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ISSN 1320-5595

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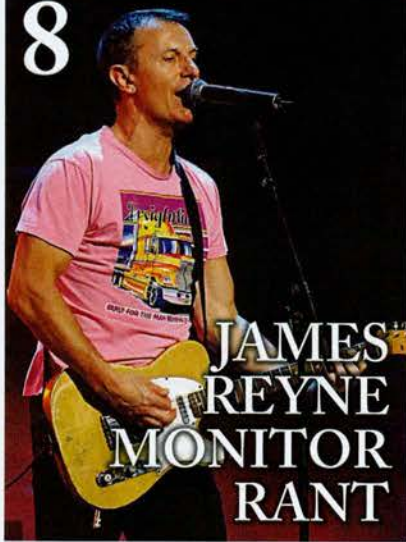
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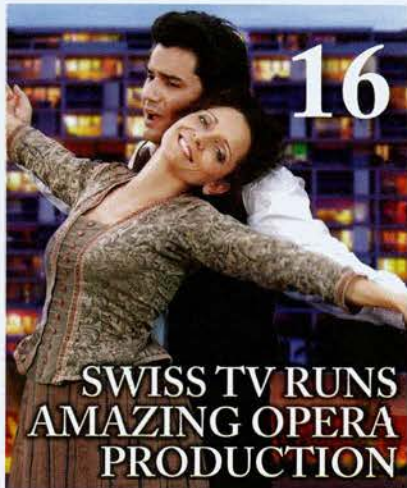
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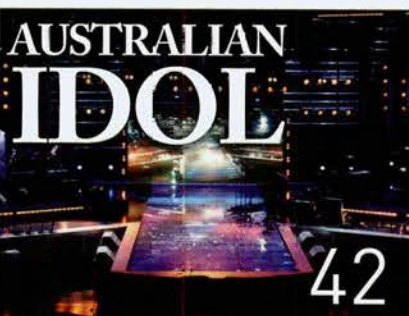
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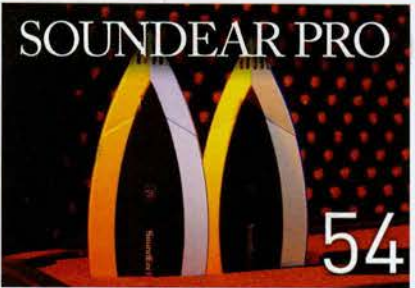
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EXPERIENCE MORE : METALLICA :

"I love Audio-Technica mics. You can definitely tell an Audio-Technica gig as soon as you walk into it. The vocal mics sound stunning."

-Big Mick Hughes



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CX Magazine is published every six weeks by Julius Publishing Pty Ltd ACN 117 748 777

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Newsagent distributor: NDD Publishers PA: Monique Wilson Web by ThinkFirst Print by Superfine Design by Bite Communications



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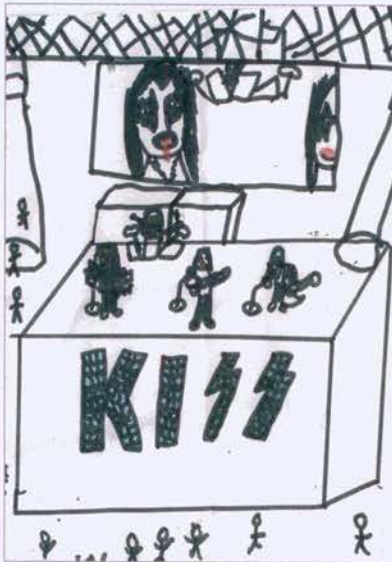
Entertainment Training Resource

This magazine contains much information which is a direct resource for anyone studying from the new Entertainment Training Package, named CUE03. From 2006 we will start to map certain articles direct against the relevant Unit of Competency within the package. This makes CX magazine a very cost effective resource for schools, colleges, and universities. Note that we offer a copyright release where articles in CX Magazine may be photocopied and distributed to students within an accredited course.

EDITORIAL

VIBED BY MUSIC

Sean 'Motley' Hackett's story about touring the USA with Kiss and being a teenaged fan of the band struck a chord. When Harry (aged 8) saw the set design that Motley sent us, he whipped off this drawing:



Later on, his bro Jackson (12) and I were sitting watching 'This is it' the movie, and saw Orianthi (the guitarist from Adelaide) shredding a guitar run like no one else could. Jack's eyes almost popped. It was another eureka moment for me, since I was as pumped by the music as the young guys were.

LATE BOOKINGS

The corporate party scene bounced back late in 2009 and many events were unbranded to avoid bad publicity. Along with the very strong dollar boosting concert tours and festival lineups, we appear to be back on track after a very scary winter.

YOU HAVE A GOOD BREAK!

We wish all our readers all the very best for the holiday season, and we look forward to seeing you again in 2010 – our 20th anniversary year for the magazine, and my personal 37th year fulltime backstage in entertainment.

Julius

IF IT'S TOO LOUD, YOU'RE TOO OLD

After my comments about noise last issue, I expected (and got) some correspondence relating to me being a moaning old git who wants to wreck everybody else's fun.

Since then, my 20 year old brother has come home from a gig he'd been looking forward to for months, complaining that "...it was shit. It was too loud, it was all bass and cymbals so you couldn't hear the singer. I didn't even know what song they were playing half the time... It was so loud, it was making my ears hurt..."

He left early. With a bad impression of both the act and the venue.

The following day, I happened to catch a glimpse of a concert rider specifying that the FOH system must produce 110dBA at the desk.

Seriously, people.

ALL ABOUT PEOPLE

Too often we get caught up talking about 'the industry' and forget that the industry is made up of people. Dehumanising the industry is the kind of thinking that leads to TV news bulletins all about the economy where no-one actually cares about the HFUs (human functional units) except in economic terms.

This issue we've gone back to the people, with stories about successful Australian engineers that remind us it's about people and passion – not economics and industry.

DEAD BAT

There's a dead bat hanging on the power lines outside my office window. It's a slightly grisly, but effective, reminder that what we do on this planet has an impact beyond our own lives. Just a little something to think about.

FESTIVE MESSAGE

And so we reach the end of another year. We're all a little bit older, hopefully a little bit wiser, and ready to remind all the youngsters that in our day everything was heaps harder, but mysteriously better...

Have a break, enjoy the sunshine, have a Christmas like the ones you remember. It'll be tough, but someone needs to do it.

Andy

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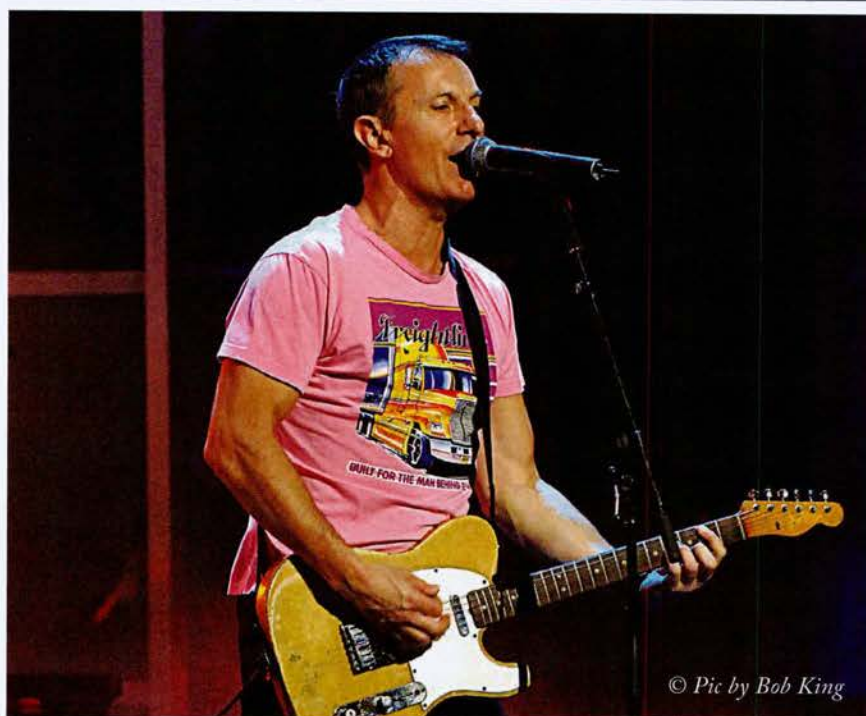
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CX NEWS

DEVICES, PEOPLE AND CONCEPTS

JAMES REYNE DENIES NICENESS

MARTIN RUTTER DENIES DEATH



© Pic by Bob King



Is there a protocol for a musician who is unhappy with a technical issue? CX reports on a gig where the audience gained an insight into a performer's state of mind.....

Michael Quinn worked on a recent club gig in Sydney with James Reyne and band, where onstage comments were made before the audience, complaining about the stage monitors during the show.

The monitor system comprised a Soundcraft SM 12 dedicated monitor console from side of stage, Klark Teknik EQ's, EV amps and EV T221 wedges - 12" and horn. There were 5 sends of monitors. The singer had 2 wedges on his own send, and these were a tweaked version of the T221 loaded with BNC 12" drivers.

"Using a Beta 58 mic, the wedges sounded great - loud, bright and clean", Michael says. "Soundcheck was no problem, he (Reyne) was happy with the

monitors."

"At gigtime he turns up his guitar amp 15%, so do the rest of the band, to keep up - and then complains he can't hear. He points at the wedge and shakes his head. I try to figure out what's wrong. He looks at me in between songs and says over the mic (audible to audience) 'where's the reverb?'"

"I look and shrug because there's been no mention of reverb up to this moment. I realised that in soundcheck he had heard room ambience from the house, but having turned up during the first song, there was none to be had".

"Next I walk out to listen to his wedge, ducking down to hear while he is singing due to no information. I went back to the monitor desk. At this point during an instrument part he looked at me and said, over the mic, 'stop showing off and do your bloody job'".

"I respect that it is his stage, and

Continued page 10▶

While searching for news of his funeral, CX took a call from a relieved and sedated Martin Rutter. He rolled his car close to home, and suffered severe injuries including a broken hip, pelvis and nine ribs. "I have eight ribs on one side, but broke one twice", he wheezed.

Martin is a production manager based on the Gold Coast and was to do the Fleetwood Mac tour for Andrew McManus. He has 22 staples in his forehead as well, but reportedly still retains his general appearance which is arguably pleasing.

"Mercedes don't necessarily make safer cars", he surmises, and he is thankful to his local police officer. "In a small town they do a lot. He drove my wife to and from the hospital", he said. He does not remember how or why he rolled the car.

CX wishes Martin well. He says he will be out of hospital for Christmas. CX

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Continued from page 8

I have ventured out on to it, albeit as unobtrusively as possible.”

“Faced with abuse I chose not to deal with him any further and looked after the band for the rest of the set. At the end of the set the band walked over and thanked me for an excellent job on the monitors.”

Michael has a solid pedigree spanning decades and reports no previous complaints about his work on stage monitors. **CX**



AUSTRALIAN BREAKTHROUGH IN LED DIMMING

Ipswich (QLD) based Creative Lighting And Sound Systems have released a new LED dimmer for constant current light emitting diodes (LEDs).

Due to the constantly increasing brightness of LEDs, the ability to dim them is a boon for designers. The XC1 is a multiprotocol dimmer for LEDs, accepting DALI, DMX512, DSI and RDM and remote-addressable and even the protocol is remote-selectable.

The XC1 is small enough to fit through downlight holes.

“It seems logical that, as LEDs that are being de-rated for life expectancy due to running them at higher currents, you will get back some of that de-rated life when dimming the LEDs with the XC1”, says Lance Stewart from CLSS.

Development of the dimmer hit a snag. “The research and development was setback by several weeks when it turned out that Allegro IC, makers of a dedicated chip selected for the project, had not mentioned (or realised?) their chip would flash the LEDs intermittently, which as you can imagine was not what we expected or could accept. It was back to the drawing board for a while there (and gritted teeth) but we are now back on track”.

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CX

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JAS GO GRUPPEN



Johnston Audio Services have added 30 x Lab.gruppen FP10000Q power amps. The FP10000Q is a four channel (4 x 2100w at 4 ohms) amp in a 2RU, 12kg package.

Bruce Johnston (Director of Johnston Audio) said: “The guys all love the Labs and know they can rely on them. We’ve had a number of issues with other brands and it’s great to have an amp that just keeps on going. We plan to change all of our amplifiers to Lab.gruppen”.

The team at Johnston’s first tried the FP10000Q on subs, loading up each channel

to 2 ohms and running it as hard as it would go. It kept going.

Amp size is a factor. Bruce added: “With four channels in 2RU, we’ve been able to halve the amount of racks we take on tour. With truck space always at a premium this is a major benefit for touring companies.”

Johnston Audio are using the Labs on both their Next and L’acoustics rigs on a wide range of events from festivals to dance parties to pub tours. The latest delivery of FP10000Qs went straight on the road with Marilyn Manson. **CX**



CUB MALTHOUSE ADDS ETC ION 1000

CUB Malthouse is the home of the Malthouse Theatre Company renowned for its dedication to the development, production and promotion of Australian theatre.

The theatre, as its name suggests is set in an atmospheric converted malt house. The complex includes three theatres plus associated cafes and reception rooms.

The venue had been serviced by Strand consoles that, as they aged, had started to fail and so the decision was made to purchase a new console.

“There were really only two consoles

in contention – the Strand palette Series and the ETC consoles,” said Stewart. “Ultimately our decision was prompted by the way the industry seems to be going, which is towards the ETC consoles.”

Consequently an ETC Ion 1000 was purchased from Clearlight, which Stewart describes as very user-friendly with a great user interface.

“The size of the console was a big consideration as the control room we have to put the console in is very small,” he added. “The Ion 1000 fits perfectly. Plus the modularity of the Ion 1000 means that we can break it down into its smaller components or in future, purchase more without incurring large costs.” **CX**

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Gavin Tempany, FOH - Eskimo Joe

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Jim Scott, FOH - The Living End

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Tony Bryan, FOH - Grinspoon and Birds Of Tokyo

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Chris Thompson, FOH - Hilltop Hoods

“For a compact format array, it certainly
packs a big punch!”

Chris Braun, FOH - Blue King Brown

“FlexArray sounded great! Vocal intelligibility
was very clean and smooth. Happy to use
it again anytime.”

Brad Parker-Black, FOH - Daryl Braithwaite



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AVPARTNERS SCORE FIRST SYDNEY CONTRACT

Four Seasons Hotel Sydney has appointed AVPartners as its in-house audiovisual supplier.

Gary Hackett, Founder, AVPartners said: "We are delighted to be working with the Four Seasons Hotel Sydney to deliver an unprecedented level of technical support to the hotel's clientele. Four Seasons provides AVPartners with a wonderful opportunity to showcase our services in a leading Sydney hotel".

AVPartners provides unique audiovisual outsourcing solutions to leading venues in Australia. The company was founded by Gary Hackett and Phill Delangen in 2007 and has operations in Brisbane, Gold Coast, Perth, Fremantle and the Whitsundays

Four Seasons is recognised as one of Sydney's most prestigious meeting places including a pillar-less grand ballroom which seats up to 600 people. It was formerly known as The Regent Hotel. 



ROLAND ADD COMPACT V MIXER

The V-Mixing System from RSS by Roland transfers audio over ethernet cable to their M-400 48 channel console. Now there is a new addition to the V-Mixer family with the release of the M-380.

The M-380 is a compact and rack-mountable console with the same mixing

engine as the M-400. Key features include a 48 channel audio mixer with 4 dual mono effects processors, 4 31-band GEQs, 8-band PEQs, 4 band parametric EQ on all 48 inputs and 18 outputs, direct connection to a PC for 40 channel multitrack recording and remote control via software or RS-232c/MIDI.

It sells at under \$12k.

www.rolandsystemsgroup.net 



ADELAIDE CENTRE ADDS PM5D-EX SYSTEM

Adelaide Convention Centre have added Yamaha's PM5D-EX Expanded Digital Mixing System to their inventory.


The system comprises a PM5D-RH V2 digital mixing console packaged with

Yamaha's DSP5D rackmount digital mixing system and DCU5D digital cabling unit. This configuration gives the venue all the inputs, outputs, mixing and processing power of two PM5D-RH consoles - 96

mono and 8 stereo inputs, 48 mix buses, 4 stereo outputs and 16 matrix outputs - all controllable from a single control surface.

Further, by using the DSP5D - essentially a PM5D-RH in a remote stage box format - in conjunction with the DCU5D, the Centre now has a Cat5 digital multicore solution which can be used up to 100 metres away from the front-of-house mix position.

In addition to the PM5D-EX, the Adelaide Convention Centre's audio department already boasts two M7CL-48, four LS9-32 and four LS9-16 digital mixing consoles, a lineup which enables the venue to host a number of live corporate events simultaneously and which demonstrates the Centre's strong preference for Yamaha digital mixing.

"Audio is number one," says Richard Builder, Technical Services Manager at the Centre. "It's extremely important. We're in the communication industry, so first and foremost we have to distribute speech clearly. For every event that we do, before we do lighting, before we do vision, it has to be audio. Audio quality and dispersion are very, very important." 

