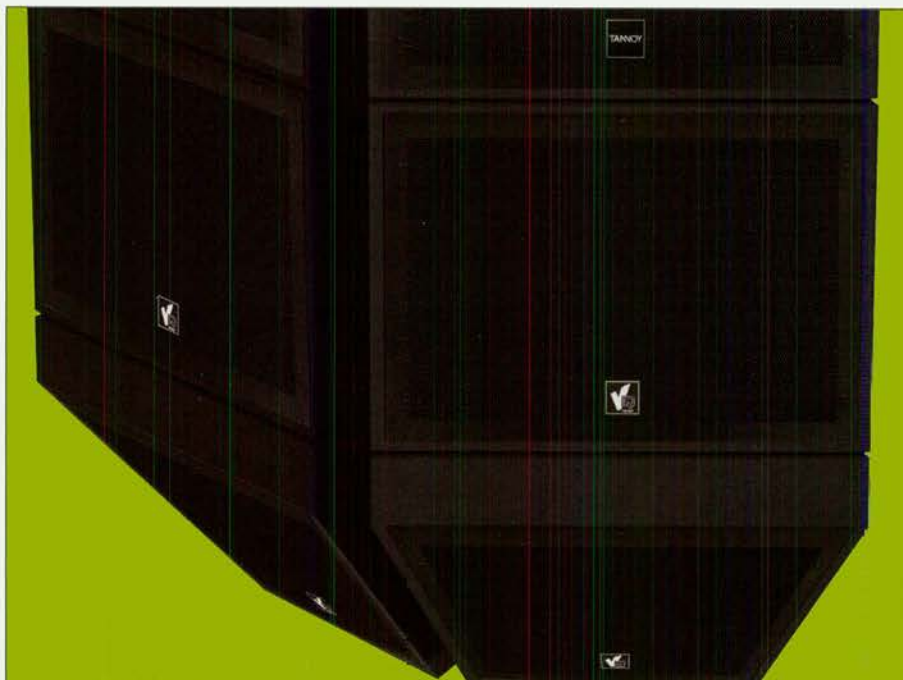
Richie on the piano



Ben Suthers contracted by JPJ



Richie settles in



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-----> Continued from Page 49

stand, which he uses as a talkback microphone in his directorial role.

The Autocue screens are connected to a simple laptop arrangement. "He doesn't use it very often. Sometimes the operator will flash up the name of the next song; that way they don't need to have song lists stuck to the floor everywhere. Lionel doesn't religiously read the song lyrics from the Autocue. It's there if he needs it," says Kennedy.

Mixing Lionel is challenging to both FOH and back-line technicians - primarily because Richie sings well off his microphone - almost straight over the top of it - and it's an SM58 on a Shure wireless U4 system.

"They have to run it so hot to get him (Richie) into it (the mix) that it picks up stuff from all over town," says Kennedy.

This is especially a problem in domes such as Bimbadgen's.

"The domes are very reflective and there's bucket-loads of snare drums and cymbals crashing down out of that roof, and it can make life very difficult," says Kennedy.

Ironically, centre stage, where most mainstay performers place themselves, is acoustically the worst position in a dome of this kind.

"If you're off to either side it sounds ok, but if you get in the middle it's like you've walked into some sort of

“**Every lighting fixture has its strengths and weaknesses.**”

- Jcel Young, LD for Lionel Richie.

reverb chamber," explains Kennedy.

A dome of this design with its peak jutting out in the middle may be efficient at keeping rain out, but it's also prone to blocking the line arrays from the people seated in the middle area of the first 10 or so rows.

"I had lots and lots of discussions with people about trying to fix that situation. So we put 4 V-DOSC ARCS (medium-throw) per side on the corners of the stage, trying to cover the front section," says Kennedy.

LIGHTS

Los Angeles lighting designer Chris Melvitz from Lightswitch designed Richie's lighting show, which is operated by touring Lighting Director Joel Young.

"This is a variation of a larger European show that we did that was scaled down. So we had to reduce the size, and the kinds of lights changed, and a lot of different things changed about it. But we just went to LA for a week and brought the whole show

virtually. And then we plugged into a computer that had Martin Show Designer, and we programmed the lights in a virtual environment," says Young, who adds, "Every time the lights change in a major cue, I'm executing it, but what the lights do is programmed."

Young also explains that although they used some LEDs, like the 20 ColorBlaze LED 72s on the trusses, there weren't any on the back trussing on the Australian tour, as was the case on the NZ leg of the tour.

"LEDs are great, they're light, they're fast, they don't pull as much power and they have a pretty interesting colour mix. But they have some colours you can't actually mix out of them, like dark congos and that sort of thing. The reason you can't get colours like congo blue is that LEDs use additive colour mix, and the other fixtures use subtractive colour mix.

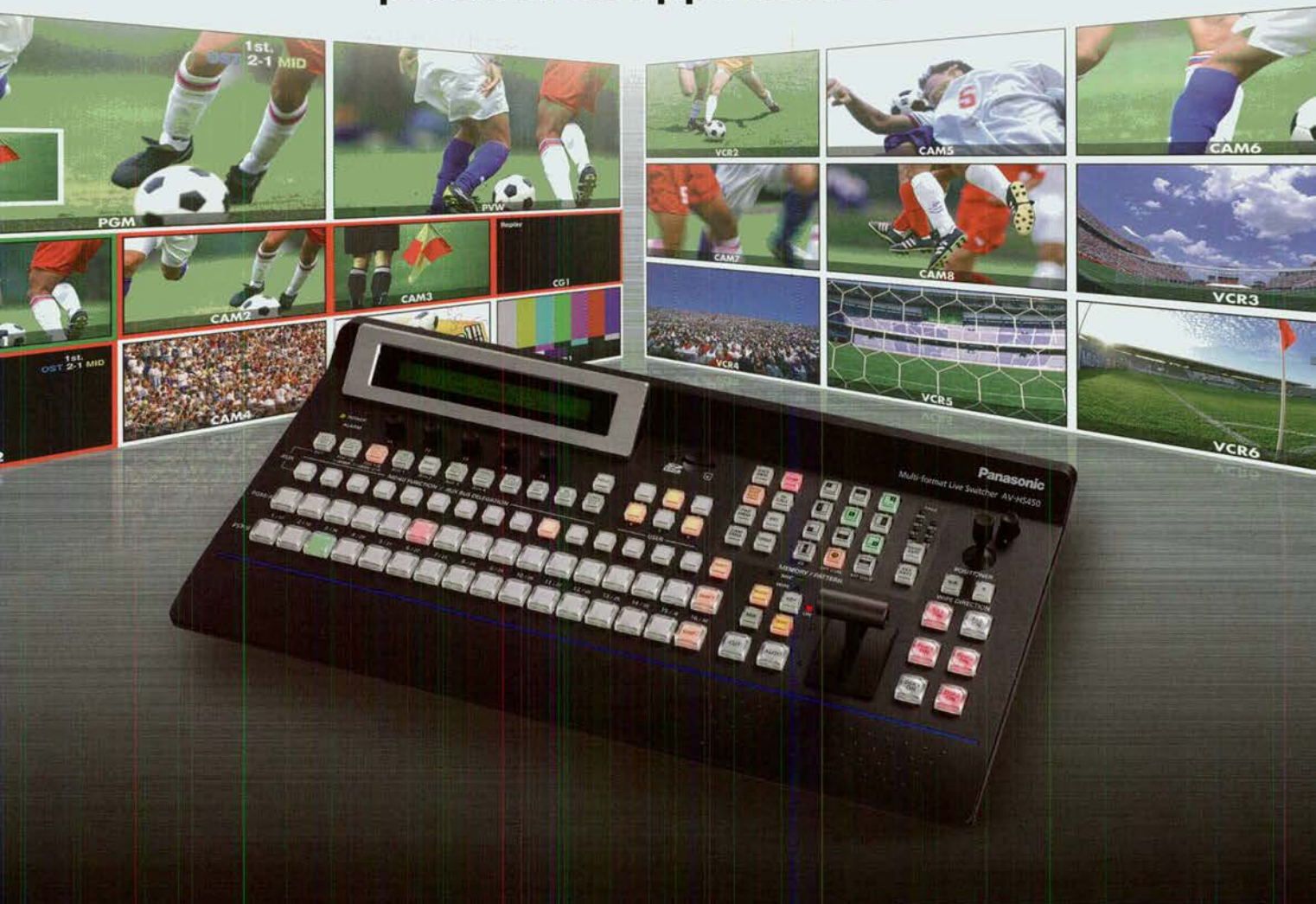
"You see, with an LED we have three colours and we're turning on the colours and we're adding green to the red to make the yellows. And with normal moving lights we use subtractive. We have cyan magenta and yellow colour flags that we put in front of the beam. To get the dark blue congo you put in cyan and magenta," says Young.

"Every lighting fixture has its strengths and weaknesses.

-----> Continued Page 52

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Conventional colour mixing lights don't get a very vibrant green, whereas in LEDs, when you turn on the green LED it's bright and it's beautiful. In the colour mixing lights it tends to be kind of dingy and not quite as vibrant," says Young.

Chameleon provided all the lighting fixtures for the entire Lionel Richie tour, and tight schedules were often the order of the day.

"There were two rigging systems travelling around the country, and the rigging is usually going out the day before. But we didn't get trucks on the Saturday until 12:30 pm, and we were up and operational by 4.30 pm; it's all down to a well-prepped system," says Brad Gander, Chameleon's account manager for the tour.

Chameleon's Crew Chief for the tour was Pat Clark.

"We'd just done an overnighter out of Brisbane, and didn't get there (Bimbadgen NSW) till one o'clock... we were pretty much under the pump," said Clark.

The main focal backdrop for Richie is a Kindwin Flyer-12 LED Screen supplied by Big Picture. The 12mm mesh SMD (full colour diode) is fed from a Catalyst Media Server to the

console. A PPU (portable production unit) does all the camera mixing for the IMAG.

Mini strips fitted with MR16 halogen bulbs sit next to the audio wedges to add extra front light when the LED screen is operational.

"They've got no colour in them, they just help things like lighting under Lionel's chin when he's on IMAG," says Joel Young.

"For the control board we're actually using the Martin M1, which is a new desk that came out last summer. It's fantastic. It's small, it's very lightweight, like it only weighs about 30lbs (actual weight less than 15 kg); it has tons of output; it's been very dependable, really easy to programme - a lot of power, a lot of features. A great new product, and really inexpensive compared to other consoles in its class," says Young.

Due to overload concerns, follow spots weren't hung on trussing in the winery shows that utilised domes.

"In the outdoor shows we have four front spotlights (Robert Juliat Aramis 2500W) and in the indoor shows we have four fronts and two truss spots. Two of the spots are committed to Lionel all night, and the others are used to pick up band members, solos, and guys running around stage," says Young.

Young explains that he uses colour correction in the front spots to help balance colour for the video camera.

"In this case we used a quarter CTO filter to help balance the camera, and an eighth minus green to pull some of the green out of it," explains Young.

Back-lighting is achieved with Mac 2000 washes, while 24 Par64 cans punch white light through the washes and fog haze, which is provided by 4 x DF50 diffusion hazers. There are 24 4-lite vertical DWE Blinders and 14 VL3000 Vari-Lite spots on the floor.

Well-liked and respected by technical crews, Lionel Richie is also quite musically generous to his band members, allowing guitarist Ben Mauro and Sax player Dino Soldo to take centre-stage during solos.

Paul Kennedy explains that seeing the Melbourne audience rise to their feet from the first number, and stay there for the entire show, was rewarding for both band and crew members that had worked their way through minor problems on the tour.

"It all seemed to come together at the Rod Laver Arena. The crowd were off their heads; they were delirious," said Kennedy.

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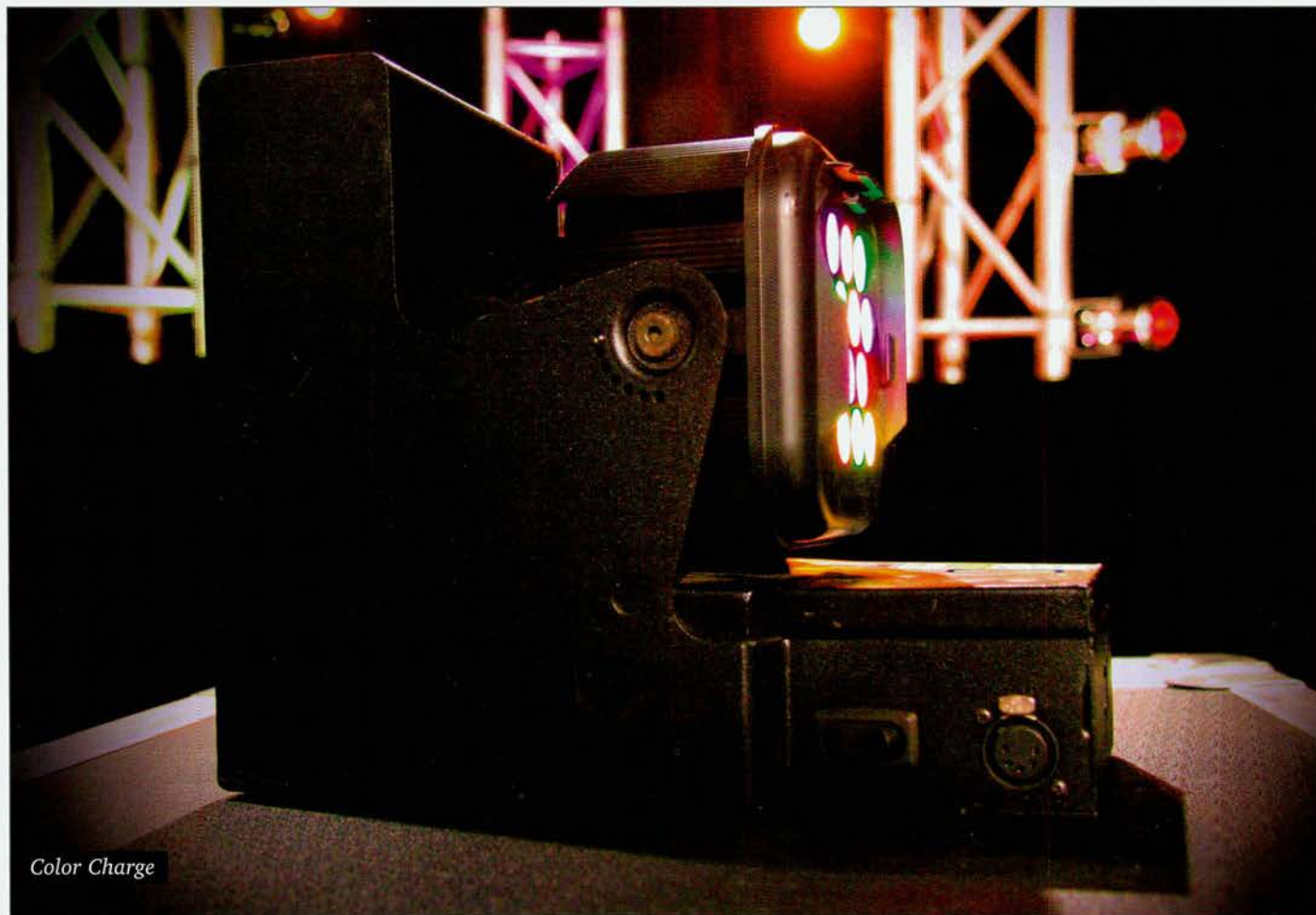