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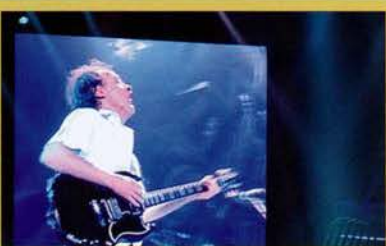
Other news from ISL Systems is the recent sale of a Clair Brothers monitor system to Master Sound Productions who are out on the road with the new Clair Brothers Wedges with legendary Australian guitar player Ian Moss on his Australia wide tour. Master Sounds Gabriel Zouain says that Mossy is more than happy and so are the crew. Master Sound says that the Clair wedges are the easiest monitor to get a great sound from and Ian Moss knows what a great sound is. CX



PHILIPS LIGHTING CONTINUE GROWTH

Graham Eales has joined Philips Lighting as Entertainment Controls Systems Director, Europe. He was with Selecon for six years, and more recently Zero 88. This caps a huge year for the group, which includes Vari-Lite, Strand, Selecon and Dynalite. Philips Lighting is now by far the largest player in entertainment lighting.

"I can also advise you that in North America several changes are in progress", says Peter Rogers who is Senior Director Entertainment Marketing at Philips Lighting. "In December we will move our customer service operations into our primary manufacturing and support facility in Dallas Texas. Following our move of manufacturing to Dallas in March this completes our program to consolidate and build our operation in Texas to include all of our major business activities into a single larger organization". CX



JULIUS' SHOWS YOU MUST SEE:

Wicked (Sydney)
 AC/DC (Touring February)
 Al Green (Touring, January)



VARI*LITE & ETC ARE WICKED

You probably know someone who made the trek to see Wicked in Melbourne, but now the wildly popular musical has made its way to Sydney setting up home at the Capitol Theatre.

The spellbinding musical goes beyond The Wizard of Oz and tells the untold story of the Wicked Witch of the West and Glinda the Good Witch. The lighting design of Wicked is the work of Kenneth Posner who won a Tony Award for his effort. Kenneth opts for a Vari*Lite rig.

"I chose Vari*Lite fixtures for the design of Wicked because of the large number of pattern options and the colours, especially the warm pastel range," Kenneth Posner is quoted as saying. "The colour of the set is actually gray and earth toned. All the colour you see the scenery bathed in comes from lighting."

A total of ninety-three Vari*Lite's are used, consisting of VL2500 and VL3000 Spots, a unit that Kenneth admits to being enamoured of, because of its beautiful fading and colours. In fact the original Wicked premiered the first fifteen VL3000 fixtures off the line.

The conventional gear includes close to two hundred ETC Source Fours of various types. CX

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SB168-KIT2	32x16 Digital Multicore Kit	\$ 17,000 RRP	\$ 22,200 RRP
SB168-KIT3	48x24 Digital Multicore Kit	\$ 25,000 RRP	\$ 32,200 RRP
SB168-KIT4	64x32 Digital Multicore Kit	\$ 33,000 RRP	\$ 42,200 RRP

[^] Kit specifications:

- SB168-KIT1 (\$9,000 RRP) includes: 1 x SB168-ES unit and 1 x MY16-ES64 card.
- SB168-KIT2 (\$17,000 RRP) includes: 2 x SB168-ES units, 1 x MY15-ES64 card and 1 x MY16EX card.
- SB168-KIT3 (\$25,000 RRP) includes: 3 x SB168-ES units, 1 x MY15-ES64 card and 2 x MY16EX cards.
- SB168-KIT4 (\$33,000 RRP) includes: 4 x SB168-ES units, 1 x MY15-ES64 card and 3 x MY16EX cards.

Individual component pricing (if purchased separately):

- SB168-ES: \$9,000 RRP • MY15-ES64: \$3,200 RRP • MY16EX: \$1,000 RRP

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SWISS TV RUNS EXTRAORDINARY OPERA PRODUCTION



Sounds relatively simple at first. Then the reality struck home. *La Bohème im Hochhaus* (*La Bohème in the High-Rise*) needed more wireless than almost anything done before.

La Bohème was broadcast live from a high-rise building. With its striking blocks of flats and modern shopping centre, the Gäbelbach district in Bern became the backdrop for Puccini's opera, which is set in 19th century Paris – a drastic contrast that added a new twist to the tragic love story of Mimi and Rodolfo. The individual scenes were broadcast from three different sites in Bern and shown in their entirety for television viewers in HDTV quality on their screens at home.

A really large RF wireless system, with 152 receiving links and 44 monitor links, was installed at the locations.

The cameras and sound equipment followed the performers into a flat, a painter's studio, the garden and the laundry room, as well as a pizzeria and a bus station in front of the high-rise block. Located a few hundred metres away from the building, the shopping centre wasn't just the modern equivalent of Puccini's street market stalls for the second act, it also housed the orchestra, choir and children's choir.

Swiss Television spared no effort or expense for this production. Over 30 sound engineers were on hand to provide the



highest possible musical and vocal sound quality for viewers. The camera work held many surprises, with unusual angles that often quite vividly brought out the contrast between the historically dressed artists and the modern setting.

After initial frequency planning for the microphone and monitoring systems, the RF wireless techs from Blue! electronic, as well as Klaus Willemsen from Sennheiser, arrived on location a few days prior to the event in order to determine the final transmission frequencies for the soloists and monitor links. Ideal antenna positions also had to be selected, and the rack-

mount microphone receivers and monitor transmitters were set up. "Nothing this technically complex has ever been done before," is how Klaus Willemsen described the dimensions of the production.

A total of three radio microphone systems transmitted *La Bohème* with opera house quality. 84 microphone channels and 16 monitor links were set up in the shopping centre. In the high-rise, 36 microphone and 14 monitor links were used to cover all the locations – the block of flats, the pizzeria and the bus stop in front of the building. For the high-rise, an additional mobile rack with 22 microphone

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and 14 IEM channels was brought in, as some of the locations were so RF shaded that the mobile rack had to be placed in front of the rooms to ensure smooth transmission. The four main performers each had two microphones in case of any unexpected technical failures. In addition, various booms with a total of eight MKH 416 shotgun microphones were on hand to capture the atmosphere and – in an emergency – the soloists. Wireless fishpoles were used with SKP 30 plug-on transmitters.

The crew emphasized how difficult it was to bring the musicians and vocal performers from the different locations together acoustically.


“The greatest challenge were the distances involved for the return links,” explains Peter Rissi. “These were used to play the orchestra and choir music for the singers and their conductor via bodypack receivers. The two choirs also had to hear the soloists and orchestra, of course, and were equipped with monitoring receivers too. The distances between the individual antenna locations and the scenes in the high-rise and shopping centre were so great that we had to use custom-made power amplifiers.” A total of 120 monitoring receivers plus monitor



Mobile rack for flats

speakers for the orchestra ensured that everyone involved could hear everything.

The hosts used SKM 5200 radio microphones and SK 250 bodypack transmitters to guide the audience through the opera and to interview the live audience, thus providing the

performers and technical teams with the necessary stage set-up time between scenes. The hosts' radio microphones sent their signals to compact EK 3241 camera receivers, which then passed the audio signals on via camera sound lines to the central broadcasting station. 



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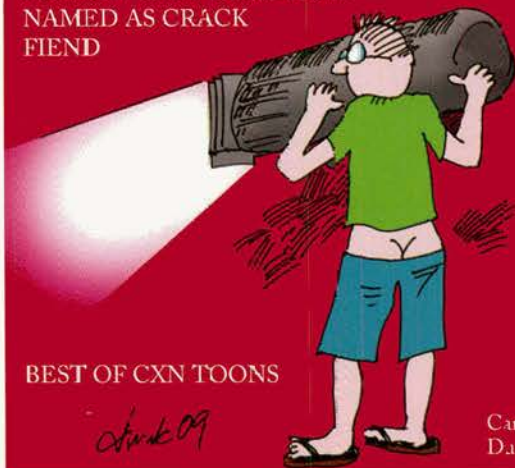
Recently Colin upgraded his talkback to an Eclipse PiCo 36 (upgradable to 72) port running Eclipse Management Version 5 software which is suited to communication needs in OB tracks.

"We decided that we needed a slightly larger system with more flexible programming capabilities and the Eclipse software was something the operators could learn very quickly," commented Colin. "Some of the new systems on the market have a much longer learning curve whereas with Clear-Com as long as you have an understanding of comms, is really quick to grasp."

Colin has used his new Clear-Com system on all recent events such as the Bledisloe Cup, where it performed much better than the Wallabies, and the UCI Mountain Bike World Champs.

"We find a very useful feature is the ability to save up to 4 configurations in the system. For repetitive jobs, we can change configurations without the need to fire up an external computer. With the IP based system, we control the mainframe wirelessly from a laptop computer." CX

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BEST OF CXN TOONS

Cartoon by
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VERSARRAY



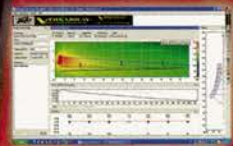
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TROUBLE

always comes in threes...



Australian engineer Bruce Johnston had an entertaining last few months live mixing Oasis through their stadium run before the band dissolved in a punch up three dates before the end of a year on the road.

"We had some huge crowds from 40,000 up to 100,000 at Slane Castle in Dublin.

"The first show in Manchester at Heaton Park was one to remember. The band sold 3 nights with 77,000 per night. Well, part way into the 2nd song the sound system dipped in volume which was quite strange and I looked around and everyone went 'what was that' and it was a sign of things to come.

"About 30 seconds later the system went off! We had a generator issue and I could see the smoke from the rear of stage left. About 10 minutes later they got them running again and we were off. The band started the 2nd song and by the 1st chorus I was back in the vibe and started pushing it again and bang! Off went the generator again. So over the radios we could hear that there was a major issue and they would be using the backup lighting generator. I could hear things like 'you can lose all the strobes or all the mole-fay'. It's great when the lighting crew take one for the team!

"So the repatching took about 30 minutes and it was at this stage my system engineer came over and said 'well, the good news is we have got the power back! But, we don't have the ground subs'. So the 32 x B2 subs were off and I had 8 x J-sub subs per side in the air with the front hang and 6 x J-sub with the side hang and that was it. So in front of me were 32 x J-line and 16 subs. We had a delay ring at 65m with 5 x towers of 18 x Butterfly line array and 8 subs at each tower.

"Great I thought, Manchester, 77,000 punters, 16 subs for me... and they're in the air. Hey! it actually sounded OK once I got a few songs down and I must say I did keep my foot off the pedal. So for you budding sound engineers I mixed Oasis with 16 subs and 30,000 people in front of me.

"Noel refused to go back on after the 2nd failure and it took quite a bit of convincing him. He returned to

stage and said 'this is for free! Check the internet tomorrow and you can get your money back' I guess you can do the math. 77,000 x 50 quid."

FIRST SHOW AT WEMBLEY STADIUM

"After getting through the Manchester week and a few other stadium shows we hit Wembley for 3 sold-out shows.

"Well I guess with all the atmosphere we were bound for something to happen. There was an amazing vibe happening in there and I had the feeling it was about to go off.

"We were about 75% through the show and they just started Wonder Wall. Well, about a minute into that, the system went off! But hey - I still had power at my desk and racks and I turned around and there were about 5 people at the drive rack.

"Suddenly the system came back on so off I went for about 10 seconds and then 'bang' - off it went. Off course each time it went off we got a huge roar from the crowd. As this was just a drive rack issue the band kept playing and the crowd sang the song right through to the end as loud as you would expect. The band didn't leave the stage.

"The UPS unit in the FOH drive rack died and the digital Dante net shut down/muted once the power dropped. By the end of the song the UPS had been bypassed and we were back in business.

"One of the funny things to come from this was the band's manager and our production manager were up the back of the stadium listening to the in-house delay system and when the system dropped they both thought 'Wow, Bruce has got some balls turning the system off in Wembley during Wonder Wall to get them to sing along'. We all had a laugh about it later."

FIRST FESTIVAL SHOW WITH THE B SYSTEM

"We headed off to Spain to do a festival with the backline B system as we needed the main A system in another country. So we arrived, set it up and waited for it all to begin. Well, it started off OK at least.



Bruce Johnston at the desk.

"I must say I had a lot of trouble with the system especially mixing at 65m. 'Bloody limiters,' I said, and then the guitars started sounding really weird. As the power dropped the Vox amps started getting really strange and the band started screaming at the backline techs. The power dropped to 200 volts and the Midas XL88 monitor console started spitting out sounds through the monitor system and out to the in-cars systems. Liam kicked off and walked off stage. I thought 'Here we go again...' Then bang! No power, lights out. Generator went bad.

"Liam decided to stay in Spain and go to the show the following night. Well, the roof blew off the main stage, the catering tent blew away and a piece of the main stage flew through the air and went through the side of the Killers pantech. Lucky no one was inside. The camping site was on fire. Liam realised that shit can happen.

"It was one of those tours. Over the year I had the XL4 automation crash and stop the show. I had the XTA crossovers in one system add 200 ms to the outer hangs for no good reason (didn't that sound strange!)

In all the previous tours that I have done with Oasis we never had any audio problems. Then we had three in a row. **CX**

AUDITORIA RECEIVES INAUGURAL AUSTRALIAN EVENT AWARD FOR BEST ACHIEVEMENT IN TECHNICAL PRODUCTION

Auditoria, an audio and technical consultancy specialising in major events and fixed installations, has won The Best Achievement in Technical Production for their work on World Youth Day 2008 at the Inaugural Australian Event Awards.

The Australian Event Awards were established to celebrate and recognise the excellence in events and to celebrate the outstanding success within the industry.

The judging panel of event industry experts, co-chaired by Johnny Allen and Sandy Hollway, was particularly impressed with the calibre and diversity of events from all across Australia.


"From Australia's work in the Beijing 2008 Olympic Torch Relay to the community events in Warrnambool City Council, the 2009 Australian Event Awards is proud to reward excellence across all sectors of our thriving national events industry," said Johnny Allen, Foundation Director of the Australian

Centre for Event Management.

Auditoria Director Scott Willsallen said, "Auditoria continually strives for excellence across all areas of technical production and to maintain our brand promise of Listen, Design, Deliver."

"I was honoured to be named a finalist at the Australian Event Awards and now to have won the award for Best Achievement in Technical Production is icing on the cake."

"This award not only recognises the work of a dedicated team of people who worked with Auditoria in the delivery of World Youth Day technical systems, but also that of our industry, and the strength of our industry."

"I would like to congratulate the organisers of the Australian Event Awards for taking this step in recognising and celebrating excellence within our industry." 



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THIS WAS IT

The Michael Jackson concerts would have been the world's largest – 50 shows for 22,000 people at a time at just one London arena. Julius Grafton talked to insiders for this story, which reveals Michael was headed for more than just a massive career revival.



© Staples

By JULIUS GRAFTON

The behind the scenes movie 'This is It' of Michael Jackson's rehearsals offers a surprisingly revealing look at just how good the show almost was. Shot leading up to his death, and edited from hundreds of hours, the movie used footage destined for the artist's archive. His death changed this.

But the movie is actually the concert. It runs almost 2 hours, with almost all the 20 songs from the concert in set order. Best of all it shows the artist interacting with his band, dancers, singers and crew. He sings every line, either into a headset mic or a handheld and he dances and moves the whole time.

Shot in HD on just two Sony PMW-EX1 cameras, the footage was seized from the freelance cameraman Tim Patterson the morning after Michael Jackson died. "They called in all the footage and my editing suite, and locked it all in an edit room at AEG with a security guard out front", he told democratherald.com

Then followed a remarkable six weeks of around the clock editing where the footage was combined with live rehearsal mixes into a surprisingly pleasing product that sounds and looks terrific.

SHOCK AND HOMICIDE

The full dress rehearsal for the tour happened the night before his death. "We were a little worried as he had been in and out of rehearsals", said Lighting Director Patrick Woodroffe. "But he did the whole dress rehearsal".

Michael was stressed out by the show. "I can't possibly do 50 dates", he said. He was reported as angry at AEG who had bankrolled the shows and advanced money that he needed. They had streamrolled him into doing extra



Michael and dancers in rehearsals.

shows, beyond what he originally thought were 10 dates.

But it transpires that singers, dancers, and major creatives had contract options running several years forwards. Michael probably didn't know this. AEG were just doing what promoters do - they had an exclusive deal, and they reasoned that if the shows went well, Michael could be convinced to tour the USA. This all went into ruins on June 25th, just three weeks before the fifty shows were to have started at the O2 Arena in London.

Los Angeles police say that Michael was then unlawfully administered a surgical anaesthetic by his resident doctor, which led to his death. Reports have surfaced that the anaesthetic would be turned on to enable the star to sleep, and turned off at a pre-arranged 'wake up' time. In effect he was subjected to a harsh sedative, reportedly almost every night.

Around the time he was discovered the crew and cast were en-route to the Staples Centre, a concert arena in Los Angeles used for the dress rehearsals. The opening segment prep, the giant lightman had just been finished and turned on for the very first time. Then came the shocking news. "It was terrible in there" a crew member told CX, "everyone was crying and disorientated. We were all sent home."

The first five of those shows had already been pushed back, to accommodate the full rehearsals with the whole set that were slated to start within days in London.

THE GREATEST SHOW THAT WASN'T

The show featured up to 20 set changes, with three centre-piece numbers that had elaborate 3D cinema footage created for them - *Thriller*, *Smooth Criminal*, and *The Earth Song*. In *Smooth Criminal*, Michael dives through a plate glass window in slow motion. Another amazing movie sequence is a fantastical parade ground in which thousands of soldiers dance with military precision as the camera dollies by them. Entity FX digitally created that environment and turned nine dancers into multitudes.

You get a taste of the opening in the movie. A giant choreographed pyrotechnics show pounds with percussive explosions as a fire wall does sweeps and chases. Then a giant mirrored robot - the light man - descends, with projections of world icons on it. Michael Jackson emerges as the big reveal.

Dancers then were shot out of trapdoors by an ingeniously engineered launch system, seen in the movie.