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Chroma-Q Color Charge

LED has brought a new level of efficiency to lighting and battery powered fixtures are now a practical reality



Color Charge

By Jimmy Den-Ouden

Chroma-Q has an extensive range of LED product, and Color Charge is one of the more recent additions to the range. Color Charge is a wireless battery powered LED fixture. It has an RGBA colour mixing system and produces up to 600 lumen output. 12x LEDs make up the LED arrangement. The fixture has an internal NiMh battery from which up to 30 hours of continuous operation is possible. The battery is good for 1000 recharge cycles before it needs replacement. The head which houses the LEDs can be rotated 90 degrees from horizontal to vertical.

The Color Charge will quite happily operate in standalone mode. A 2 line LCD display shows the menu which is navigated with 4 buttons below.

Standalone modes include single and mixed colours as well as colour rolls and chases ranging from slow through to very fast. Psychedelic fast. This means it's perfectly suited to quick deployment situations - ie: you're on a gig and the event manager asks you to light up some walls 5 mins before doors. Drop a few Color Charge units in place, switch them on and choose a colour. Job done.

What makes the unit better is that it can be controlled by either wired DMX (in and out connectors are 5 pin XLR), and also by wireless DMX. Better yet, once you connect DMX into the first unit, it can act as a wireless DMX mode to allow control over other units without any special hardware. Control requires between 1 and 5 channels of DMX mode, and the fixture provides a choice of colour mixing styles including RGB and HSI.

What & Where

Brand: Chroma-Q

Model: Color Charge

RRP: \$3400.00 inc GST

Online readers
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see the
GEARBOX TV
review of
this device!

Product Info:

www.chroma-q.com



Distributor:

www.jands.com.au



A new solution to an old problem

Traditionally, wall washes in corporate situations have been done with Par56 cans and gels. Countless H stands, leads and gel frames further complicated the equation. There are two really big problems associated with using Par cans and gels, the first being heat. Even a Par56 can generates more than enough heat to ignite a sparkly cocktail dress or suit, apparel which is de rigeur on corporate gigs more often than not. The other problem is flexibility - it takes time to change the colours.

Color Charge eliminates all these problems. Deployment is fast, control is easy. The labour savings you could make using these units on an outdoor event are considerable. While the unit is not IP rated, it would be fine in fair weather. Rigging can be achieved using a 1/2" nutsert. If you're concerned about theft, just strap it to something secure and immovable using the in-built Kensington locking slot.

Corporate and outdoor gigs are just



RGBA colour mixing system

a few of the applications in which Color Charge would work. Theatrical folk will love its silent operation, as well as the ability to place DMX controllable fixtures in moving set pieces. The fixture has a CRI of 92, so colour rendition is pretty accurate too. Weighing 8kg, we reckon it packs a good little punch for its size and weight.



DMX loop through & Kensington lock slot



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PRO TOOLS 9

Pro Tools 9 Native offers value to both new and existing users of the platform

By Jimmy Den-Ouden

Avid takes a big chunk of the rental market for consoles in Australia, with the Profile being one of the more popular units seen on tour riders. So for those already using an Avid console, a compatible DAW program makes good sense. In some cases the plug-ins you use on your profile console will work in Pro Tools running the same iLok - this is manufacturer dependent.

Pro Tools has been around for a long time, and in previous incarnations was available in LE and HD versions. Pro Tools 9 Native has simplified the download process so there's just one file and one installation. Pro Tools needs hardware authorization to run, and this comes in the form of an iLok - a thing which looks just like a USB memory stick. When you start the software it will launch with the relevant featureset found on the iLok hardware authorization key - either HD or Native.

The software does what any good DAW package does - in a nutshell it allows you to edit and mix audio. It's commonly used for 2 things - audio mixdown and post production. In its basic format, the software will support up to 96 audio tracks, 128 instrument tracks, 512 MIDI tracks, 256 internal busses and 160 aux tracks. That's enough to satisfy most users. Our test version came bundled with a range of very nice plug-ins too. Initially the software looks a bit different from other DAW kit we've tested - for instance there's no master fader in the software mixer. You can create one easily enough once you know how.

Mapping or routing channel outputs to busses initially seems like a slow process if you do it channel by channel, but modifier keys allow you to speed this up and route multiple channels simultaneously. There's a lot of depth in the software and with adequate time to learn the modifier keys and such it gets a lot faster to operate. But a lot of this is the same as it's always been...

So what's new?

Pro Tools 9 is cheaper, and you can even buy it bundled with an audio interface. Of course there are upgrade options available for existing users too. Probably the most obvious difference between 9 and previous versions is that 9 allows you to use any compatible Core audio or ASIO compatible

audio interface. So you're not limited exclusively to an Avid hardware choice. We tested it using Core Audio on an iMac and it worked a treat. This is cool, since it's always kind of hard to find a GPO to plug in your 002 rack on an airplane.

Catalogs is a new thing and it can save you time and data storage. If there's a particular audio track you like to use on a regular basis you can drop it into a catalog. From here you can drag it into any other project. The catalog works much like an alias - it just points to the original file, so there's not another file chewing up disk space. If you want to back up a project that's simple too - put all the elements into a catalog then drag that onto your backup disk. In this mode, the catalog will copy the actual files. This way it's easy to combine all the resources from a project into one place, so you can find them again.

Automatic delay compensation is not new to HD users, but now it's included in the Native version. When you insert plug-ins into a channel, this can cause latency on that track. Automatic delay compensation keeps all your tracks phase aligned, and until you've heard the difference this can make to a mix it's hard to appreciate. Suffice it to say we think it's great. Another great new feature to both LE and HD users is the auto routing option. You can create a new bus and automatically route selected channels to it in one step.

Pro Tools 9 has support for the EUCON protocol, so you can use your Euphonic MC series controllers over Ethernet - this allows much faster and better integration than MIDI controllers can support. When collaborating with other users, you can now do selective imports. So if you're using different hardware from your colleagues, you can set up your own routing once and not have to do this every time you import a new project. Other elements of projects can be brought in as well - just audio files or plug-in presets for instance. Another time saver. Also new are additional file import and export options - previously something you had to pay extra for is now included.

All up Pro Tools 9 has a lot to offer both new and existing users, with those on LE versions being the most to gain from what is at the core, a very cheap upgrade. Universal hardware compatibility and a new price point has made Pro Tools compatibility available to a new market which previous didn't have it as an option.



iLok tip:

Given iLok keys can contain several licenses it makes a lot of sense to protect them - I was recently told of a really great idea. Put the iLoks into a small Pelican case with USB hub attached. Bring a small USB extension out through a hole in the side and plug this into the computer instead - it's much cheaper and easier to replace the USB extension if it gets damaged.

What & Where

Brand: AVID

Model: Pro Tools 9

RRP: \$595.00 inc GST

Product Info:
www.avid.com

Distributor:
www.avid.com



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EAW KF200NT AND NTS250

EAW has always made great install product, now we take a look at one of their new "point & shoot" systems.



By Jimmy Den-Ouden

There are two ways to get a high performance car in this world. You can buy a car then tweak, modify and re-program it to perform the way you want, or you can just buy one which is right to start with. Both these EAW products already work the right way when you pull them out of the box.

The KF200NT is a 3 way active box comprising a 10" woofer with 2.5" voicecoil, an 8" midrange driver with 2" voicecoil and a 1.75" voicecoil HF compression driver. The mid & high drivers are coaxially arranged, resulting in a 100 degree conical beamwidth. Internal amplification totals some 1500 watts, and there's a host of internal DSP which is software accessible. Input options

include analogue, AES, and U-net (which also allows control of the amp & DSP). Standard XLR connectors allow analogue input, and U-Net connection is effected on a pair of EtherCons. A USB port allows connection to a PC running EAW Pilot software.

While very well suited to quick deployment situations, the KF200NT works equally well in an installed situation. M10 fly points are included in the wide array of rigging options. A 2 pole phoenix connector allows the box to be put into standby remotely by simple contact closure. The whole unit weighs in around 16kg, which makes it very solid but not unreasonably heavy.

There are no switches or potentiometers on the back of the box - everything is controlled with momentary pushbuttons. This includes input selection, DSP mode and high pass filter selection. HPF switches in at 55 or 110Hz, and a third push of the button takes it out of line. The DSP modes include "monitor" and "couple". Monitor mode is designed for increased feedback rejection when using the box as a wedge, a process effected with the addition of small legs to the back of the cabinet. Couple mode allows multiple units to be ganged



KF200NT



Pair of NTS250



NTS250 Back Panel

What & Where

Brand: EAW

Model: KF200NT and NTS250

RRP: KF200NT \$5575.00 inc GST, NTS250 \$7999.00 inc GST

Product Info:
www.eaw.com



Distributor:

www.productionaudio.com.au



Online readers click HERE to see the GEARBOX TV review of this device!

together, though this is more relevant to the KF364NT and KF394NT models which have different beamwidth plots. EAW very sensibly point out in the manual that arraying cabinets can be more complex than using single cabinets.

The NTS250 is a dual 15" sub with drivers arranged in a push-pull configuration and 2000 watts of amplification. Our test units had built in rigging hardware, with rails which drop into place in the cabinet beneath and are secured with captive pins. It's a very good system. The NTS250 has a similar control setup to the KF200NT - buttons to run the unit in cardioid mode as well as increase input gain by 6 or 12db. EAW suggest that no attenuators prevent mis-calibration of cabinet levels as well as preventing overdriving gear further up the signal chain. They may be right.

The NTS250 weighs around 57kg, so it's a comfortable 2 person lift - or it would be if the handles were facing the right way. The handles are integrated with the fly rails and run vertically.

Close and personal

Both cabinets are made of wood, yet they're not unreasonably heavy. We like that. The construction is typical of EAW - supremely solid. We cranked the system up and wandered about the back of it to listen. There were no nasty rattling connectors, screws or plates. While around the back another thing we noticed was how much information came off the back of the speaker - not much.

The KF200NT has a 100 degree beamwidth on spec, and the reality of using it is that this seems to be quite accurate. What this translates to in the real world is excellent feedback rejection, and fewer unwanted reflections messing up the sound in your venue. Assuming you point the boxes in the right direction.

On a general note, the KF200NT and NTS250 is a really nice combination. Put them together, switch the HPF inline and then just use it. It just sounds nice out of the box.

Fairly flat, but slightly musically coloured in the right places. The 3 way co-axial setup works for me - it's got the range of a 3 way but without the nasty sibilance so commonly found in modern speakers.

In pricing terms, these boxes aren't on the cheap end of the market, but then nor should they be. They don't sound cheap. The internal DSP on each cabinet eclipses the crossover networks we used to use on our whole PA system - there's more processing in there and it works better. If you take the time to hook up the U-Net connections and set up the system using a PC you can take full advantage of this power. All in all the KF200NT and NTS250 combo is a winner in our books. α



Great rigging, silly handle



KF200NT Back Panel

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RTS KP12CLD COMMS PANEL

When rack real estate is precious it's nice to know you needn't sacrifice functionality for size in comms panels.



By Jimmy Den-Ouden

Comms can be the cause of and solution to so many problems on a gig. A well planned and executed comms system is the glue which holds any production or broadcast together.

RTS have been in the business of comms since forever, and their current line-up of digital comms matrix frames includes the Adam, Adam-M and Zeus III frames. While the Adam frames cater to large installations, the Zeus III frame is designed for more moderate applications - small OB trucks, houses of worship and the like. In such environments space is typically at a premium, so it makes

sense to keep everything as compact as possible. Enter the KP12CLD panel.

The KP12CLD is a 12 position key panel which links to any of the RTS frames via Cat5 on either RJ45 or 9pin D-sub connectors. The power supply is inbuilt, so you have an IEC socket rather than an annoying external power supply. Being a digital matrix system the panel basically uses 3 pairs on the link to the matrix - audio in, audio out, and data. All the brains of what the unit actually hears and sends audio to is controlled within the matrix frame - the panel is basically a remote controller with audio in and out.

Physically it looks and feels nice. Comms panels take a beating in production environments,

so adequate construction is something of a must. The KP12CLD has it. Little touches like the pivoting rack ears which allow it to be mounted on an angle within a production bench are nice too. As a standalone panel it's good, but it gets a lot better with the optional IO expansion. This is a smaller box which attaches onto the back of the panel, and provides a wide array of additional input and output connectors, as well as housing the optional RVON card which allows the panel to run a VOIP connection. Notionally this means you can link the panel to the frame via any Ethernet network - with the right port forwarding setup you could theoretically even put it on the other side of the world and route it via the internet. Note that your frame also needs an RVON interface to do this.



Photo Above: RVON VOIP Port

Photo Left: The optional IO module adds all the right connections.