Thriller would have been the highlight of the show.

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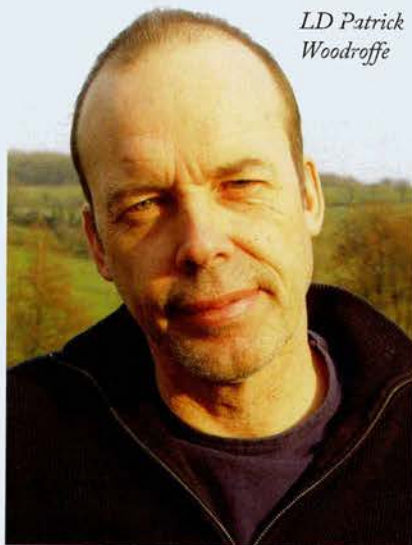
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LD Patrick Woodroffe



Completely reshot, the movie is stunning. Bride ghost puppets would be traveled down the arena aisles, these were fabric and pole operated from the ground. Michael's big reveal was to unfold himself out of a glossy black mechanized spider that scuttled downstage as the stunning dancers – chosen by Michael from 500 at final auditions - did their thing.

The stage design by Michael Cotten was very much dictated by the staging requirements of Michael and his dancers. They needed a series of trapdoors for appearances and disappearances, fan and smoke pits, a retracting cherry picker and an upstage ramp. Once these were all in place and the 90' (27m) wide video screen was sited upstage, the design was half complete. Michael then added an elegant

curved walkway upstage that became both a projection surface and a performance area.

Overhead the lighting grid had to also accommodate a number of flying gags that would descend from above.

"Our lighting design had to take this into account and so we made a huge perspective grid, the horizontal members of which were on individual points allowing us to fly 15 x trusses in and out to provide very different looks through the show", Lighting Director Patrick Woodroffe told CX.

"For example on the Jackson Five medley the trusses dropped in and with a multi-colour scheme gave the impression of a 1970's TV studio. And at the top of the show the trusses which were all in a random position at stage level all ascended in a choreographed light ballet."

HOW JACKSON TALKED TO THE CREW

The movie opens up the rehearsal process in a very honest way. It would not have emerged had Michael not passed away. He was in control – he knew all his material intimately, and he visualised what he wanted.

Sometimes he was obscure and confusing. "Sizzle, it must just sizzle", he says at the end of a number, when it transpires he wants the ending extended.

Variety reports this: "After a fascinating exchange with keyboardist and musical director Michael Bearden over an almost imperceptibly subtle tempo change on *The Way You Make Me Feel*, Bearden delicately notes that he can't always

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predict how Jackson will want certain songs to sound. Jackson snaps back, "I want it like I wrote it." Passive/aggressive and very switched on to the music is how he emerges.

Then he could be so brilliantly concise. "Play it like you're dragging yourself out of bed", he tells the band!

During the Jacksons medley he pulls his in-ear monitors out – the in-ears are new to Michael as his last tour was a decade ago. "It feels like a fist, a big fist, pushing into my head", he complains. "I know you are trying your best. But it is just a fist, a fist...", his face is contorted and he is holding his left fist in his ear, elbow above his head.

"Michael is it a question of the mix of the instruments and voices, or is it a question of volume?" asks Kenny Ortega, the show director. Ortega is featured in the film as the go-between, and he clearly had the confidence of Michael. "It's volume", says Michael, and the in-ears get turned down.

SURPRISING REVELATIONS

Far from appearing drug addicted and ill, Michael is always in motion – every rehearsal and every number he performs in dance. His movement, even off stage is fluid and mesmerizing – he is sexy, although rake thin and despite the ravages of his appearance.

The dancers are sex on a stick. "You are an extension of Michael", they were told. They are coached and encouraged by him throughout. They told how his scent was totally unlike any before. His pheromones affected many people in his orbit.

The subtle movements of hands, fingers and his squeaks and calls are so completely unique to Michael. Then there is his voice.

The little innocent voice is part confection, he is talking in a soft voice on stage. But the singing voice was working very, very well. Every song rehearsed was sung by Michael, even in the dance sequences. He alternated between a head mic and hand held. "I'm sorry, I'm preserving my throat" he apologises after nailing a number.

There's a hot and extended version of *Billie Jean* and when it ends, Michael says "I think we got the feel for that" which is the understatement of the whole movie and possibly a window to his humility.

KILLER BAND

Some media say the soundtrack for the movie was re-mastered from the original recordings. In fact it was performed live on stage and recorded to multi-track by Clair Brothers who were the sound vendor for the show and rehearsals. Michael is clearly singing.

Musical director Michael Bearden took the gig on the condition he dealt direct with Michael and not intermediaries. He is playing the parts – changing tempo and inserting punctuations when asked. Drummer Jonathan Moffett does a mighty job behind a massive kit featuring three kick drums. But the lead guitarist drew the most attention in the movie.

Hailing from Adelaide, Orianthi Panagaris plays lead guitar and works on stage with Michael in the movie. Her segment redefines hard rock guitar and should see many more girls pick up the axe. It is awesome.

Then there is Mekia Cox, the principal lady dancer. She struts the stage in *The Way You Make Me Feel* with Michael aping her movements and very much at home alongside.

But one of the really the magical moments in the movie is the duet of *I Just Can't Stop Loving You* that he sings with Judith Hill. The movie captures their very first rendition of the song, which ends in some gospel adlibbing.

The cast from the show may have lost the chance to do the 50 dates in London and the probable USA tour. But their careers have had a massive boost.

THE END

"All the scenic elements including the bulldozer were either finished or nearly complete", lamented Patrick Woodroffe. "After all we were to be in London in less than a week. The 3D video was being edited and the costume with thousands of Swarovski crystals (and loaded with LEDs)"

"The night before he died Michael rehearsed what was in effect a full dress rehearsal and we realised we were very close to being finished".

"This was truly one of the all time great rock shows that never was".

THE LIGHTS THAT WERE

"We used a combination of the new PRG high powered fixture, the Bad Boy and Varilite 3000 profiles for our profiles. Our wash lights were a mix of Coemar Infinitys, Varilite 3500's and Mac 2000's. We also used the new Clay Paky 700 beamlight, which was a powerful ACL/washlight hybrid."

Patrick Woodroffe, Lighting Director.

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Well, it may not have exploded per se, but at least it made a mess and got a small cheer from the assembled rabble.

By **DR NIGEL SHORTCIRCUIT**

I've always been told not to drop things out of the lighting rig because it might kill someone. Is this true, and would it make a worthy experiment?

Surely you can imagine my delight on opening this email. Death! Mayhem! Blood! And possibly some pseudo-scientific justification for the whole thing. Brilliant. Just drop tools and stuff on someone's head from a great height and see what happens.

Leaving Science Boy to polish the rats, I scuttled down the hallway to enlist the aid of Archchancellor Grafton. He was almost as enthused as I, but when push came to shove he declined to let us use his real head. Apparently he still uses it for something.

DARRYL THE STUNT DOUBLE

So it was left to Science Boy to fashion a passable simulacrum of the Grafton

bonce. One bulbous melon, one photograph, job done.

A wig was not considered necessary.

Darryl was promptly assembled beneath the window of the Danger Lab where I could conveniently drop stuff on him. On the first attempt, the shifting spanner missed its target completely, demonstrating once again the random nature of accidents – even deliberate ones.

That was just a loosener, and I hit form (and Darryl) with the next one.

IS DARRYL OK?

No, not really. The shifter has punched into his head to a depth of about ten centimetres and cracked his hard shell about two thirds of the way down. Any way you slice it (which Science Boy did at elevenses) Darryl was done for.

I'll concede that Darryl's head is not the most accurate model of a human head, but in terms of general principles – a hard but quite brittle shell filled with soggy red goo – there are some clear



similarities. I'm happy to accept that what's bad for Darryl wouldn't do me any good either.

THE SCIENCY BIT

This is where I give you the details of how we did all this.

The shifter was a standard ten inch jobby, as stolen from most of us over the years. Darryl was a standard watermelon, as found in shops. With his truss base, Darryl was about a metre tall.

The window used was the same one I always look out of, at a height of about four metres, and the spanner was held up high so the drop was about four metres. Four metres would conventionally be considered pretty low for a lighting position, so we can safely regard this as being less severe than you would usually expect.

WHAT HAVE WE LEARNED TODAY?

Anything falling out of the lighting rig can reasonably be considered lethal. After the success of the shifter experiment, Darryl was too badly injured to do any more work so the hammer and Patt 23 tests had to be abandoned. If you pressed me on it, I'd have to say that I reckon the wounds would have been different but no less effective.

You could potentially reduce the damage with a hard hat, but the concussive damage would still be pretty horrid. I've always said that given a choice between wearing a helmet while being hit on the head, or just not being hit, I'll take option two every time.

So there it is, dear reader. What they've told you is true.

Think once, think twice, think don't drop stuff on people's heads.

Harsh-brained schemes welcome! Email the doctor at dangerousnutter@gmail.com ☒



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Jimi Maroudas.

EARNING AN ARIA

Getting nominated as the ARIA Engineer of the Year doesn't happen to all of us. CX talks to two guys who got the nod this year.

By **STEPHEN BRUEL**

As this magazine rolls off the press, the 23rd annual ARIA Awards Ceremony is being held at Acer Arena in Sydney. Established in 1987, the ARIAs have 28 award categories to honour excellence and innovation across all genres of Australian music. For this year's Engineer of the Year award nominees Steven Schram (Little Birdy – Confetti) and Jimi Maroudas (Eskimo Joe – Inshalla) being nominated is an honour, a dream, and recognition from the industry for their respective audio production skills, hard work, dedication and professionalism.

"It's great to know that people in the voting pool scrolled down and saw Little Birdy's Confetti on the list and thought it warranted an engineering vote," said Schram. "Most of the voters probably don't know who I am so it is particularly rewarding that the nomination is based on the strength of the sound of that album."

"The nomination is a huge honour and in many ways a way a dream come true, but really it's all about the music and doing the best and right thing by it," said Maroudas. "It has also made me reflect on all the important people whom this couldn't even have been a

possibility without, my Mum and Dad who gave the courage to chase this career, my brother for his musical influences and most importantly my wife for whom without her support this would still be a dream. Of course all of the great artists/producers/engineers that I have worked with who put their hearts and souls out there every day deserve a mention also."

STEVEN SCHRAM

Schram (whose credits include Little Birdy, Little Red, Art Of Fighting and Public Enemy) began his audio production career through forging a relationship with Triple J sound engineer Chris Thompson.

"I was living in a house which had a computer with some music on it and none of us knew how to burn a CD," said Schram. "I called the ABC and asked to speak with Chris as he was the only sound engineer I'd heard of."

According to Schram, Thompson had injured his elbow the day before and said if Schram carried all of the equipment he could tag along on his next Live At The Wireless recording and pick his brains as much as he wanted. After tagging along for numerous recordings Schram received work to record a live to air broadcast from a nightclub in Melbourne and more work from Thompson.

"Around this time Chris started work on The Waifs ARIA award winning album *Up All Night* so naturally I tagged along on those sessions," said Schram. "From Chris I learnt the most important aspects of record making which are performance, great tones and good people management skills. Chris and his best mate Tony Cohen (Bad Seeds, Cruel Sea) passed on a bunch of artists and albums to cut my teeth on."

JIMI MAROUDAS

For Maroudas, (whose credits include Eskimo Joe, The Living End, Tim Rogers and Pete Murray) the journey to an ARIA nomination started with a more traditional 'musical' beginning.

"I picked up the guitar at age four and began playing in bands at age 12," said Maroudas. "I moved from guitar to drums to lead vocals, all the while writing songs. I think it is this understanding of many instruments which forged a great foundation for a career in producing records and how things all fit together to make a great song."

The road to securing a job in the industry wasn't easy (it never is) and involved a lot of door knocking and a lot of rejections before finally getting a break at Melbourne-based Sing Sing Studio.

"I started looking for assistant gigs at



Jimi at Work on Eskimo Joe's Album.

any place that would take me," said Maroudas. "Unfortunately I had no contacts in the industry and as an outsider trying to get in it was impossible. I learnt how to take the answer 'no' many times and every studio in Victoria would have said 'no' to me at least three times.

According to Maroudas, Sing Sing is one of the best studios in the country and in this part of the world. Producers and engineers from around the world came to work at Sing Sing and Maroudas was working alongside them and most importantly learning from them.

"I spent the best part of my 20s at Sing Sing working 100-plus hours a week, being first in and last out," said Maroudas. "In that time I learnt a lot of what to do and what not to do, got to work on some incredible music and made some great friends in the process. It was the best thing that ever happened to me."

PREPARATION IS THE KEY

Schram describes himself as not being the most technically savvy engineer around, and prefers to keep things in the studio simple while focussing on getting the artist to deliver the sound and performance which suits his taste the most.

"All of the hard work is done in the rehearsal room including getting the equipment sounding great and working out tones," said Schram. "Once the band is ready to perform those songs in their sleep then all you need to do is head into the studio and record it. It simply becomes a matter of setting them up and pointing some microphones at them."

Maroudas agrees with the importance of a band being well prepared, long before there is any talk of recording.

"The key to any project being a success is the initial interaction between the producer and the artist," said Maroudas. "We spend whatever time is necessary in pre production before going anywhere near a recording studio. The last thing I want to do is to go into the studio with the band under prepared and with question marks over the songs, parts, and/or arrangements. It's a waste of all of our time and makes for an inefficient and unproductive session."

SPACE, SOUNDS AND PERFORMANCES

Schram prefers to spend more time getting the sounds that he wants from the recording room as opposed to the control room.

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Steven Schram (centre) takes a break while recording with Spun Rivals.

placing emphasis on the sound source. For example, Schram will spend a lot of time listening and making changes to the drums in the drum room rather than in the control room ensuring the tone of the instrument is the sound he wants.

"With Confetti, this was very much the case and we set out to make a recording that didn't involve studio tricks or boo jiggy," said Schram. "The band had great songs which were extremely well rehearsed, and we were all meticulous about the tones and the performances."

The album is an extremely live recording with three tracks featuring vocalist Katy Steele singing live with the band.

"In the track *Into My Arms*, Katy is singing louder in the room than the piano she is playing," said Schram. "But the performance is so great and you are listening to her so intently that you don't notice the piano sink into the mix underneath her."

Maroudas also places emphasis on getting the sound source right and pays particular attention to the space he records in. He frequently auditions different parts of the room, moving baffles and sound barriers around to make sure that he's getting the best out of the space.

"A lot of kids think that the answer is in the gear, and overlook the fact that they're recording in an untreated square room with lots of nodes and then wonder why the recording doesn't sound great," said Maroudas. "You've got to cover all angles."

YOUR JOB, MY JOB

Maroudas enjoys working hard in the background so that when the band goes into the studio the only thing that

they need to worry about is delivering incredible performances and nothing else. This includes spending time writing down exactly where he wants every band and instrument set up in the room, and then listing every signal path for every instrument.

"For drums that means going through what mics/mic pres/EQ's & compressors I want on every path from the kick and snare, right through to the room microphones," said Maroudas. "I'll do this for every instrument and then send my assistant this list so that he can get in early and get this all set up so that we can have a flying start to the session."

"Invariably I'll make changes on the day as I'm hearing things in the room, but this means that we get off to a flyer, the band feels great because it's a smooth process, and I can focus on getting great performances and sounds as I've done my homework for the session."

Maroudas also likes to have a drum tech come into the studio and tune the drums in the room he is recording in.

"You can tune them at home or in the rehearsal room, but once you move them out of that space, the tuning invariably changes," said Maroudas. "Temperature, room acoustics and transportation all play a role in detuning drums and you want to end up with drums tuned for the room they are tracked in."

SONGS, NOT SYSTEMS

Confetti was recorded at Sing Sing Studios and Schram and the band allowed themselves three days studio time per song. Day one involved getting the tones they were after, day two for capturing the perfect performance and day three for recording overdubs as needed. They repeated this process until

they had an album.

"I like to work like this as it helps me get the right sounds for each song rather than have all the songs sound the same," said Schram. "This method also keeps everybody in the band continually involved in the process and spreads the vocals out over the duration of the session. There's nothing worse than a singer needing to record an album's worth of vocals in a couple of days. I don't want to listen to somebody singing for ten hours a day either."

Mixing followed a similar process to the tracking in the fact Schram would totally reset the board following each song. At the end of each day Schram would email a version of the song to all band members to listen to the mixes in a familiar environment. They would write back with any comments in the morning and then Schram would print the mix and all the stems.

"Starting each song from scratch and not from the template of the previous song forces me to listen to what I'm doing a lot more," said Schram. "Each song was recorded very differently so using a template wouldn't have really worked in this case anyway."

Schram recorded the album in Sing Sing's Neve room on a 60-channel Neve VR60 console hooked up to a Pro Tools HD3 rig. Mixing was done in the XL room on an SSL XL9000K 72-channel console.

"It really doesn't get much better than that," said Schram. "The professionalism and friendly nature of owner Kaj Dahlstrom and staff make it the most brilliant place to focus on the task at hand. Tracking through their Neve VR80 and mixing on the SSL K9000 makes things a little easier also."



Steven Schram (at console) at work with Spun Rivals.

Although Schram and Maroudas have followed different paths to where they are today, they both list Sing Sing studio as their preferred facility to work in, and both are represented by the Catherine Haridy Management company (Eskimo Joe, Bob Evans).