The full colour LCD display is great - it's easy to read even from a distance. This is important in a production environment where keying on to talk to the right person can be critical. The colours can be customized in the AZedit software. The internal speaker sounds nice, and you can use either a gooseneck mic attached to the front panel socket or attach a headset. A USB port has been provided for

future expansion so it's nice to see RTS is thinking ahead.

The KP12CLD is a good addition to an already strong product line. It's got a lot of functionality packed into a very tight space, and when time comes to upgrade your matrix the panel will continue to work as part of the new system, making it a worthwhile investment.



What & Where

Brand: RTS

Model: KKP12CLD

RRP: Starting at \$4200.00

Product Info:

www.rtsintercoms.com



Distributor:

www.magnasys.tv



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Photo Left: Backlit Numeric Keypad



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CLAY PAKY SHARPY

When is a moving head not a moving head? When it's too fast to be one...

By Jimmy Den-Ouden

The Sharpy turned up at CXHQ in an unimposing cardboard box. Courier dude carried it in and put it on the floor. I was busily absorbed in looking at some other shiny thing at the time so I put it in a corner for the day. Eventually I got around to unpacking it and setting it up.

Official Specs

Sharpy is a small profile moving head fixture with a 189W discharge lamp. It weighs 16kg and perhaps thanks to some fancy optics it has a beam which zooms from 0 to 3.8 degrees. That's rather narrow in case you're wondering.

14 colours and 17 gobos allow for interesting beam effects, as does an 8 facet rotating prism. Gobos include some simple circles which range from narrow through to extremely narrow. There's a frost filter as well.

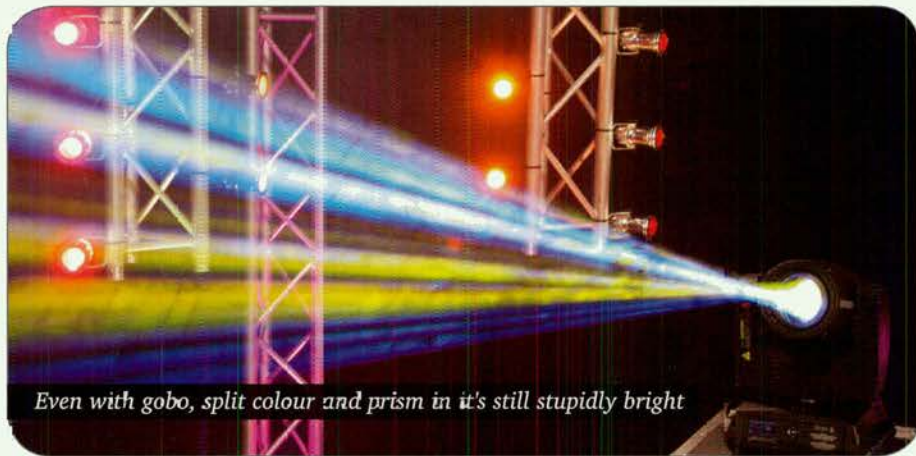
Control is via up to 20 channels of 3 or 5 pin DMX, and the Sharpy is Ethernet ready. Setup is done via a simple LCD screen and the adjacent 5 buttons. Function without flab.

The bottom line on the spec is that it looks on paper like a little moving light, and until you switch it on you'd believe it was just that.

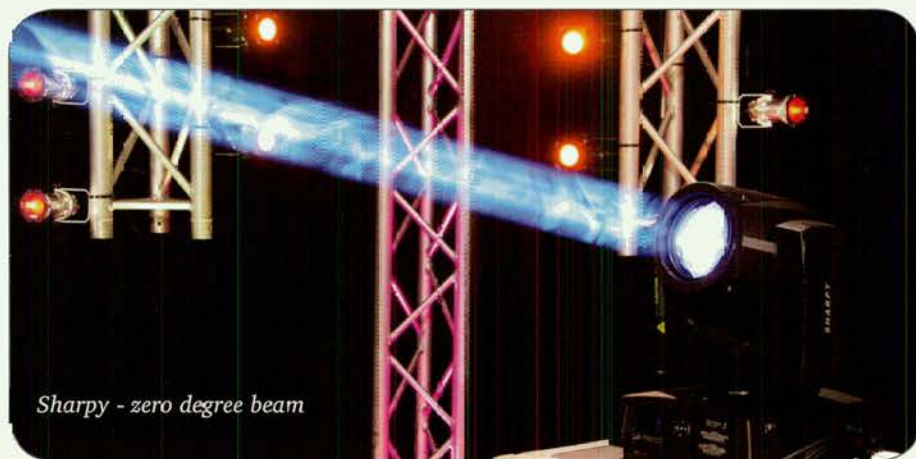
Subjective Opinions

Clay Paky claim that the beam is free of any halo or discolouration around the edges. It's a valid claim - the output from the fixture is just beautiful. It's likened to a laser in the promo material, and I reckon that's a fair thing too. The 0 degree beam claim holds water - the beam didn't seem to diverge in any noticeable way over the distances at





Even with gobo, split colour and prism in it's still stupidly bright



Sharpy - zero degree beam

which we tested it.

Pan and tilt are extremely fast. Stupidly fast. They seem way too fast to be possible in a moving head. We thought the Alphabeam 300 was fast but the Sharpy is playing ball in a whole new league, and it's glorious. At certain focus settings you can see the mechanical dimmer edges trailing into the beam, but this is not a fixture you'd commonly use dimmed. It's designed to run at full tilt. Strobe functions well, and the colour wheel jumps in half steps which allows for split colour beams. Nice. The colours are nice too. This is a fixture which loves to work in haze - it's really all about the beam.

Sharpy retails at 9 grand, which is kind of a whole lot of money, but remember that this is a fixture which is bright enough to use in a stadium. Keeping this in mind that's actually pretty cheap. While the fixture is not IP rated, on a nice evening you could use it outdoors to great effect. It's the kind of thing you can point at the top of a really tall building and actually see the beam. If you're into that kind of thing. In some ways, the

Sharpy reminds me of a really cool old delay unit I own. It's not useful on every gig but when used in the right application it's the coolest thing in the world.

Ultimately, the beam and price of Sharpy mean that it's not the world's most versatile moving light. But I don't care. The Sharpy is a bloody awesome thing and I love it.

α

What & Where

Brand: Clay Paky

Model: Sharpy

RRP: \$8990 inc GST

Road case to carry 4x

Sharpy units \$2779 inc GST

Product Info:

www.claypaky.it

Distributor:

www.claypaky.com.au



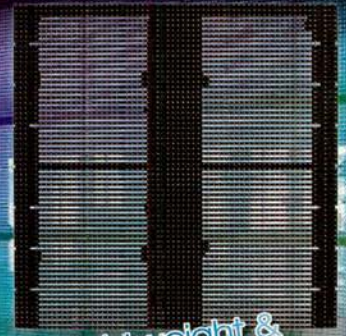
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STREAMBOX AVENIR

Once the domain of satellite trucks only, Avenir makes live video easier than ever before.

By Jimmy Den-Ouden

Streambox has been ticking away quietly in the broadcast industry for some years now, with some of their most notable work being the optimization of video compression codecs. They have a range of IP encoders and decoders which has already achieved solid market penetration, and their newest product looks set to follow suit.