ENGINEER MANAGEMENT

Haridy started her Melbourne-based artist management business in 2006 after being approached by Eskimo Joe to manage them. Having previously worked in A&R for both Festival Mushroom and Warner Music, Haridy was working closely with Eskimo Joe through their time on *A Song Is A City* and *Back Fingers*, *Red Wine* and thought the time was right for a change.

Since then Haridy decided to start managing producers, mixers and engineers. According to Haridy, it was a natural progression for her based on her background in A&R and something she was very keen to get back in touch with.

"I'm absolutely honoured to be able to work with these guys, and be there to help them evolve their careers in a long term sense and with the bigger picture in mind," said Haridy. "All three of my producers are very talented and it's important that we celebrate the achievements of our local producers, mixers and engineers. More attention should be placed on their importance in the music making process."

AND THE FUTURE?

Maroudas has plenty in the pipeline having just finished producing a Christmas song for Tim Rogers, Autumn Gray's debut album *The Diary of a Falling Man* and is currently in production with Sunbury-based outfit *The City in Motion*. Schram also has a few gigs on the horizon but doesn't want to expand further at this stage.

Regardless of who takes home the ARIA Engineer of the Year award (the other nominees are DJ Debris for *Hilltop Hoods* – *State of the Art*, Greg Wales for *You Am I* – *Dilettantes* and Peter Mayes for *Empire of the Sun* – *Walking on a Dream*) the future for record production looks as strong as ever in this country.

Good luck to all.



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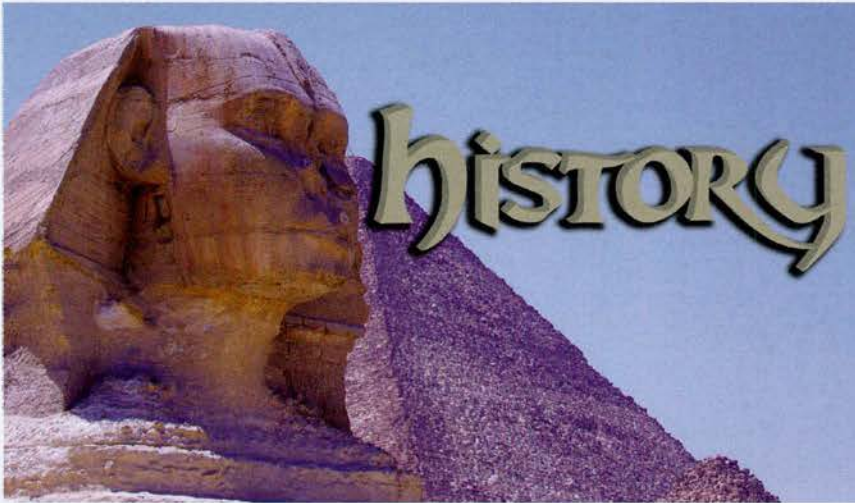


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*W*elcome to the YesterYear pages where we trawl our old magazines for an insight into what things were like yesterday. Sometimes we laugh, sometimes we cry. The rest of the time we shake our heads at the appalling proofing and terrible photo reproofs. But that was then, and now is when we tend to try just a little harder to get it right.

15 YEARS AGO – CONNECTIONS DECEMBER 1994

The cover date says Dec/Jan 1995 which is slightly confusing. But this was indeed the December 1994 issue. Check out the cover, one of our worst! We were editorialising about the convenience of email and reported that Next OnLine

had charged us \$30 for a hookup and then \$25 for 5 hours online a month(!) All of this through a dial up modem at 9,600 baud. If you remember that, then you remember a seriously s-l-o-w experience.

XL4 LAUNCH

Midas showed the XL4 at the San Francisco AES. This is still a viable touring console if you have eight loaders to handle the weight (450kg+) and a lot of floor space! This issue of the mag came after your writer visited both the AES trade show and also the LDI trade show, on one trip to the USA.

USA CONCERT BIZ

We reported that the USA had its biggest year to date for concerts, and that the vendors were selling and the production firms were buying. It was before the line array era, so the hot sellers were Turbo and EAW.

UPSIDE DOWN CONSOLE

AMEK Big by Langly was an intriguing audio console design – the channel strip had the bus assignment buttons at the top, then the auxiliary controls, then the input gain, and at the bottom the EQ. Totally upside down! ‘There is no other console like BIG in the world’ is what they said, we agree! At least the 100mm fader was at the bottom.

SONY REBADGE TASCAM

The DA88 grew a Sony clone with the release of Sony’s PCM-800. It served its purpose, at the time the Tascam DA88 was to be an outstanding success as an 8 track linear digital tape based recorder.

FRANCESCO CALVI

The Demis Roussos of Lighting is how we headed the profile. Ironic given that we have Francesco elsewhere in this issue. His business card 15 years ago was headed: ‘Illuminated erections of biblical proportions, all budgets spent, no job too silly’. No one would doubt he was headed places.

CALL TO ASSOCIATE

It was 15 years ago, and we called on the manufacturers in our industry to associate and unite to form a peak industry body. It is happening just now – took a while!

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10 YEARS AGO: CONNECTIONS DECEMBER 1999

It was five minutes to midnight as the millennium bug was due to switch off power stations and make aircraft crash when those computers all reset to the year 1900. As if. The greatest I.T. scam yet.

PM1D IS HERE!

Yamaha's new flagship digital concert console had just arrived. Also new were Martin Mini Macs, and the Mackie HDR24 hard disk recorder. Mackie did the farm on this product, which included the SDR24 (we have one here at CX still). They did market research that said these would sell by the thousands because Alesis had sold thousands of ADAT machines. Who knew?

OLYMPIC FEVER

We went to LDI and found heaps of Australians trawling around buying stuff. It was a time of great optimism, strangely similar to 2009 when the optimism is about having survived the crazy GFC.

STUDIO 301 OPENING

A relaxed Tom Misner is featured along with a terrific 'A list' of people. The studio was and remains probably the largest individual investment in audio recording seen in Australia.

FARLIGHT LAUNCH MERLIN

In keeping with the optimism theme Fairlight hosted a launch in a high rise government building in Sydney for their Merlin. The future looked rosy, and the firm was exporting like crazy. Somehow the wheels fell off later. Fairlight is of course now reconstituted and revived.

WHAT HAPPENED TO...

Wavcom, the wireless audio video everywhere communicator? And the TerraSonde Audio Toolbox – a dsp powered wunderbox packing dozens of functions? How about a 4 track or 8 track cassette multitrack recorder?

VARI*LITE COMES OUT

After decades of rental only, the Dallas based firm started selling fixtures with the VL 2400 wash and VL 2201 spot fixtures

first out the gate. The rental model worked incredibly well for a very long time, but Martin and High End Systems were eating VL's lunch ten years ago.

ICON FROM LSD

Another 'what happened to?' This time, the LSD Icon. It went the way of the Morpheus Pan Command and Altman Altstar – two American multi million dollar attempts to usurp Vari*Lite.

LED WARS...

As Color Kinetics served patent breach writs at LDI. Setting the scene for the firm to sit in the box seat for patent royalties today.

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- Yamaha M3000 24 ch mixer \$26,995.



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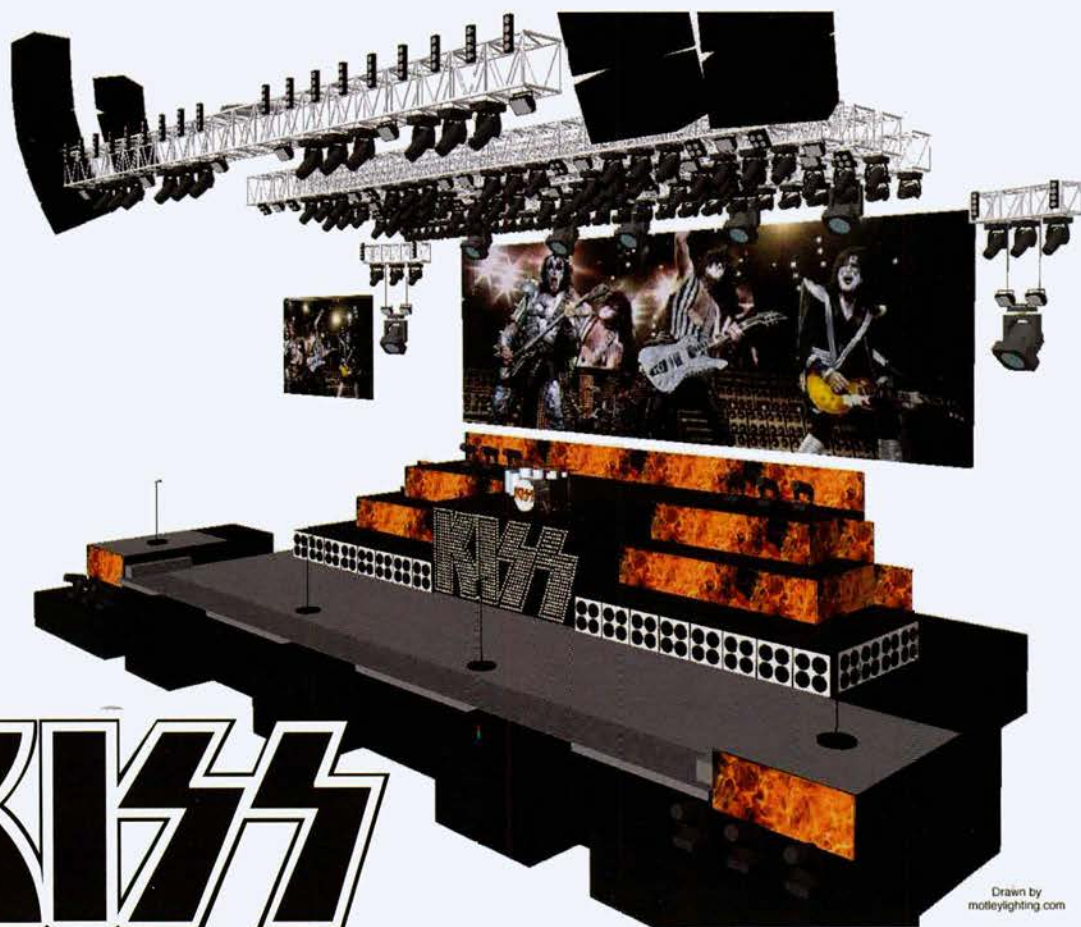


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KISS

TOUR WITH AUSSIE LD

At 17, Motley Hackett was a KISS fan who dreamed of being a roadie. He's still a KISS fan, but now he's also their LD.

By JULIUS GRAFTON

Sean 'Motley' Hackett is Brisbane based and has worked with plenty of bands in the past, including the likes of INXS. Recently he scored his dream gig with KISS and is on the road across the USA ahead of Christmas.

Motley takes up the story:

I filled in for Bryan Hartley on some KISS shows in the USA and Europe after doing the Paul Stanley tour as LD in Australia. Bryan is busy with Aerosmith and Trans Siberian Orchestra so I got an email "Need KISS LD what you up to for 18 month?" My reply: touring with KISS I guess!

I've been getting great feedback from all industry types. We had Lenny Kravitz at FOH in NYC and I nearly got nervous but once the first 30 seconds of the show are over, I am in the groove and don't realise what is going on around me until just before the encore.

The rig is 64 feet (19.5m) wide and

made up of seven trusses with two 8 foot (2.4m) side trusses to give it a wider look. The stage is 106 feet (32m) - we build scaff wings in the seats at most arenas.

The set and backline are set up at FOH on a rolling stage.

I'm using seven 7k Syncro Lite, twenty-four V*L3000 Spot, thirty-two V*L3500 Wash, twenty-six 4Lite DWE Inline into the audience, eighteen 4Lite DWE Square over the stage, thirty-four Atomic Strobe, fifty-eight CB12 LED Truss Toner, four Source4 Par NSP for the Gene Blood Gag, ten Red Police Beacon and it's all controlled by Grand Ma. Plus there's six FOH spots in no colour all night to light 'the money'.

All my air lights are in pre-rig truss except the Syncrolites and inline Audience 8lites so there's not many cases to store.

My Crew Chief is Sean Kohi, and Andy Figueroa is the KISS sign tech.

We have 13 trucks plus 6 tour buses and they're all pretty full up.

The show design started with the band

saying they want a set full of video and a big video screen 60 by 20 feet (18 by 6m).

We went to do a bunch of Festival shows in Canada and 2 in the USA so it was different lighting vendors and systems everywhere. We took the big screen and the old set to see what would stick and ended up with the show. The VL3500 with the beam blaster in was the only fixture that would cut over all the video.

Then they sent me a hand drawing and asked me to draw it up in 3D and after a few bounces back and forth it went to the set company, All Access, and was turned into a reality.

The straight truss look fitted with the big square set and video so I kept it simple.

There are a few cues in a KISS show that must be done and then the rest is what I call an 80's Aussie pub rock rig on steroids. There is not a lot of movement in the rig until the end of the show.

Then the drum riser goes up to 16 feet (4.9m) and rotates, Paul flies to FOH and



The hottest band in the world and all those other big places!



Motley at 17.



Motley on tour.

Cene flies up to the front truss

It's been a good buzz as I went to see KISS in 1980 in Sydney and came home and told Mum 'I am going to be a roadie and make big rock shows'.

'Yeah right', the kids at school said.

Somehow I have now gone full circle. At first it was a bit weird talking to band members in full make up and 8 inch boots so they end up 7 feet tall.

29 years later who would have thought! But after so many years of Touring as LD for INXS and others I have no problem with it at all.

The shows are selling well, everyone is making money!

Maybe now some other good Australians can get a break. We live in the best country, but it's a hard one to get a break from. Like everyone I have definitely bashed my head against the wall to get here.

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Photos by Tony Derman (Synco/VL tech)



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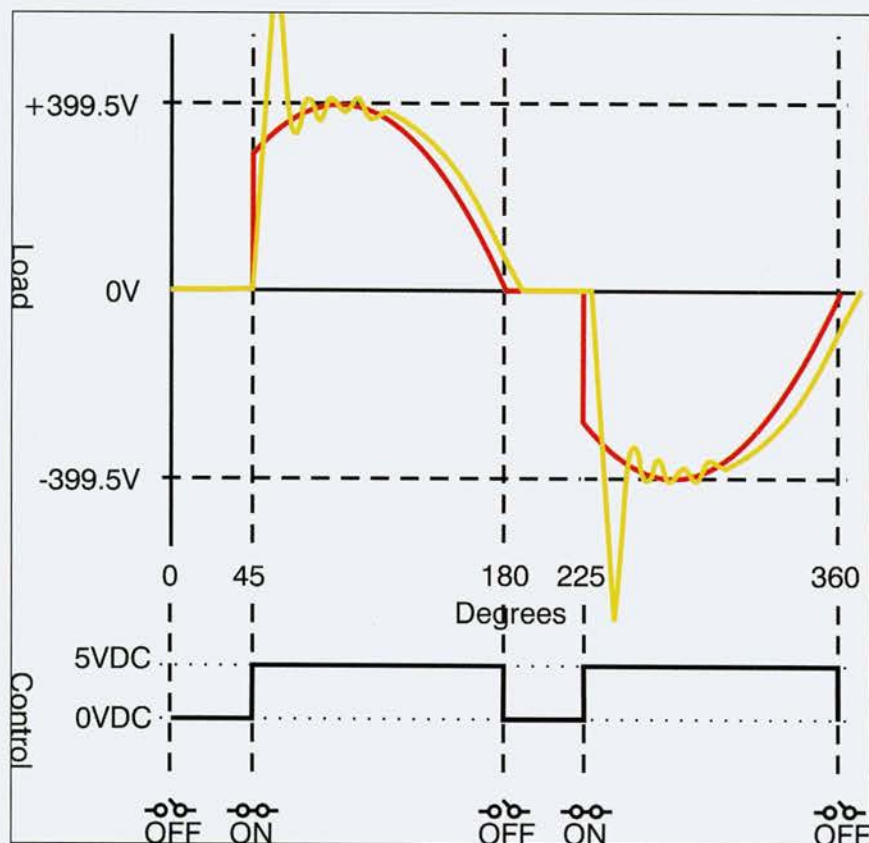
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SINGING LAMPS AND DANCING CHOKES MAKE FOR POOR THEATRE

How to Avoid Dimming Disaster



In a forward phase-controlled dimmer, the voltage turns on during the sine wave cycle and the current overshoots its target. Adding a choke helps correct the overshoot.

By RICHARD CADENA

Those very few times in your career when you can hear lighting, it is never a good thing. If you've ever heard lighting instruments crashing to the ground, falling victim of the earth's relentless gravity and its refusal to move out of the way, then you know it's an awful sound. If you've ever heard lamps explode or implode, you know neither of those is a comforting sound. If you've heard lamps singing and chokes dancing to the periodic movement of a 50 or 60 hertz sine wave, you know it will drive you crazy. Nothing is more disquieting in a production than the broken silence of a quiet passage falling victim to misbehaved technology.

Lighting should be seen and not heard. When lighting can be heard, there must be a fix for it. The most common lighting noise is that

associated with dimming conventional lights. It might be a buzz or a hum and it might come from the luminaires or from the dimmers. Either way, it's a problem that can be corrected as long as you have some time and some money. And knowing the difference between a buzz and a hum might save some of both.

There are several different types of dimmers. The most common type that we find in the field, whether you play in the theatre, on a concert stage, a ballroom, convention centre, or another venue, is forward phase-controlled dimming using triacs or SCRs. Triacs and SCRs are electronic switches that are functionally no different than a manual wall switch. They simply open or close a circuit, except instead of doing it with a manual lever, they open and close electronically with a low voltage control signal. That signal, of course, comes from a lighting console.

The difference between a triac

and an SCR is that a triac is a bi-directional switch while an SCR is a uni-directional switch. That's not as important as understanding that they are both electronic switches but in case you care, an SCR can only conduct current in one direction. So for an alternating current (AC), then it takes two SCRs to conduct for the entire cycle – one for the positive half and one for the negative half. By using two SCRs connected in parallel but inverted with respect to one another, then they act like a single triac which can turn the current on and off during an entire sine wave cycle.

Neither a triac nor an SCR can turn the current off except at the point in the sine wave at which the voltage is at zero. That happens twice during a single sine wave cycle; once when it goes from negative to positive and once when it goes from positive to negative. The rest of the time it must stay on until the voltage drops back to zero again, otherwise it would draw a huge arc because any time you open a circuit under load it draws an arc. (If you want to see a dramatic visual of what that looks like, check out www.youtube.com/watch?v=6GiIVze2Tac.) And that arc would destroy the triac or SCR were it able to open under load.

But a triac or SCR can, however, hold the voltage off and then turn it on at any time during the sine wave. If the timing is just right then we can control the dimming level very accurately. And that's what a forward phase-control dimmer does – it controls the "firing angle" or the timing of the voltage turn on so that the phase angle when the voltage is turned on is mirrored during the positive and negative half cycles of the sine wave. Otherwise it would produce a DC offset and the heat would eventually destroy the circuit.

This turning off and on of the voltage changes the waveform from a sine wave to a complex waveform. It looks like a chopped up sine wave, which is exactly what it is. The chopped parts of the sine wave represent sudden transitions from 0 volts to some value of voltage, and the current that flows due to the suddenly applied voltage has to change very quickly to keep up with the voltage change. In fact, it changes so quickly that it actually overshoots its target and there is a large, albeit very short

duration, spike in the voltage. This spike causes mechanical and electrical stress, which is very hard on the circuit.

For this reason, the manufacturer puts a "choke" in the circuit. A choke is a coil of wire, usually wound about a toroid, whose job it is to slow down the big inrush of current. It works by creating a magnetic field that opposes the sudden change in the direction of the current from negative to positive and vice versa.

The physical size of the choke determines how effective it is at doing its job of limiting the surge of current. The larger it is then the more it opposes the sudden change in current. Dimmer chokes are rated according to how long it takes for the current to peak, which is known as the "rise time." A longer rise time helps to lessen the severity of the mechanical and electrical stresses. Typical dimmer rise times range from about 250 μ seconds (microseconds or 10⁻⁶ seconds) to about 600 μ seconds. As you might suspect, bigger chokes with longer rise times cost more money.

The chopped up voltage waveform and its sharp transitions are what produce audible noise in a dimmer system. If you think about the mechanical structure of a filament

you'll realize that it's a length of wire suspended at both ends, somewhat akin to a very small guitar string. Like a guitar string, a filament has a resonant frequency and when the applied voltage has harmonics that are whole number multiples of the resonant frequency of the filament, then the filament sings like Pavarotti.

If the dimming noise is coming from the luminaires as opposed to the dimmer rack, then it's due to filament sing. On the other hand, if the noise is coming from the dimmer rack, then it's due to the mechanical vibration of the chokes. The magnetic field can cause the windings to constrict and relax at the same rate as the frequency of the mains voltage. That's what is known as magnetostriction. It creates a more steady noise while filament sing varies with the dimming level.

To squelch the noise, whatever the source, choose dimmers wisely according to the application. If the dimmers will be used in a rock concert then noise will not be as much of an issue as if they will be used in a production of an opera. For quiet dimmers, go with a high rise time of 600 μ seconds or more or choose sine wave dimming. Sine wave dimming

uses a special type of electronic switch like an field effect transistor (FET) or an insulated gate bipolar transistor (IGBT) and instead of turning the voltage off and on only twice in every sine wave cycle it switches on and off tens of thousands of times every cycle. It effectively varies the amplitude of the sine wave instead of chopping it up and creating a complex waveform. The output of a sine wave dimmer looks very much like a variac except it's much more efficient. And since it doesn't produce sharp transitions in the voltage then it doesn't need a choke nor does it cause the filament to sing. They are much quieter than a phase-controlled dimmer.

By using high rise or sine wave dimmer, safety cables to make sure the instruments don't crash to the ground, and gloves to change lamps so they don't explode, your lights will respect the quiet solitude of the theatre during quiet passages and beyond. Then you can dim your lights in quiet while avoiding dimming disasters.

Richard Cadena is an author, freelance lighting designer, an ETCP Certified Entertainment Electrician and Recognized Trainer. You can email him at rcadena@austin.rr.com.



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LIZA MINNELLI

Cabaret is traditionally an intimate style of performance, and you wouldn't think it would lend itself to an arena setting. CX went along to the Sydney Entertainment Centre to see if Liza could disprove this theory. She did so quite impressively.... By JIMMY DEN-ODEN

Liza Minnelli is truly a Broadway legend. Starting out in 1949 she starred with her mother, Judy Garland in the movie "In the good old summertime". Countless movie and live performances since then have seen her acclaimed with a string of high profile awards.

THE SHOW

Upon entering the arena floor, the first thing I noticed was that the show was entirely seated, and this lent a sedate sense of dignity to the event. The audience comprised everyone from the blue rinse crew through to the young trendies, be they hetero, metro or otherwise. Even the drag queens made an appearance. At the appointed time the house lights soon dimmed and the band appeared on stage. They started up and shortly thereafter, the irrepressible Liza Minnelli appeared and launched into song. Did you catch that? The show started when it was supposed to. First song completed, she paused to greet the band and the audience – her words and manner conveyed a genuine sense of excitement at being there. A sense of warmth spread about the room, and everything instantly seemed a bit "cosier".

Audio was clean and punchy but not overbearingly loud. You could hear everything in what was a well constructed mix. The band was all there, but not in such a way as to draw attention from the vocal performance, which was something special. Lighting was really simple, and as I see it that's a good thing. A show such as this really does stand on its own legs without needing any support from dazzling glitzy lighting. I could see everything I wanted to see, and wasn't distracted from it.

The entertainment centre is a moderately large venue, and those in the nosebleed section would have appreciated the two large IMAG screens which were set either side of stage. Much of Minnelli's performance is conveyed through body language, and especially facial expressions. The video cut really captured this well, shots were sensitively chosen and well framed.

VISION

Vision was directed by Dave Hendy and switched on a Panasonic AV-HS400 multi-format switching system. Sources included Sony D55 triax camera chains running SDI with Fujinon 20x1 and 70x1 lenses, as well as a Sony BRC-300 hot head camera. Barco SLM-R12 DLP projectors were fired onto 20x15 screens. Video production was supplied courtesy of Big Picture. Screen position was carefully discussed with the US production manager to ensure the audience experience was maximised whilst avoiding distraction to the artist.

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much as its practicality. Rather than use short lenses and position projectors near the screens, much longer lenses were used so projection could be done from the catwalk. This was to minimise fan noise and distraction to punters.

According to Dave the touring crew and management were totally professional and organised, yet at the same time easy going. This goes some way to explaining why he enjoyed the gig. The US crew were "blown away" by the image quality. "It gets a bit embarrassing at times, because although what we provide to such tours is local industry standard, I figure the US production are getting a little ripped off on their own shores. More than once I was quizzed if it was HD."

Whilst Dave had a degree of flexibility he kept a focus on cutting a clean and simple camera coverage. His justification? "It was exactly what was required to give the punters what they wanted. They came to see LIZA. That's what they got. Who am I to f*** with that."

LIGHTING

Phaseshift Productions supplied lighting production for the tour, and their rig included three lighting trusses and a drapes truss. The front truss comprised

16x 26° Source 4 profiles, while 12x Robe 1200 washes and 7x Mac 2000 Profiles populated the two stage trusses. The drape truss supported a white cyc, which was lit with 12x 4 way 1k ground rows.

Matt Berman (Liza Minnelli's production manager & LD) ran the show from a Wholehog II with wing, and programmed the CMY elements onto sub-masters. This enabled him to colour mix the show live, and run it "with feeling". Much as suspected, lighting was not about generating a standalone light show, but designed to accentuate the artist on stage.

Andrew "AK" Killengray, John Bamford and Jeremy Nolan from Phaseshift were the appointed system technicians for the show. They reported the tour was very low stress, and Matt was very easy to work with. It seems the sentiment was mutual - Matt's feedback was that the crew were "terrific at their jobs" and "also had a great attitude and I was never made to feel that anything I asked for was unreasonable".


AUDIO

Johnston Audio Services supplied audio for the show, which comprised a V-Dosc line-array FOH system, driven through XTA dynamic equalisers from the

Digidesign Profile system. The FOH system didn't appear overly large, and wasn't dominated (visually or audibly) by masses of subs either. FOH worked well - complimenting the show without drawing attention away from the stage.

The Yamaha PM5D at monitors was driving a total of 16 PS8s and four Wayloud wedges. Everyone on stage appeared happy, so I can only conclude that audio was handled as cleanly on stage as off. An interesting aspect to the monitoring was that even the drum monitors were quite small, but were set up in a position to get the best effect from them - mounted at head height either side of the drummer.

ALL UP

My expectations of this show were high to start with, and it was refreshing to see them met if not exceeded. Perhaps what I didn't expect was to hear about how well things went backstage too. It seemed like everyone had something nice to say about everyone else. Positive feedback from an overseas production crew on such a highly esteemed show is a really nice affirmation that Australia does indeed have world class crews and facilities, and that we also know a thing or two about show business. 



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With Julius Grafton...



BAND DEATH ACQUITTAL

Singer Jamie Hope from band The Red Shore was driving a Hiace Commuter north of Coffs Harbour in the early hours of December 19 2007. He fell asleep at dawn, and the van hit a tree, killing two men and seriously injuring three others.

He recently pleaded not guilty to five charges including dangerous driving causing death. The jury acquitted him of all charges.

This tragic case highlights the dangers of overnighting, they were headed to Sydney directly after a Brisbane gig. Far too many accidents happened in the bad days. CX remembers the Swanee truck crash in 1980 where Alan Dallow and Billy Rowe died – they didn't arrive at the gig and the shock reverberated across the industry.

Without commenting directly on this case, a band manager facilitating an overnighter is potentially exposed to serious possible charges if something goes wrong.

NOISE ABOUT NOISE

Last issue we opened the floodgates on the noise issue. Calls and emails followed, as you'd expect, and a lot of people went to ground.

"If you are correct about duty of care, why is it no venue I've been to has any kind of warning outside or on the tickets?" writes one. Great debate item, any venue with amplified music should consider a warning. The risk of litigation remains, but the warning demonstrates duty of care and may mitigate damages.

We expect venue warnings to appear soon, and to reflect the nature of each show. If an acoustic set is running, the warning should be different to that for a metal band.

"The CX SPL Calculator (CX Forums at juliusmedia.com) is great but where do we measure from?" was another. I pondered this at a kids gig I just did. I was reading 94dBA peaks at the sound desk. On the floor near the front I read the same, the PA is flown and distributed well.

The backline was isolated off the stage, the drums in a perspex cage, and the band all use in-ears. The SPL was very controlled, by design. At 94dBA, the calculator says 60 minutes before the exposure goes over. The music component of the gig was 30 minutes, we were OK.

INDUCTION SOLUTION!

A big mess of confusion in OH&S land involves the Induction. It is mandatory for any workplace where workers or contractors are entering a site. Essentially no one can enter any workplace unless they are either under the direct care of someone, or they have been inducted.

Sydney's Playbill Venues (Hordern Pavilion, RHI) have a fabulous online Induction system, general manager Michael Kent is a leader in entertainment safety. Once completed online (about 15 minutes), an induction pass, valid for 18 months, is created. It is a great solution for the problem of many contractors coming and going. Check it:

www.playbillvenues.com



The nature of the advice given here is general. Do not rely on this column, and do refer any questions you have to legal counsel before imposing any changes to your venue, job practices or workplace. This column is not legal advice, and should not be taken as such.



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IDOL GETS A NEW LOOK

Australian Idol gets a bold new visual feel as new media servers and more cost effective LED screens allow more eye candy for less money



By **JULIUS GRAFTON**

Television's brightest show is usually whatever Francesco Calvi is lighting this season, and the end of 2009 saw Australian Idol almost leap out of the TV every week.

Producer Greg Beness wanted a big look and for once he got what he wanted for realistic money, thanks to some developments behind the scenes. The show is complemented by three kinds of LED screens – one high definition screen centre upstage, one light up dance floor, and eight vertical screens arrayed into a

semi circle that frames the set.

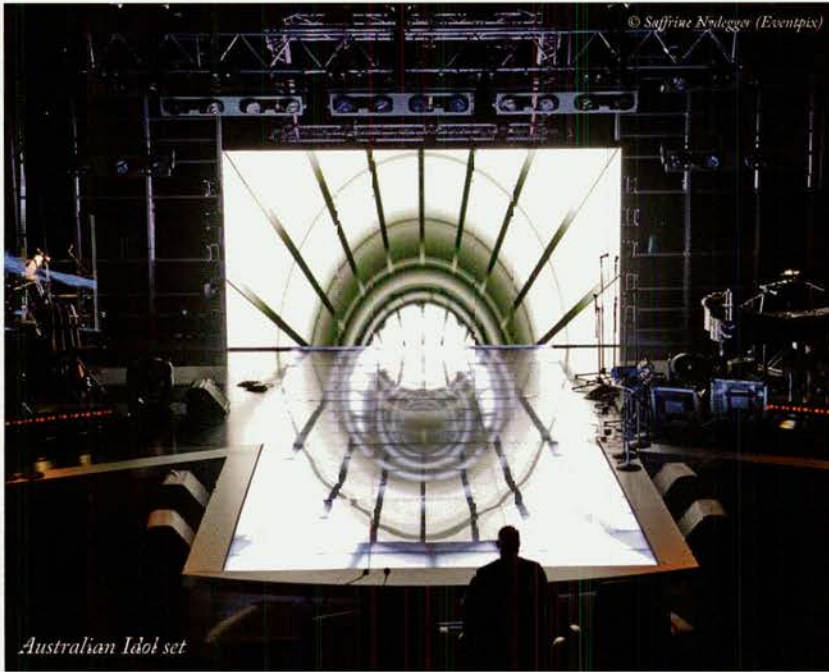
Calvi is very tech savvy as he stays on top of trends. This year he switched away from Catalyst media servers in favour of ArKaos's new Media Master.

"I am using 2 Power Macs to give me 3 video feeds. The first Power Mac is feeding the 6-mm main screen and the 18-mm video floor. I decided to run these 2 feeds off one machine as they work very closely together: the content at times needs to flow from screen to floor as one image and, as they are different format screens, I needed to be able to control each screen separately.

"The second Power Mac is feeding the side screens - 16 columns of 25-mm screens - which is treated for the most part as one screen. Both Power Macs are controlled via a GrandMA.

"One of the great things for me has been its ability to slow playback speeds right down, without the content becoming unusable. To be able to slow media down this much gives me the choice of a greater range of media, rather than having to rely on media which is the right speed for the song.

"There are plenty of effects in MediaMaster that are all very usable. I



Australian Idol set



© Saffrin Nydegger (Eventpix)

have found these to be a great way of breathing new life into old content. Getting new content is both expensive and time consuming so it's nice to modify old content with these effects to create new looks."

ArKaos has also added a contrast and brightness master to its latest software.

"This feature is essential for anyone working with LED screens. Contrast is also available as an effect, but the ability to use it as an attribute frees up the effects and it is particularly useful with the low res screens where the image is not as detailed.

"Having frame blending as a feature that can be turned off/on depending on the requirement is also a welcome addition. It works extremely well and has helped to smooth out some less than perfect media."

The screens themselves are mostly from VuePix, with the exception of the 6mm pitch centre screens which are Barco i6 (black). This screen meets the video floor which actually continues a little further upstage, beneath the main screen.

"I have managed to match these up, so I can send the same program to each and it appears to be one feed", says Calvi as he shows me the two discrete feeds on his monitors. Our pictures show this to good effect.

The floor is made up of 70 panels with 18mm pitch, while the eight columns comprise 160 panels with 25mm pitch. These and the Barco main screen all come from Technical Direction Company, whose CEO Michael Hassett waxes lyrical about the VuePix.

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Idol LX op area.

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Michael Hasset
with Francesco
Calvi and vuepix.

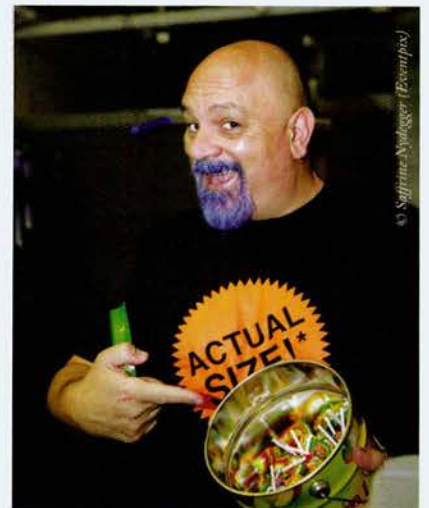
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“If we had teething problems last year, it was sorted out”, he reports. “There were some cable issues, but now all is good.” The capital cost of the VuePix panels is dramatically less than the Barco product.

As for the rest of the Idol rig, Calvi shrugs. There are three GrandMA consoles driving the lights, which came from Chameleon. “We have some Kinesis motors on the trusses to reposition them during the show for more interest. And for the first time I have a second operator on his own console, Gavin Wright. This is because the hosting has evolved, there are all these little locations during the show that need light.”