The Avenir is a portable HD/SD encoder for video which transmits over 3G, 4G, wireless, or wired internet connections. It encodes video as ACTL3 - a relatively new codec which is incredibly efficient and thus requires less bandwidth. The Avenir operates on 12v, supplied via a V-lock battery or an external power supply. It's designed to be carried on a strap around your neck for true portability.

Where previously video uplink has required a satellite truck, DVN or fibre connection the Avenir makes it possible to stream live video from in the field back to base. If a live stream is not required, or sufficient bandwidth is not available then the unit can buffer the video internally and transfer it out later as a file

(push-pull). You can even start playing back a stream while it is still being received. A distribution server service allows the vision to be sent to multiple destinations, and video can be filed on-line and sent live to a decoder simultaneously.

Data connectivity can be achieved in several ways. The Avenir has 8x USB ports which enable as many 3G/4G USB modems to be plugged in and bonded together. A business grade 3G service in Australia should provide 1M/bit upload speed, and Avenir will transfer full broadcast grade SD video on around 1.5M/bit. So 2 modems will allow for this with a bit of headroom to spare. Ideally modems should be spread across different providers so if one network goes down you don't lose the feed. The device will automatically adjust quality and frame rate to enable the best possible standard of picture transmission over the available bandwidth. If there's a decent wired internet connection you can plug this into one or both of the on-board Ethernet ports and you'll be good to go with HD. The same deal applies with WiFi, so you could theoretically do your news cross from a McDonalds or Starbucks store or indeed any place where WiFi is available with reasonably upload speed.

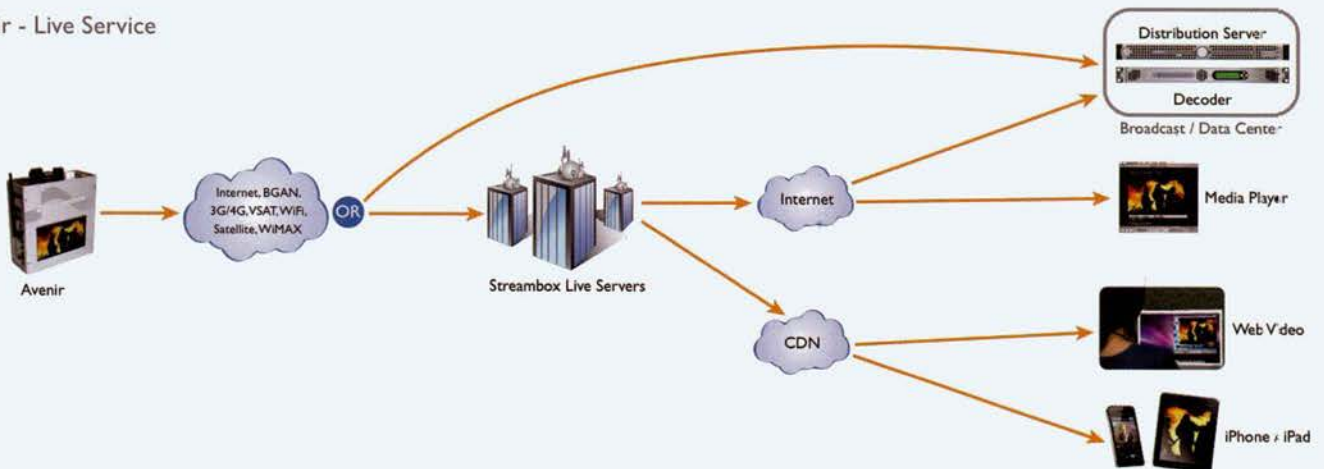


In practice

It works. As well as playing with an Avenir in-house, CX attended the demonstration over at Amber Tech and we were nothing short of impressed.

Provided it's been configured correctly prior, any camera operator would be able to use the Avenir. It's simply a case of plugging your SD/HD SDI video feed into the side, attaching a V-Lock battery, turning it on, then pressing the "stream" or "record" button on the top. For more advanced operation, just use the touch screen on the side. The buttons are nice and big so there's no chance of hitting the wrong thing. Different encoding presets are

Avenir - Live Service



available to allow for a range of picture types - talking head style right through to fast motion video.

The Avenir won't take the place of a full satellite truck - at least not in 3G mode. The bandwidth for HD just isn't available, yet. Comfortingly enough it's 4G ready so when that's an option the Avenir will be able to use it and presumably yield even better results. What it will do is enable very quick deployment for situations where a truck isn't an option - news crosses being a prime example. The IFB return facility even allows you to feed audio from your facility via the decoder, back to an on-screen talent in the field.

The Avenir is built like a brick outhouse, housed in a tough full metal enclosure. Being at the mercy of a telco to provide data transmission, it's not the ideal situation for a mission critical application. In any other application however, the Avenir will do the job and do it extremely well. α



Avenir I/O Connectors



Simple touch screen interface



Up to 8x 3G USB modems can be used

What & Where

Brand: Streambox

Model: Avenir

List Price: \$21,846.00 inc GST for the 64Gb model

Product Info:
www.streambox.com

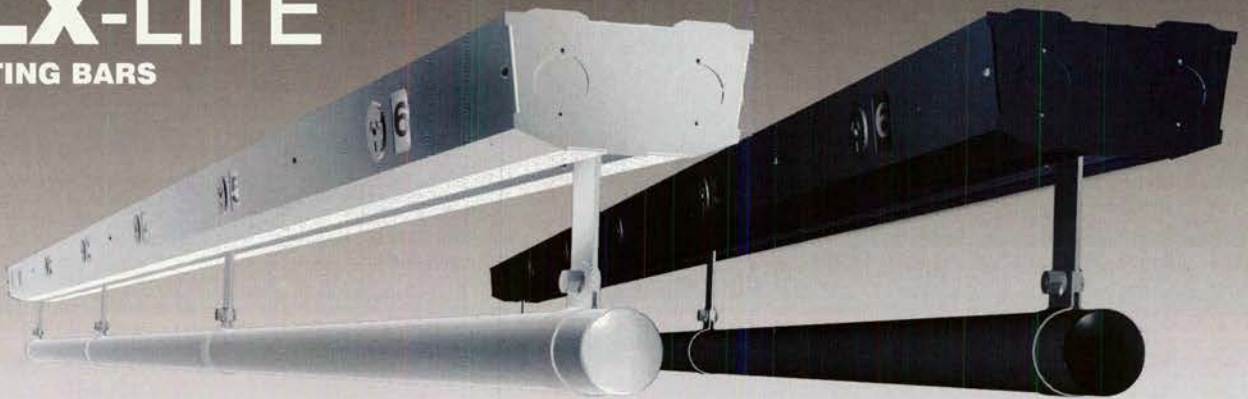


Distributor:
www.ambertech.com.au



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Bread AND Butter

to 100v line is to compare it to the electricity network that delivers power to our homes. On the poles outside you have four thick wires which branch off into each building supplying power. Above these wires you have three thinner wires which run at a much higher voltage than the thick ones below. The PA equivalent to this is our "100v Line".

It's these high voltage lines which enable the power company to transfer large amounts of power over very long distances without having to use massively thick cables. In Australia every 10 or 20 poles or so you'll find a big transformer which takes power from the thin wires at a high voltage and converts it to a lower voltage for the thicker wires that ultimately feed the meter boxes on each house. This is like our "8 ohm speaker" level in PA.

In a traditional 100v line system you have an amplifier with a big transformer in it which "steps up" the output to a higher voltage level. This is then distributed around the venue using very long, cheap and thin cables. At each speaker you have another transformer which "steps down" the voltage again to drive a standard 8 ohm speaker. If you were to try and do the same thing without the transformers you would need massively thick cables.

It's all about resistance and power. Obviously if you've just installed a nice 120w amplifier you would like most of that 120 watts to go into distributing muzak and not heating up wires. If you used a standard "8

By Paul Matthews

In this series of articles we look at many technical issues that create most of the cash flow in our industry. It's nice to see what's going in to the latest big budget concert or AV installation occasionally but most of us know that these prestige jobs are rare, competitive and work to slim margins. What pays most bills are the daily drudge of vans and customer service calls from shops, pubs & clubs, colleges and schools.

Contracting? Sooner or later you're going to come across the 100v Line Beast. There's not many contractors out there who know how to handle 100v Line PA systems. It's not included in electricians' TAFE courses. It's a mystery to communications cablers and considered a "black art" by audio moguls. There are no "standards" mentioning it. It's almost like 100v Line is deliberately kept secret by the privileged few of us who understand it - in some sort of attempt to keep all you ex roadies and sparkies off "our turf".

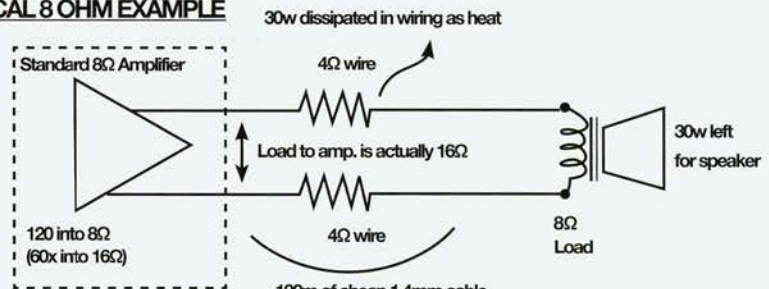
So in this column we're going to dissect this 100v line beast and learn some practical things that you should all know about it. Why? Because I've had it wasting so much time patching up and fixing other contractors' mess on installs involving 100v Line. The reputation of our industry in this

sector is appalling. I've got no turf to protect and would rather spend my time on more worthy things. So here goes!

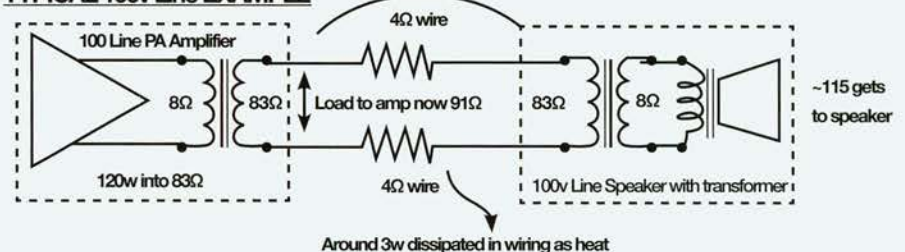
100v Line has its roots in the valve days when amplifier power was low and efficiency meant everything. Some of you might have heard people say that traditional "8 ohm" speaker lines are a "current driven system" whilst 100v line is supposedly "voltage driven". That's bollocks.

It's all basic electricity and both systems work the same way using the same formulas. The best analogy

TYPICAL 8 OHM EXAMPLE



TYPICAL 100v Line EXAMPLE



Note that the impedance in the lower example is not an exact match.

100v Line PA is all about minimising losses in a practical situation, not necessarily eliminating them altogether!

ohm" style amplifier and then ran 100m of thin fig 8 cable from it to your speaker then the cable itself would have a resistance of around 8 ohms too. Remember there's two wires in the cable - 4 ohms there and 4 ohms back! It's easy to see how this "loop resistance" of long runs can add up.

So in reality your amplifier will now be driving a 16 ohm load - the 8 ohm speaker, PLUS the 8 ohm cable in series. The amplifier power output will be reduced (because it's now driving a 16 ohm load instead of an 8 ohm one and less current is flowing) AND you will lose half of THAT remaining power again in the cable itself - meaning your speaker will now have less than 25% of the power it would have had if the amp and speaker were right next to each other.

With "100v Line" we play "power company" and step up the voltage. The long crappy wire still has the same resistance as before. But now the amp does max power into an 83 ohm load instead of an 8 ohm one. And the speaker (with it's corresponding step down transformer) is also around 80 ohms, or (more likely) could be 12 x 10 watt speakers at 1000 ohms each.

So instead of losing 75% power we now lose less than 5% and the amplifier more or less drives into it's rated load. That's the essence of 100v Line. More power through smaller cables.

"100v Line" doesn't mean the wires actually have 100 volts on them. In fact if the amp is sitting there with no input then there will probably be bugger all on them. That is until some wag in the shopping centre suddenly calls for a mop and bucket in aisle five when you've got your fingers on the wires somewhere in the roof trying to work on them. Then you'll know what the voltage is all right. Ouch - foot through ceiling. Whoops.

This is where things get a little muddy standards and safety wise. As we should all know, anything below 32vAC is considered "ELV" (or "extra low voltage") which means you can safely touch a live wire and probably not feel it. Any AC above that is supposed to be "low voltage" and potentially deadly. So "100v Line" technically is "low voltage" and we're supposed to treat it as such - just like 240vAC.

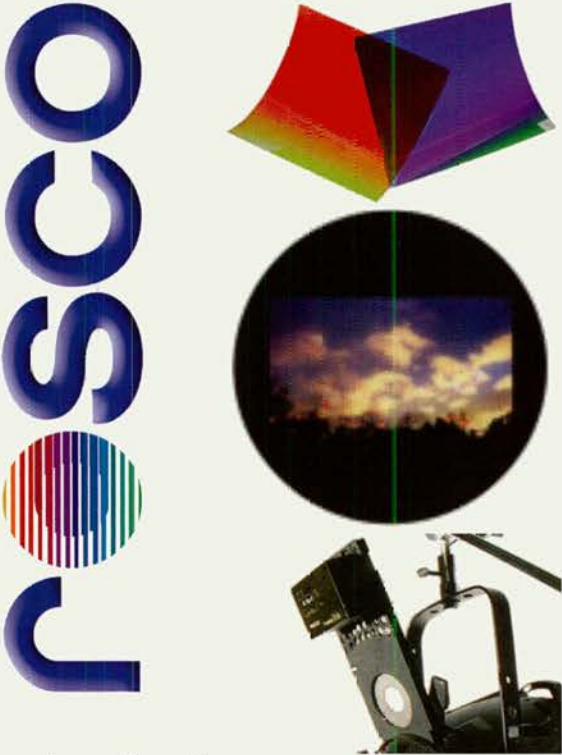
But as everyone knows - we don't do this in reality! That's because a 100v Line PA system typically cannot create the required 10mA or so through a human needed to kill us - unless you're literally running continuous pink noise or pure sine waves at full tilt through a very high powered system.