Calvi thinks the lighting industry may be emerging from a dark decade where younger designers have abused the ability of moving lights to move. “Those who depend on the effects engine”, he sneers. “Someone actually said to me that I don’t make the light move enough. Even Gavin wants to make some more movements over the band, I yell at him “WHAT are you DOING?””. The master has spoken.

In the show Calvi crafts massive looks that mesh lights and graphics on screens to surround and enhance the acts. It’s so stunningly successful that host Andrew G says without Calvi, the show would just be radio. **CX**



© Saffrine Nyuegger (Evepix)

PARKY

THE ONE MAN SHOW

CX takes a quick look on a rainy Sunday night

By JULIUS GRAFTON

Proving that much great entertainment sits on the shoulders of one, Sir Michael Parkinson brought his show to the region in Spring. CX saw it at the Sydney Opera House.

One hat stand, one hat and one coat are the props required. A grand piano is there for one number, performed by special guest Andrew Bevis. The show relies on the projection screen and replays of the signature interview moments from the host's career as a TV interviewer and journalist.

He walks on to a complementary lighting state, remains standing and talks to the audience. The quiet authority and charisma to do this are crafted

from DNA that makes a brilliant communicator. The clips span several decades and besides showing his subjects in a different light they are all glued together with Sir Michael's charm and interest in his work.

Technically the show is not demanding but if a clip doesn't roll or if the audio stops, the show would also stop. Commanding this is technical director Peter Herbert. Calling the video cues and lighting is Ken Roach, who doubles as production manager.

Once the show is over, the opera house crew reset the stage in minutes, Ken Roach collects the DVDs and tapes and is out the door. Next stop: Canberra. The show has worked most major towns in Australia, and New Zealand. **CX**



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DAMIEN OXLEY, LIGHTING DESIGNER



Who do you work for, yourself or a company?

I started my own company, Big Gold Star Productions, 8 years ago.

I have always worked for myself or directly for companies, promoters and artists.

How did you get started? What's the career progression been for you?

I started lighting when I was 16.

My sister and brother were in a band called The Sparklers and they asked me if I wanted to flash some lights for them at the Harold Park Hotel. Graham Walker, who normally lit them, was more involved with the stage side of things so it gave me an opportunity. I had an instinctive understanding for lighting straight away.

Back then Electric Sunshine was the only company small players could get gear from. I would get a cyc and some colorset scrollers and off I would go to the Trade Union Club, the Piccadilly Hotel, the Sydney Cove Tavern, the list goes on. There were so many different venues to explore.

I worked for A1 Audio for a while and picked up a few tours with them. Touring was a 6 day week, RSLs to Workers Clubs, Bowling Clubs to big city venues, and very little money. My 18th birthday was spent operating followspot for Jon English at Dapto Leagues. Not a claim to fame but one of the stepping stones.

My 20's saw a lot of touring, either with bands that A1 had picked up or ones I had met along the way. I worked with the Clouds in 1991, which was the start of the way up.

Then came The Cruel Sea, *The Honeymoon is Over* was a big commercial hit and we toured for quite a few years as they tried to break into Europe and the US.

When we opened for Nick Cave and the Bad Seeds in Europe, I realised where I wanted to go next.

I submitted a design to The Bad Seeds' management for the *Let Love In* Australian tour in 1994 and was accepted into their entourage from that tour.

I had a year or so with Powderfinger after Odyssey Number Five. I liked them but it came to a decision between them and Nick Cave. I opted for Nick and am glad I made that decision.

I have also worked on and off with Chameleon Touring Systems since 1991. They have been good to me and I have been good to them.

I worked a 4 year stint at the Sydney Town Hall as lighting Operator for all their shows. I enjoyed this time, especially giving School Gala Concerts something more than what they were used to.

I am currently still designing and operating for Nick Cave and The Bad Seeds and Grinderman and am an Account Manager for Chameleon.

What does a typical week involve for you?

A week at home currently involves caring for my 3 children together with working at Chameleon. On Monday and Tuesday I can drop the kids off and get 5 hours in at Chameleon. Working all day Friday as well gives me enough time to manage some accounts and take some pressure off the permanent staff.

This can change on a dime - I have had a call on a Thursday and been on a 3 week Australian and NZ tour the following Monday.

A touring week is much longer! A typical couple of days on our last tour involved waking up in London, flying to Moscow, arriving in Moscow at 11 at night, dinner with the band, bump in at 9 in the morning, all local production. The stage crew often don't know where to put stuff to save room. They're only concerned with setting up an amplifier or

drumkit and there can be big problems on a small stage with the amount of equipment the Bad Seeds have.

So I direct what we put in and where; speak with the local lighting supplier in any communicable way, focus lights before lunch, program all afternoon, 45 minutes at a time then go for a walk to clear the head, come back and continue this process until the band turns up for sound check.

Maintain a comfortable atmosphere for the band during sound check, then keep programming, have dinner, Skype the family, have a beer, do the show, have another beer, get back to the hotel to be ready for a 5am call to fly to St Petersburg.

Continue this pattern for 4 more days, then lie down for one!

Biggest challenge in your role?

Being able to interpret what a client wants without them telling me what they want.

Managing time so that you still have a life apart from your work.

Most enjoyable aspect of what you do?

I love to light and when done well, it really makes a difference.

I love to teach young upstarts what lights used to be like.

I like to make a performer feel comfortable on stage, if they feel comfortable it helps bring out their best performance.

Any funny stories?

I was travelling with a band in Europe.

The tour bus stopped and we all got off for a wee and a coffee.

When we came out the bus was gone.

We sat on the side of the Autobahn for 6 hours with no money, no passports and no idea what to do.

Eventually the bus pulled up in front of us.

We all got in without a word. We were all too mad to speak.

Later we found out the driver had got on the bus and because it was so quiet, thought everyone was asleep so he took off.

He only realised at the hotel that the bus was empty.

Got a favourite lighting trick you'd like to share at all?

As a member of the Intellectual Property Borrowers Association most of my tricks

are renditions of others therefore I would be lying to say it was my trick.

I believe less is more.

The philosophy I follow is to present an artist in the best possible light (sorry!) rather than competing with the artist with whiz bang gadgetry.

Everyone's seen moving lights move. It's very nice to see one sit still for a moment.

Anyone you look up to?

Roger Barrett was an excellent Lighting Designer and a great teacher. He always had time to explain how he achieved any look, he was the supreme in simplicity and it always looked great.

I also respect and admire Tony Davies. He has been a great guide and has always pushed me, for which I am eternally grateful.

It is truly amazing how Chameleon has grown since I started with them.

Any tips for the new generation getting into the industry?

Try starting from the start and not from the end.

In the beginning you had to pick a gel to go in front of one light to go in one direction, whereas now lights can go in any direction. This meant that there was

a lot more thought going into the process in the old days. You need to think about where something needs to be to maximise its effect, not rely on it being a moving light.

If you want to be good at lighting you need to understand the fundamental concepts, as opposed to being an out of control robot from *Lost in Space* (Warning, Will Robinson!) sending lights in every direction. Anyone can do this.

Lighting was quite simply simple to start with.

Things have changed to give more flexibility with instruments but things you will need to know are that a 5 degree lens tube will be something you use from a long way away and a 50 degree lens tube is used when very close and in between these are many variables.

This is one of one thousand things to learn before you get to moving lights.

High Points?

Nick Cave and The Bad Seeds, Cockatoo Island, January 2009. A show where everything was aligned perfectly, the band played incredibly, it sounded great, it looked great, my wife and children with me up the FOH tower watching the show while I operated. It was this moment



where my children suddenly understood what I do when I disappear for 9 weeks at a time.

My wife's high point was being picked up by limos on the tarmac after a charter flight into Finland. In fact it was bad for her to see that, as now she thinks it happens all the time.

Low Points?

Carols in Canberra 2001. Two days rain, nothing pre-programmed, technical problems for days.

Then the show started.

It was like operating naked in front of a few thousand people.

But you always learn things the hard way.

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THE SPORT OF KINGS?

FUN AND GAMES ON THE SAIGON QUEEN

By DUNCAN FRY

Horse racing is often known as The sport of Kings. To be more accurate, the complete quote is 'the sport of fools and Kings'. Quite a different kettle of fish. I think it is from Shakespeare, Henry V, although I could be wrong.

A quick Google around the net indicates that just about every sport calls itself the sport of kings – even fox hunting! Yeah right - I'll call that a sport when the foxes chase the dogs.

The recent Melbourne Cup – the Race That Stops a Nation – should be an example of horse racing at its finest. However, even the most devout racing enthusiast would agree that for every true devotee of fine horseflesh that attends, there are a hundred more who go there to (a) get mildly drunk and be seen, (b) get very drunk and hopefully not seen, or (c) get absolutely legless and have to be hosed out of the toilets by Kenny or one of his mates!

I didn't go to the Cup this year, or any other year for that matter, apart from once in the past. Actually it was a fair while in the past; 1976 to be exact, the year it rained so heavily that the race had to be postponed for the first time ever. So much rain that it was impossible to get over to the betting ring to put my ten bucks on Van Der Hum, the eventual winner.

I went as a crewman on Peter W's (names changed to protect the editor) tramp steamer. Good old Pete had a finger in every pie, and was of a size that led you to believe he'd eaten a dozen of every one of them. He also ran a Big Band, playing at balls and formal functions. A local newspaper pic of the band was headlined – "They're all-round entertainers", or to be more exact, given the size of most of the members, "They're all round entertainers!" To paraphrase P.G. Wodehouse 'a lifetime of long lunches had caused their chests to slip down to the mezzanine floor!'

The band played the typical collection of standards that all the bands played at these things. Stuff that your grandparents might have waltzed around the floor to.

Well played, I should add, as the musos in the band were all very skilled players, but not the stuff that got anyone really fired up. I had the job of coming onstage at these functions and playing a bracket of slightly more modern music, for those in the audience who were under the age of 80. Yes, soul destroying stuff, I know, but it was easy money!

One of the other pies that Pete had his finger in was the aforementioned tramp steamer, a motor boat that people could charter for special occasions. Fishing trips, parties, beer-a-thons, romantic getaways with thirty of your closest friends, that sort of thing.

Rumour had it that he had bought the boat from an auction in Darwin, where it had been sailed there by refugees from Vietnam. Most likely untrue, but who knows? So, instead of The African Queen, we promptly nicknamed it The Saigon Queen!

On the occasional weekend when there were no gigs to play at, I would act as a crew member and general dogsbody on board the Queen. It would chug around Port Phillip Bay for a few hours with music blaring from his onboard sound system while people got drunk and overloaded the toilet (please note the singular case of that last word). Hours of fun for everyone, especially the poor bastard who had to clean it out.

Anyway, after one gig Pete turned to me and said "Dunk, are you doing anything on Cup Day?"

"No," I replied, "I'm just hanging around and relaxing. Why?"

"Want to go to the Cup and get paid for it?"

"Sure. What are you doing?" I asked

"I'm taking a bunch of socialites to the Cup on the boat. We'll cruise up there, have a bit of a party onboard, then drop them off and pick them up after the race."

"No worries," I replied, and agreed to meet him bright and early at Brighton Pier the next Tuesday.

Flemington Racecourse is situated on a bend on the Maribyrnong River, which runs into the bay. These days, going by boat is one of the best ways of getting to and from the Cup, as you don't have



to scabble for a train seat, or drive over someone to get into (or out of) the car park. Now the river is filled with a huge flotilla of boats doing the same thing, but back in 1976 there were only a few of us.

Tuesday dawned, and the weather was not good - overcast and threatening to rain as we carefully helped the passengers on board, the ladies dressed in their finest Fashions on the Field outfits, the men clutching their Eskies and staring ominously at the sky. Once we had pulled away from the pier, 'Pop' went the corks of several champagne bottles, and the Saigon Queen's Cup Party got under way.

As we got out into the bay there was quite a swell, and the boat started to pitch and roll as a fierce wind started to blow. So no-one ventured out on deck for fresh air, but stayed below decks in the saloon cabin, hoeing into the lunatic soup and getting rather pickled.

After about an hour or so we turned into the river, and the water was a lot calmer. Pete steered the boat towards the riverbank as we approached the racecourse, and I leaped ashore to tie up to a post.

The gangplank was rolled out, and the first of the ladies cautiously made her way down it, wobbling erratically due to the combination of alcohol, high heels and the first drops of rain.

Her foot slipped, and with an "Aaaagh!" and a Plop sound she ended



up knee deep in the water and mud! Just then the skies opened with a vengeance, and rain bucketed down.

"I'll give you a hand," yelled another one, leaning over towards the first. 'Plop' in she went as well, the two of them sloshing their way towards the shore, laughing their heads off as they went. A couple more joined them in the mud, before the rest of them wisely took off their shoes as they lurched unsteadily down the gangplank. By the time they all reached the entrance to the course they were soaked to the bra straps, but laughing happily to themselves while swigging on bottles they had stashed in their bags.

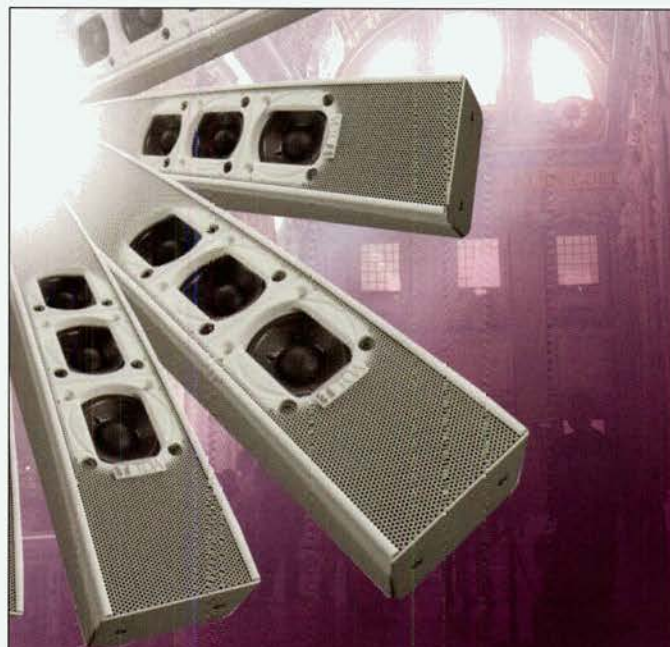
The men stayed on board for a while, watching the weather, then made a collective dash down the plank as soon as there was a break.

Pete and I stayed on board, nattering and finishing off the champagne, then ventured out to put on a bet. It was then that the rain came down so hard that the Racing Club postponed the race for an hour, so bet-less I made my way back to the boat where I could get warm and dry.

After the race finished, the passengers slowly filtered back to the boat, muddy, cold and wet and not quite as happy as they originally were. Hot coffees all round warmed them up a bit, but even Pete's worn out cassette of Ripa '76 couldn't bring a smile to their faces.

So that was my one and only visit to the Melbourne Cup. Maybe I'll go next year, though, as it's the 150th anniversary. I'd better ring Pete, too, and see if he's still got the boat!

While searching for the origin of the 'sport of kings' phrase, I came across this amusing quote from Bert R. Sugar: 'If horse racing is the sport of kings, then drag racing must be the sport of queens.' Ho ho.



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KELLY'S CATALOGUE

You'd need to have been in a pretty deep hole not to notice Paul Kelly's contribution to Australian music. After thirty-odd years of songwriting, he's started on an ambitious new project.



By **STEPHEN BRUEL**

Paul Kelly is a legendary Australian singer/songwriter, having captured the essence of the nation's cultural landscape over the past 30 years with hits including *Before Too Long*, *To Her Door* and *Dumb Things*. With such a vast body of work, the upcoming Kelly A-Z project to make his catalogue free for download from his website, required a complete remastering of 100 or more songs. Sydney-based Damien Gerard studio's The Red Stairs mastering suite is currently undertaking this long-term project with Andrew Beck at the helm, and are currently up to the letter 'T'.

"Andrew has been doing a great job on this long term mastering project," said Kelly. "Every month I send him a batch of live recordings from different sources to master for download from my website. I plan to release most of them on CD to accompany a book I'm writing which will be published late in 2010."

BACKGROUND TO BECK

Born and raised in USA, Beck's previous recording and mastering highlights include working at Bad Animals Studio in Seattle. As an intern, Beck met and worked with bands that were recording there at the time including Soundgarden, Screaming Trees, Mad Season and Pearl Jam. Moving to LA, Beck worked with artists Mother Tongue, Rilo Kiley, Quincy Coleman and Alien Breed, and companies MCA Music Publishing and Trauma Records. A chance meeting with Damien Gerard managing director Marshall Cullen brought Beck to Sydney in 1999 where he has since worked on projects featuring Grinspoon, Epicure,

Mental As Anything, Tex Perkins, Josh Abrahams and Amiel to name a few.

"I've been interested in audio since my first band in 8th grade, and have somehow managed to extract a career from that interest," said Beck. "I'd been planning on a move to Sydney from L.A. for about a month when, late in 1999, my roommate at the time met up with Marshall in San Francisco while they were both doing live sound on the same show. Phone numbers were exchanged, and when I got here I was able to get a start more or less right away."

THE STUDIO STORY

Damian Gerard studios, situated close to the CBD in Balmain, has been in the recording business for over 20 years and a great place to get acquainted with the Australian music scene. With a who's who of the Australian pop and rock landscape as clients (INXS, Midnight Oil, Hoodoo Gurus, Rose Tattoo, Radio Birdman and The Church – just to name a few), the facility offers a recording environment consisting of a classic combination of old world analogue and the latest Pro Tools digital recording equipment. Furthermore there is an in-house production team, the independent record label Foghorn Records for unsigned acts, and some of the best engineers in the country.

"The studio has always been designed to be as comfortable as possible for artists and the most conducive to creativity," said Cullen. "This philosophy came first and we have built everything else – the label, publishing, distribution, media servicing and 'soundslikecafe' from that base."

According to Beck, Cullen saw a gap in the market for good mastering on a budget and The Red Stairs was created. Although not purpose built to be a

mastering suite and still used for other activities including music pre-production, voice-overs and overdubs, the company focused the set-up accordingly.

"In order to keep costs down, we've only really been able to splash out on gear that can be used for many things – namely the ProTools HD1 system," said Beck. "This also meant keeping signal chains short and simple, sound quality high, and all the while making the room as versatile as possible. We can master, mix, overdub... almost anything that needs be, all with the one system/room."

HARDWARE AND SOFTWARE

The core system is a ProTools HD1 set-up running off a quad-core Apple Intel Mac Pro with 6GB of RAM. An Apogee Rosetta 800 24 bit 8-channel AD/DA converter sits at the front end, with a set of standalone dCS converters available for A/B testing. A Digidesign 96 I/O audio interface provides extra channels if required. At the control centre sits an Allan & Heath MixWizard console, specially chosen for its compact size coupled with great sounding microphone preamplifiers and EQs. The main monitoring is conducted through either Behringer Truth 2031As, or Yamaha NS-10s powered by a Crown 'K' series amplifier. There are also various other sets of speakers available for different references. The room also comes equipped with key plug-in bundles including AudioEase's Altiverb, the McDSP Classic Pack and a few others.

"Admittedly, most big budget mastering studios tend to have tens (if not hundreds) of thousands of dollars' worth of analogue gear, and that's great if you can afford to go to one, but since



Andrew Beck is by no means limited to working digitally.



Working in the digital domain means a smaller mastering suite.

we've started doing this we've discovered that there really is a sizeable market for low-cost mastering," said Beck. "The Red Stairs is, for the time being at least, all digital mastering which has actually been great. In a perfect world, we'd of course just have all the great expensive outboard gear and still have reasonable rates, but sadly that's just not how things work! The important thing is the end product, which I believe stands up really well."

THE PAUL KELLY PROJECT

For the A to Z project, Beck received all of the songs on CD. All songs were live tracks featuring mainly just a single acoustic guitar and a vocal, with a few others as solely a Capella arrangements. With a brief from Kelly to '...just bring up the volume a bit, and don't make it too bright', Beck set about the task.

"At the beginning there was a bit of tweaking to try and find the right approach," said Beck. "With Paul's brief I had to rein the tops in a little."

Beck started with multiband

compression for the broad strokes, some EQ (usually a mid/side matrix with other EQ/compression), and then just a touch of loudness maximizing on the end.

"I find the key to getting things loud without sounding too compressed is several compressors/limiters all doing a little bit," Beck said. "Where one compressor working hard is quite audible (and usually terrible on a full mix), four of them sharing the load really opens up the sound, while still making things loud enough."

According to Beck the placement of EQ in the signal path is important as well, particularly as the songs were originally recorded during different concerts, in different spaces and on different equipment.

"If there's a track that needs a fair amount of bottom end taken off, you almost always want to do that before the compressor, otherwise you end up with a limiter choking on stuff that's not even there in the end," said Beck. "Each session/song ends up being a little different though, as these tracks have

been recorded in many different venues, through many different systems.

Beck was also concerned about the effect mp3 encoding would have on his final masters, particularly the side chain information, as all of these tracks are destined to be released in mp3 format.

MASTERING MP3


"I send them as mp3s which I know are not ideal for mastering and some of them are pretty rough," said Kelly. "They all sound different to each other. But it's the same guy singing and playing guitar. So between us we manage to make it reasonably coherent. We will have worked on over 100 songs by the end of this year. Each batch of songs have only been available for a month at a time."

Beck used a mid-side matrix for mastering where you combine the left and right channels 'in-phase' for the middle, and combine these channels polarity-reversed for the sides.

According to Beck, what you end up with is essentially a mono mix on one channel, while the other channel has all the information that is in either the left or the right side, but not both. This can then be processed and matrixed back into a standard left/right pair. This allows you to make adjustments to the centre or middle of a track independently of the stuff on the edges and vice-versa. You can widen (or narrow) the stereo image, and sometimes even focus in on specific instruments.

"Mp3s do really awful things to music in general, but the encoding is especially brutal on the side-channel information," said Beck. "Listen to some mp3s in mono with one channel out of phase sometime – it's an eye opening experience."

With plans to install a second ProTools rig into the room to accommodate adding analogue boxes into the mastering process as budget allows, The Red Stairs is certainly a great investment for artists after great sounding mastering at an affordable rate. As for Beck, the A-Z project has offered a further insight into Australian contemporary music composition and performance, and the catalogue of one of its very best exponents.

"Not having grown up in Australia, Paul wasn't really a part of my musical landscape at all until I moved here about 10 years ago," said Beck. "Being able to work on and properly listen to what essentially amounts to Paul's songbook has been amazing. I've always been a fan of good songs, and since starting this project, it's pretty obvious to me why Paul is such an Aussie music icon." 



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HOT TOPICS

We all heard about the White Kittens on a Persian Rug and no brown M&M's on concert riders, right? Rapper Jay-Z's management proves there is still no reality when drafting these idiotic demands. In this case, a client stood up to them. [Read here.](#)

Best House System in Australia! Once again it's on CrewSpace, so you need to join to read. But if you're a tech, you should join. [More here.](#)

Video Sharing – a basic but handy article, and a whole lot more besides is at HowStuff-Works. [More here.](#)

Classic story: The Problem With Music, by Steve Alkimi. Funny but real. If you wrestle with musicians, managers and record company flunkies. [Go Here.](#)

Video Sharing – a basic but handy article, and a whole lot more besides is at HowStuff-Works. [More here.](#)

FEATURE DEVICE OF THE WEEK



Cop this baby from RADIAL: the JDI Duplex. Probably the most versatile DI box on the market. Now distributed in Australia by Amber. [More here!](#)

PRODUCT REVIEWS



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INDUSTRY DEBATES TRADE SHOWS

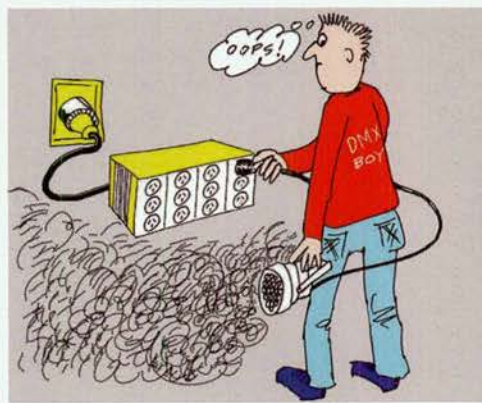
The Australian Audio, Lighting, AV and Staging suppliers have united for the first time to call for a debate on the trade show landscape, following three trade shows staged in Sydney in July. The addition of an annual Integrate trade show in Sydney, at a time of economic downturn, has polarized the industry. Despite this around 80 firms exhibited at the Integrate event. [More here!](#)

SOUND GUY SHOT DEAD

It happened when Tom Plaeffe put his key in the wrong hotel room door. The guy inside opened fire through the door at the Blue Spuce Hotel in upstate Washington. The sound engineer died outside waiting for a medic. [More here!](#)

CEDIA ANNOUNCE ENTECH TRAINING

The Imaging Science Foundation seminar hosted by CEDIA and designed by Joel Silver, attracts attendees of differing backgrounds. From broadcast executives, AV dealers and distributors to video systems engineers, each person will come away with a new perspective on electronic imaging. Only at ENTECH 2010, February. [More here!](#)



CX MYSTERY PHOTO



OK, just like last week only different. Who is this band, and where are they performing? Hits: It is in Australia, and it is in the 1970's. The winner gets a prize! Email juliusmedia@me.com

Last week's picture (LINK TO CXN1) WINNER! Pete Sneddon correctly identified NARARA ROCK FESTIVAL in NSW as the gig. The 200 Par Cans and not a mover to be seen anywhere kind of sets the scene. Pete has won this fantastic prize, Pro Headphones from AT valued at \$135. [More head/phone info is here!](#)



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SoundEarPRO

The SoundEarPRO is a wireless noise level logging system which interfaces to a computer and is capable of displaying historical and real time measurements.

By JIMMY DEN-OUDEM

The brain of the system is the ProController, which both stores the captured data and interfaces to the PC over USB. The ProController is fed data from the ProSampler units over wireless connection, the sampling units just require power which is supplied by a small switchmode power supply.

We tried out the Basic 1 package, which came with one ProController and one ProSampler plus the requisite leads. The controller and sampler units both look identical – something akin to a Star Trek logo (or so the nerds tell me). There's a slot on the back of each unit which mates with the included wall mounting brackets. The system is packaged in a nice little plastic case with foam inserts, and it's all rather well protected.

Other options in the range are the Basic 2 kit which adds in additional sampler units, and the Entertainment version which only has one sampler, but does include a wireless display panel which links to the sampler. When the user settable limit is exceeded on the sampler, the display panel illuminates with a red warning. The display panel is large enough to be installed visible to the audience.

THE SOFTWARE

The Windows based software was included in the kit we tested, however I downloaded the latest version before testing the system. I had to install the new version on top of the old one, but once I figured this out the rest was easy. Run the software, plug in controller to USB port, plug in samplers to power. Everything found itself and started recording levels immediately. I tested it on a Macbook running BootCamp, though I suspect it would work just as well on a PC branded PC. You can re-name the controller and the individual sampler units to correspond to their locations if you choose.

Once the system is set up and running, you can actually disconnect the PC and take it away thanks to a "Y-cord" type USB lead which powers the controller





WHERE TO MEASURE FROM?

We had some questions about this in response to the previous issue of CX, where we discussed noise levels. The clear answer is that there isn't one definitive answer for all situations. Factors such as PA system design and stage sound levels will affect noise exposure, as will

something as simple as how loud the punters are talking!

An important point is that the noise exposure standards are based on the exposure of individual people, and this makes plenty of sense when you're dealing with most industrial noise. Because workers are performing defined activities in defined locations, individual exposure measurements are achievable. In an entertainment venue, people are more likely to move around so it's more difficult to work out.

The logical answer is to take your measurements where most of the people spend most of their time.

In a live performance venue, it's not unreasonable to expect most punters to spend most of their time where the show is happening, with the occasional trip to the bar. In such a situation, measuring from slightly behind the middle of the crowd could reasonably be expected to give a fairly accurate simulation of average exposure a punter receives. Nightclubs and the like tend to have distributed sound even in bar areas, so in this situation it would be more reasonable to measure from the side of the dance floor,

unless of course the centre of the dance floor is significantly louder.

Measuring from the mix position is a good option if it's located in the midst of the majority of punters. The key thing is to remember that your audience will move around, so you need to factor this in when taking measurements. When taking this into account, the benefits of having a system in place which allows simultaneous measurements from multiple locations start to become clear.

The best suggestion is to carefully determine what's appropriate for your situation – the advice above is only general and may not suit your requirements.



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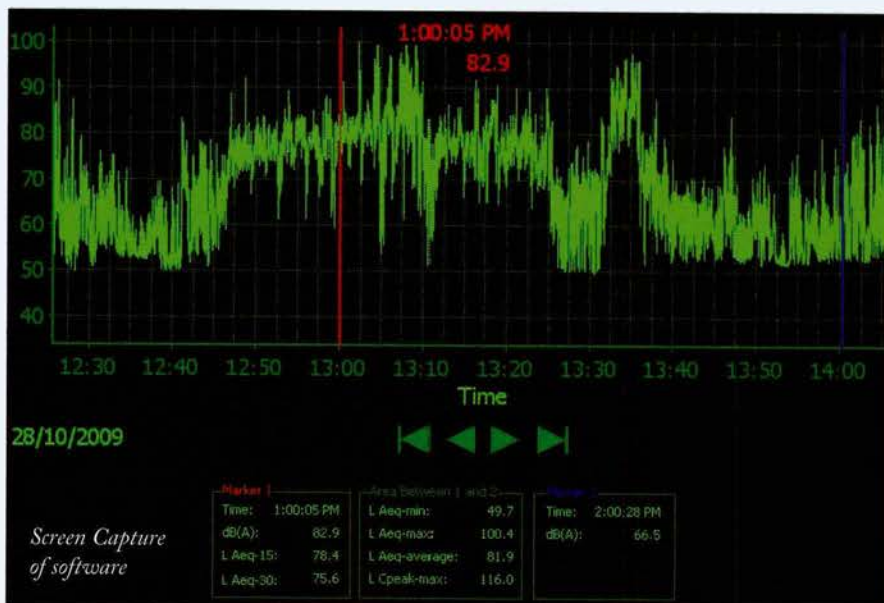
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unit. Re-connecting, the controller downloads data in reverse chronological order to the computer (so it starts with the most recent data and fills in the graph going backwards). Transfer is pretty fast too. The claimed range between controller and sampler is 70m, so it should be sufficient for most medium sized venues with clear line of sight. I managed to use it through a stud wall and a wooden floor.

While running, LAeq and LCpeak are measured and stored every second. The current A-weighted SPL is displayed for each sampler at the top of the window, and below this a graphical representation of SPL levels over the past 8 hours. You can zoom in on any part of the graph by high-lighting left to right, and going right to left removes the zoom. The zoom takes you into very detailed timeframes

– resolution is counted in seconds rather than minutes.

If the sampler goes off-line, the time for which no data was logged is shown as a straight line. Finding out average exposure over a certain period of time took a little figuring out, but in the end it was quite simple. Switch on the markers in the main graph window, then drag them about until they cover the time period you're interested in. A box below shows the data only for the area between the markers.

LISTEN UP

If you're a tour manager, venue operator or a sound engineer then the SoundEarPRO system could be a very easy way to ensure you're exercising your duty of care concerning sound exposure for colleagues and punters alike.

Other applications include compliance to Council noise restrictions, and even sound level monitoring in day-care centres.

The software did initially take a little bit of figuring out, which was annoying since there's not much to it. This said, once you jump this relatively small hurdle the system works really well and does exactly what it's designed to. **CX**

BRAND: SOUNDEAR

Model: SoundEarPRO
RRP: Basic 1 kit (Controller and Sampler) - \$3,300. Basic 2 kit (Controller and 5x Samplers) - \$7,700. Entertainment version (Controller, Sampler, and Display unit) \$3,850. All systems include software.
Product Info: <http://soundear.com>
Distributor: <http://www.fitnessaudio.com.au/>

CDA RM30L RIBBON MICROPHONE

Control Devices Audio specialise in high end studio gear. The RM30L is the first of a new range of microphones to bear the CDA badge.

By **ANDY MACKENZIE**

Ribbon microphones were developed fairly early in the history of audio recording, and have remained largely unchanged ever since – there's only so many possibilities for improvement in something this simple. The ribbon is currently enjoying something of a resurgence, and most studios contain at least one.

WARM VS WOOLY

Lots of people will be happy to tell you that the ribbon's claim to fame is its 'warmth', but this doesn't mean they have to be dull or wooly. The distinctive sound of ribbons, for me, comes not from low end warmth but from the absence of high mid and high frequency harshness or brittleness found in many condenser mics.

Like other ribbons I've encountered, this one is smooth and clean across the

audio range, offering clarity without sounding in any way unnatural. It also presents no self-noise and needs no phantom power – in keeping with the simplicity of the ribbon concept the mic uses passive transformer coupling to beef up the output level and impedance. The transformer used is a high-quality Lundahl unit, and if it does add any coloration to the sound it isn't unpleasant.

The RM30L has plenty of potential as an all-purpose mic, but I think it would really shine used for vocals or acoustic instruments with complex harmonic character. Proximity effect, as with any other figure 8 microphone, is pronounced – very useful as long as you plan for it. I'd recommend using a popscreen, as ribbons are particularly sensitive to wind damage.

BUILD AND FINISH

It's built like a tank, but finished rather better. The brushed metal finish looks great and it's got a reassuring mass. The weight of the mic leads to my only gripe with the setup – the shock mount is one those big elasticised sprung things, and it relies on the tension in the elastic to hold the mic in place. Which might work if



it weighed a bit less. Currently it slides down until it's hanging by its head. I'm assured a revised mount is on the way.

Some mics come in a wooden box, others in an aluminium case thing. This gets both – a wooden box for the mic inside an aluminium case that also has a spot for the shock mount.

IN CONCLUSION?

CDA have taken a simple thing, and done it well. It looks good, sounds good, and doesn't make my eyes water with the price. **CX**

BRAND: CONTROL DEVICES AUDIO
Model: RM30L Ribbon Microphone **ERP:** \$770
Product Info: <http://www.controldevicesaudio.com>
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LSC REDBACK DIMMERS

The Redback you probably won't mind finding in your dimmer room!

By JIMMY DEN-OUDEM

The GFC has given many folk a reason to pause before investing in new equipment to consider whether or not they can really afford it, and if such an investment will make a return. LSC aim to answer these questions with their range of Redback digital dimmers, aimed at delivering more dimmer for less money.

THE HARDWARE

Redback dimmers are available in 6 or 12 channel versions, with each channel capable of supporting a 10A load. For touring work, the suggested configuration is 2RU high with breakers and control panel on the front, and 3 phase inlet and dimmer outlets on the back. Weiland and Socapex output options are also available.