As far as safety is concerned 100v Line PA is lumped in the same bucket as Plain Old Telephone Services - which operate most of the time at ELV but occasionally shoot up to 70vAC when the exchange "rings" the phone on the end of the line. Tinkle tinkle.

So 100v line PA cabling sits in a weird category which TS009 (the telecommunications wiring rules) calls a "harmful service". It's too low to really hurt humans but higher than voltages one would normally find in electronics, communications and data systems. You can run 100v Line PA alongside communications services (even in the same conduits) but you can't interconnect them or terminate them on the same frame.

Next time we'll take a look at how this all means when you poke your head in the back of that dusty rack at the shopping centre. See you then.


α




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crates! They'll stay warm and dry - all they'll need is a plastic bottle to wee in, and some packets of two-minute noodles that they can soak in. the, er, fish sauce!

A couple of nights during the show we entertained friends and distributors with dinner at an "All you can eat Asian food" restaurant in the Kaiserstrasse (King Street). This is a big wide street opposite the main station that is also home to various roaming foreign tourists, night clubs, sex shows, and Dr Mueller's, which had a most interesting window display of various devices to enhance your enjoyment of horizontal folk dancing, with or without a partner. (See the complete picture spread in the sealed centre section of the magazine)

Along the corridors on the way to each of the halls, there are various displays - some of music stuff, some not. One of them was a machine offering to help you win an I-pod. Just scan your ticket and try to roll a virtual golf ball on the screen into the correct hole. Sadly everyone that I watched have a go at this didn't win; however the owners of the machine would have ended up with a very useful database of the most gullible people at the show!

In Hall 8 where we had our stand, the sound level was quite easy to live with. Not so in other Halls.

When the rush of people died down a little on the last day, I took the opportunity to wander over to Halls 4 and 4.1 to check out the guitars, amps and other musical peripherals. Entering Hall 4, I noticed a sign on the glass door saying 70dB limit. 70dB? Not in this lifetime. Going inside was like opening the gates of Hell. The volume was LOUD, and

apparently went on like this all day everyday. How people could work in this audio environment I have no idea. I lasted about 20 minutes - any longer and I would have got the 'screaming abdabs', as my Nana used to say. What it was like in the Drum hall I had no idea, and nor was I about to find out!

You see the occasional duo of Noise Police, geriatrics who wander around waving the dB meter at offending stands, but no-one ever seems to get punished, so it's not much of a deterrent. What they really need are pairs of Noise Stormtroopers in full riot gear, bursting onto the offending stands and Taser-ing them into submission until they turn it down! That would work. Till then, those music halls are best seen in small doses, armed with earplugs.

Upstairs in Hall 4.1 they actually had heavy metal bands giving concerts on their sponsor's stands. Hmmm. Let's say no more about that! The Gibson guitar people had an area the size of a Zeppelin hangar where you could plug in and try out the latest Gibson and Epiphone guitars, and on the last day - public day - it was absolutely jammed with intense musos doing just that. But Hallelujah! - it was quiet, because all the guitars were connected to little pods of headphones all around the place. A good idea that could be well copied by others.

Frankfurt commuters on our train line have been enjoying a massive upgrade on the trains that we caught everyday. Gleaming new trains carried us in and out of the city; on setup day we seemed to be the only passengers.

On the old trains, a bored sounding train driver would announce the upcoming stations in an accent that

I'm sure even native Frankfurters would find hard to understand. Not so on these new ones. Now, a soft and mellifluous girl's voice made the train announcements, breathlessly informing us in a slow sexy voice that 'Next stop...Niederhausen; please exit on the left ...in the direction... of travel'. I had never really thought of German as a particularly amorous language until then, but now I could easily imagine this voice whispering the upcoming stations (or anything else, for that matter) in my ear.

After a couple of trips, I started to notice that on the way in to the show, the voice had a slightly harder edge to it, perhaps to fire you up for the day ahead. On the way home in the evening, though, the voice was a little bit slower, and whispered the information a couple of semitones lower. Just the thing to soothe the weary, commuting stockbroker after a hard day shuffling Euros around.

Next year I expect to find a CD of these recordings available as "Greatest German Railway Announcements" It'll be a huge seller with socially challenged single guys, i.e. most of the show attendees on public day!



Pictures below:

- 1 Enter here and join our database of the world's most gullible people
- 2 "It's English, Jim, but not as we know it." From Cantonese to German to English via Google translate!
- 3 System only good, not great?
- 4 How many versions of 'Enter Sandman' can you take?
- 5 Beautiful new train, and not another passenger in sight...nor a driver!
- 6 Wow fantastic slogan - wish I'd thought of that!





uncan Fry

FRANKFURT 2011 *The wurst is yet to come*

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First of all, let's revisit last year's 'Frankfurt and hand luggage story'. When you get off a plane after a long flight, I think it's fair to say that you're probably a bit tired and not concentrating. Which makes negotiating the minefield of roll-along hand luggage a tough gig. If you have to have one of these, well OK, I suppose I can live with that, but I do have two conditions:

One, you have to keep it well away from my legs and ankles, and two, it must be one you can carry if necessary. Not have to stand there blocking the aisle of the plane till a couple of strapping young Olympic weightlifters can manage to hoist it out of the overhead locker for you without flattening anyone sitting underneath!

Anyway, at the Frankfurt airport there's a whole major line of us squeezing our way up the escalator because we're too tired to climb the stairs. The woman in front of me gets to the top of the escalator, to the very top step that the other steps just slide under, then she suddenly stops and bends over to fiddle with the handle of her roolly bag, oblivious to the mass of people behind her continuously arriving at the top of the escalator. At that moment I was looking around to see where Col was, and fell headfirst over her, followed by half the passengers behind me until we managed to elbow her out of the way and keep moving.



Plenty of opportunities to dispose of excess cash at the show shop

After checking in to our hotel, and a quick shower to wash the smell of the plane off us, we went downstairs to the hotel dining room, for some breakfast, still a bit zonked out. Which may have been obvious to the other diners, as I carefully picked up the coffee pot and poured the contents into the milk jug instead of my cup!

Breakfast over, we caught the train to the Zeil shopping strip in the heart of downtown Frankfurt, and I was struck by the increase in the amount of beggars from last year.

"No", a German friend said later, "Zey are nct beggars - zey are just buskers without any instruments!"

Setup day at the show consists of 24



No Spongebob, we're not eating here"

hours of barely controlled chaos. A great herd of tradesmen slave away, hammering, nailing, rigging and painting, putting the stands together. It's a good opportunity to wander around and say a quick hello to people you might not have time to get back to during the show. Plus the added excitement of possibly being skewered from a distance by forklifts whizzing around the corner with giant 3m long forks sticking out in front of them.

Many of the large stands arrive in great big wooden packing crates, and are assembled by teams of people specially brought in for the job. So where do they stay for the 4 days of the show, we thought? Easy - just let them sleep in the empty packing

"I started to notice that on the way in to the show, the voice had a slightly harder edge to it, perhaps to fire you up for the day ahead.

Continued Page 69 ----->

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