Fixed installation users may prefer the other variant, which allows the dimmer outlets to be separated from the physical dimmer itself. The dimmer is supplied with a remote outlet panel – just specify how long you want the extension loom. So it's easy to integrate your dimmer outlets into a patchbay whilst keeping the dimmers in an adjacent rack. There's also a 4RU variant with front panel outlets and reversible rack ears, which means you can bolt it straight into the wall in installations without racks.

Control is via 5 pin XLR input and loop through, and an SD card slot allows you to perform software upgrades. Build quality is good – the units are really solid but they pull it off without being unmanageably heavy.

TALKING OF SOFTWARE

All digital dimmers let you choose a starting DMX address or address block. Redback takes this a step further, with individual softpatch for each channel, as well as multiple dimmer curves too. There's even a curve which limits the output at 120v. 6 programmable scenes can be stored and recalled, as well as chase sequences with variable speed playback – so for simple bump-ins where little control is required you could quite



Control panel and DMX in/out.

feasibly setup the show on the rack and save taking in a console. All dimmer and memory settings are stored in Flash Memory so you won't lose your scenes when you power down.

The LED display on the unit is the dot matrix style we're so accustomed to seeing from LSC. It displays words, but when no menu is selected it has a "virtual fader" display, where each channel shows up on a bargraph style display.

Menu layout is in two layers, basic and advanced. Getting into the advanced section requires you to read the handbook, but once you're there is quite simple to navigate. Probably the only real issue I had with using the dimmer is that I found I had to be quite far away from the display to make sense of the words shown on it – an arms length or so did the trick.

A couple of nice features which aren't apparent just from looking at the unit are the on-demand variable speed fan cooling and a 2 year warranty. Other options in Redback include a 6-channel single phase unit and MIDI control. **CX**

BRAND: LSC LIGHTING SYSTEMS

Model: Redback Dimmer

RRP: \$2,250 ex GST for the 12 channel version including 3 phase tail + plug, plus 10A, Socapex or Weiland outlets on the back.

Product Info:

<http://www.lslighting.com>

Distributor:

<http://www.lslighting.com>

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CLEARCOM TEMPEST

2.4GHz technology has brought us everything from weather sensors to wireless networks, and now wireless communications. ClearCom Tempest is one of the latest additions to the wireless comms stable.



By JIMMY DEN-ouden

The Tempest system is a multi channel duplex comms system which is quick and easy to implement and provides a range of interface options. The heart of the system is the base station, a 1RU device which acts as the central hub for the entire system. It supports up to 5 wireless beltpacks running across 4 channels. Each beltpack can listen to two channels simultaneously (A or B and C or D) with independent listen levels and talk buttons for each. There's an additional headset

port on the base station too which can talk or listen to any channel.

While Tempest can operate as a standalone system, it's equally capable of integrating as part of a larger comms system. Four pairs of interface ports on the back of the base station which allow you to connect either 2 wire or 4 wire interfaces to each channel individually. So for instance, you could join channel A to a beltpack loop, channel B to a matrix comms frame, and insert program audio onto channel D. Both ClearCom and RTS formats are supported on the 2 wire ports. Other connectors on the

back panel include an RJ45 network port for interfacing to a computer, as well as another RJ45 port to connect a remote antenna.

By default the base station uses small whip antennas which screw onto the back, and claimed range on these is about 300m in open air. Attaching the remote allows you to locate the antennas up to 450m away. A nice point is that you can use cat5 cable to extend the antennas, rather than more expensive RG12 or similar coax.

BELT UP

The beltpacks seem large by comparison

to the party-line 2 wire beltacks most folk are used to, but in the field of radio comms they're about average. They run off rechargeable batteries, and after someone showed me where the power button was (countersunk on the back) I found it very easy to use. The in-built menu is well laid out and all the options make sense – you navigate it using the volume encoder for either of the listen channels. You don't need to be a comms tech to set menu options, which relate to channel selection, PTT settings and beltack name. To swap between channel A & B or C & D, just press down on the relevant volume encoder. The traditional "CALL" function now gives you a vibrate option (just like a mobile), which is almost certainly a more effective choice than a flashing light in almost all situations.

Speaking of programming, linking the beltacks to the base station is pretty easy. Plug in the base station, and turn it on. Then connect a beltack to it using the programming cable (3.5mm jack to jack lead) and switch the beltack on. Then unplug the programming cable – you're done. Conveniently the programming port is located on the front of the base station so you needn't scuddle

about in the back of a rack just to add a beltack.

REMOTE CONTROL

Tempest can be remotely controlled over an Ethernet link from a Windows PC running the ClearCom TDesk software. The base station can run static or dynamic IP addressing, and will even work as a DHCP server if required. Once the IP addressing is sorted, the Tempest base station shows up in TDesk and gives you all the programming options which are accessible from the base station front panel and beltack menus. There's little else to say about the software – it works and it's totally easy to use. Response is instant.

OUR EXPERIENCE

Being the hands-on type of people we are, we had to try the system out to know for sure if it was any good or not. So we did, and it is. Audio quality is excellent, with none of the customary noisefloor we're used to from standard beltack or radio systems. It's really quiet until someone speaks, and when they do you can understand what they're saying. Range seemed reasonable, the Tempest managing to punch through several walls

of the building and still reach a ways down the street. The base station also shows how much battery is left on each beltack, which allows for pre-emptive replacements.

Maybe the only two criticisms relate to beltack controls: it could be a little easy to change channels if someone walks past and bumps the beltack, but if it's critical to be on a certain channel you can just program the other channel as off. I'd like to see an option to lockout the beltack user from the menu, but as I understand it the reason there isn't one is so the system can always be commissioned even without the aid of a computer. Pricing seems steep when compared to cabled systems, but in comparison to other wireless systems it's about on par. The multiple interfacing options on each channel clinch the deal. **CX**

BRAND: CLEARCOM

Model: Tempest

RRP: Base station - \$10,995. Beltack - \$4,195. Remote antenna - \$4,195. Headsets range from \$375 for single ear lightweight through to \$615 for heavy duty dual ear. All prices inc GST.

Product Info: <http://clearcom.com>

Distributor: <http://jands.com.au>

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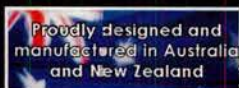
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EPSON EB-Z8000WU

EPSON have traditionally been known for producing portable or small scale installation multimedia projectors. The Z8000 sees them making a foray into the large format market.



Z8000 - the connectors are concealed behind a front panel which gives the unit a symmetrical appearance

By JIMMY DEN-OUDEM

The EB-Z8000WU is a high definition 3LCD projector, aimed at the auditorium and large venue market. CX took delivery of a Z8000 and spent some time with it.

Physically the unit appears heavier than it actually is, weighing in at around 22kg with the standard zoom lens. Power input is a 15A IEC connector, which I think is probably the only thing EPSON didn't get right on this unit. The projector draws 877W (a bit under 4A) running in full brightness mode, so there's no reason a standard IEC connector could not have been used.

Other inputs on the front panel include composite, s-video, component/RGBHV, VGA, DVI-D and HDMI. RJ45 network, DB-9 serial, and 3.5mm mini jack remote terminals complete the panel. Around the back is the user control panel - placed here so the installer can simultaneously see the buttons and the projected image during setup. The panel is not overly cluttered, but everything you need to get to quickly has a button and everything you don't can be accessed from



Z8000 lamp (there's another one still inside the projector)

the extensive on-screen menu.

Adjacent to the control panel on the rear is an air filter/fan unit, behind which live the dual lamp modules. Removing the filter unit is simple: pinch the central clip and the module slides off (though is held close by dual retaining wires). Lift

the lamp retaining clip and the lamp module slides out - lamp replacement time clocks in at around 30 seconds. Not that you'll need to do it for a while, with an expected lamp life of 2500 hours when running at full brightness.

Full brightness by the way is 6000



Even the on-screen menu looks good (and this is a photo of a 2m wide image!)



Laptop versus projector. The winner is clear (and a lot brighter)

lumens. Which is lots. Enough in fact to project anything up to a 500" image according to the specs.

PICKING PIXELS

I unpacked the Z8000, plugged in the power and focused up an image about 2.5m wide. Then, I plugged it into the highest resolution source I could find (which was the DVI port on a Mac) then ran up the highest resolution video footage I could find.

It is possible to see the individual pixels, but you need to be within about 3 inches of the screen to do it. I'd just found out how good 1920x1200 resolution looks. Really, really good. I hadn't expected so much from an LCD based projector, but the contrast ratio is 5000:1 and the colour rendition is really nice too. No qualms about the projected image at all.

There are as you'd expect a dazzling array of control and menu options – whilst investigating the image quality was really my main priority everything else seemed to be well in order. Sensible menu, Ethernet control, sensible handles and such. The handles actually mate to the ceiling mount bracket so if you intend to fly the projector you needn't invert it to do this. 70% vertical and 20% horizontal lens shift helps simplify this process too.

STRAIGHT UP (OR DOWN)

The Z8000 can be mounted so as to project straight up or down, which many projectors don't like. Perhaps this is due to the newly designed cooling system. Either way EPSON seem pretty confident since the Z3000 is backed with a 4 year warranty.

The Z8000 is a really impressive unit, and I while I think it would be more at home in an installation than a touring situation there's nothing to say you couldn't case it up and take it on a touring show. Probably the biggest thing to keep in mind is that when you've got such an accurate imaging device it will faithfully reproduce whatever you feed into it. So use a good source!

CX

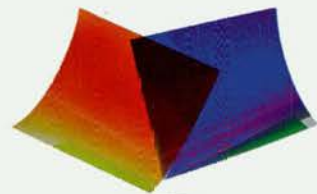
BRAND: EPSON

Model: EB-Z3000WU RRP: \$25,995

Product Info: <http://epson.com.au>

Distributor: <http://epson.com.au>

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ROBE ROBIN 300 PLASMA SPOT



The folk at Robe have been busy inventing again. CX got hold of the results.

By JIMMY DEN-OUDEM

It's getting difficult to make a moving light which is different to every other moving light on the market. The more ideas people implement, the fewer remain unexplored. Robe has recently brought something new to the table with their ROBIN Plasma fixtures. There are beam and wash fixtures on the way, but since we couldn't wait we looked at the ROBIN Plasma 300 Spot. The plasma light source is one of the most interesting features of the unit. It appears to employ a LUXIM Plasma device, which is rated at 10,000 hours till half brightness. It's also said to be tougher than conventional or discharge bubbles, thus improving reliability.

The fixture ships in a compact, well built road case with plenty of handles.

The unit sits inverted in the case with the head locked in its horizontal position rather than the more traditional vertical orientation, and this saves some space. Smart. Pulling the unit out it weighed a little more than I expected – not because it's heavier than it should be but more so due to the very tiny base. There are no stepper motors in the base of the fixture – just electronics. All mechanical elements are contained within the head, which explains the tiny base. We cracked the head open, and whilst it's pretty busy internally it's not completely unserviceable.

The ROBIN Plasma Spot has both DMX and Art-net interface options, with 3 and 5 pin XLR and RJ45 connectors for this purpose. Power delivery is a fixed 10A lead. DMX control options include 22, 24, or 31 channels, and there's 16 bit control of everything, save for the 8 bit frost.



Touch screen control with deceptive buttons.

Lots of fine tolerances here!

One of the many nice beam effects which can be achieved with the ROBIN Plasma Spot.

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DON'T PUSH MY BUTTONS

Upon turning the unit on for the first time, I initially navigated my way through the setup menu using the buttons adjacent to the screen. The process was laborious at best. The subsequent discovery of the touchscreen interface made everything happen a lot faster and easier – a step up on the already good navigation wheel of previous generation fixtures. The screen is bright, and able to orient itself correctly with the aid of an internal position sensor.

BRIGHT IDEAS

In true scientific style, I thought it prudent to take some measurements of the light output and compare it to something else. I used a Par56, and measured both fixtures at a distance of 5m. One measurement was taken at the centre of the beam, and another two at 0.5m above and below centre

One of the big selling points about the PLASMA light source is that it provides a very flat light field – the results of the measurement would tend to support this claim. Another is a CRI of 94% – among the highest colour rendering index we've seen out of a moving head fixture. We discussed CRI last issue, but to put it in a nutshell 94% CRI makes the Robin 300 Plasma Spot incredibly good at accurately producing colour.

	Par56	ROBIN 300 Plasma Spot
Centre of beam	640 Lux	772 Lux
0.5m Above/below centre (average)	400 Lux	735 Lux

OTHER FEATURES

The Plasma Spot has two gobo wheels, of which one is equipped for rotation with indexing. I played with the unit for a while and tried a few different gobo and colour looks, and I really like the gobos Robe have chosen. CMY colour mixing and a filter wheel cover colour re-production, plus a frost and rotatable 3 face prism add further to the beam effect gamut. Zoom, iris, focus and strobe all operate much as you'd expect – quite well. The zoom range seems pretty wide. There's also a CTO filter which you can incrementally step into the beam.

So what happens if it all goes wrong? Chances are that like so many "equipment failures", you may in fact have a "user failure". With the small size of componentry like dichroic gobos, it's relatively easy to mis-align one when installing it. The ROBIN Plasma Spot has an error logging system, which enables quick diagnosis of any faults with the fixture and thus a speedy resolution. This is good, since it means your gear is unlikely to spend 3 months in a service department waiting for diagnosis.

Speaking of faults, I can't really fault the thing in any significant way. I thought it a bit weird that the cooling fans shut down at the same time as the light source when I lamped it off, but after leaving it running for a couple of hours then shutting it down the fans kept running. So they work only when needed. I wasn't really impressed on first play with the unit, but then spending some more time on it decided I really like what it does. CX

BRAND: ROBE

Model: ROBIN 300 Plasma Spot

Street Price: Under \$10,000

Product Info: <http://robe.cz>

Distributor: <http://ula.com.au>

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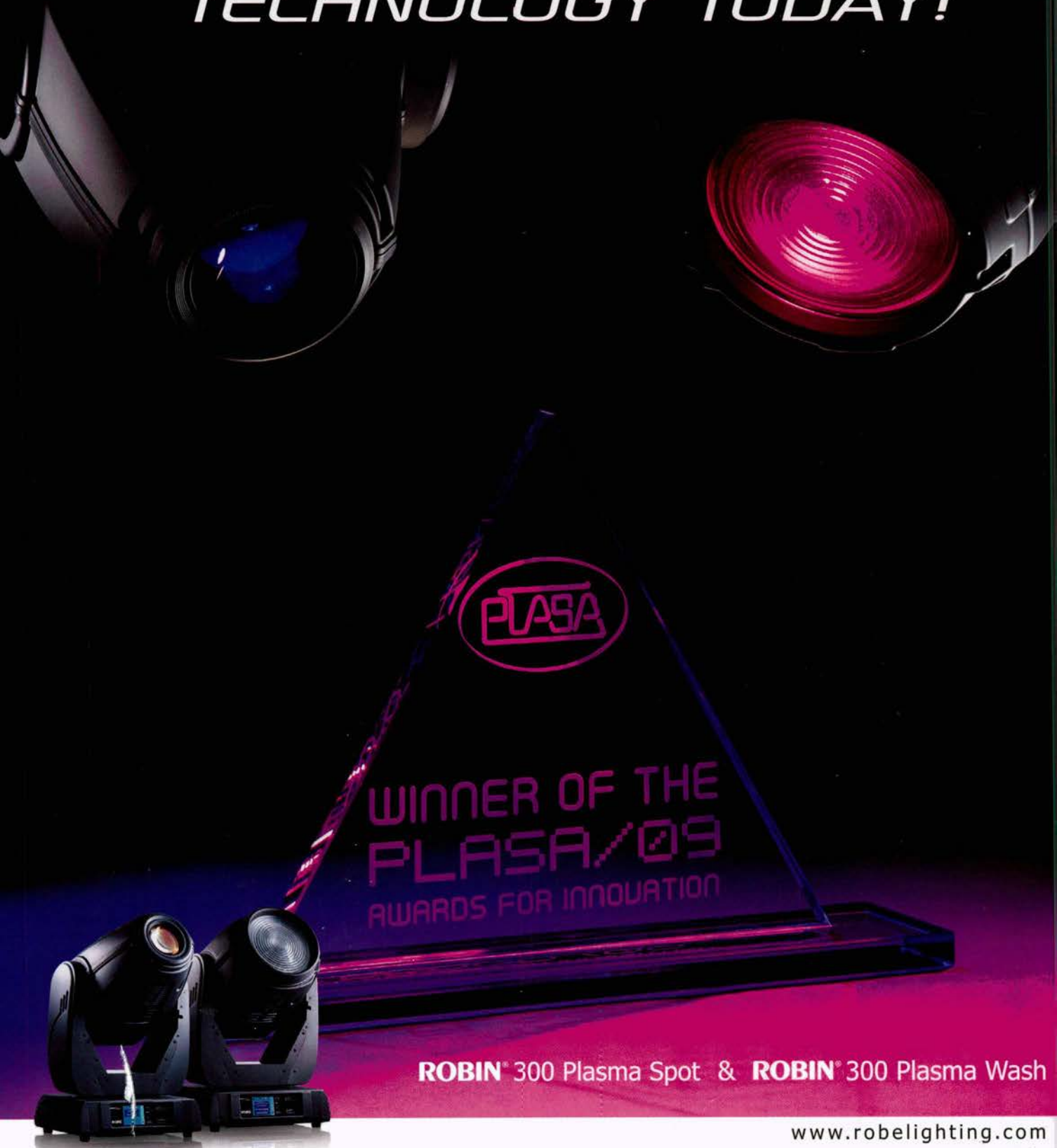
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