

# ON

# AC/DC

# BRING ON THE TRAIN

## ANDRE RIEU

*There's big, and then there's this*

## Tales from the Road

*A summer trip to Bundy*

REVIEWED:

*Midas Pro6*

*K+H Pro X speakers*

*Ying Wei LED lighting*

*Mocom Power Screen*

*Jands 4Pak-D*

**CUE03** Entertainment Training Resource

Julius Publish..

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NEWS: ALL THE LATEST, GREATEST, BIGGEST AND BEST. WHAT HAPPENED TO WHO, AND WHO HAPPENED TO WHAT. CX GOES OVER, UNDER, AROUND AND DOWN TO BRING YOU WHAT YOU NEED.

THE NEWS MAGAZINE FOR ENTERTAINMENT TECHNICIANS AND MANAGERS



# MEGA PERFORMANCE



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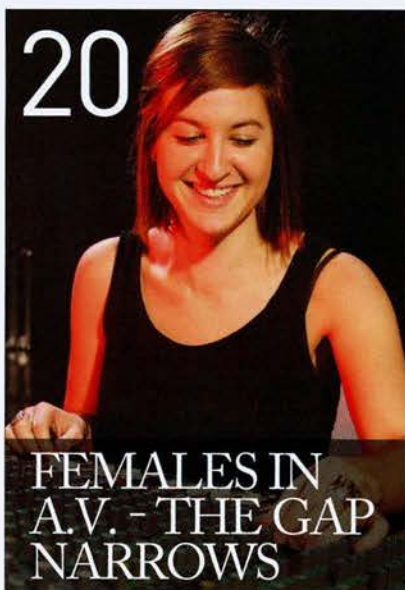
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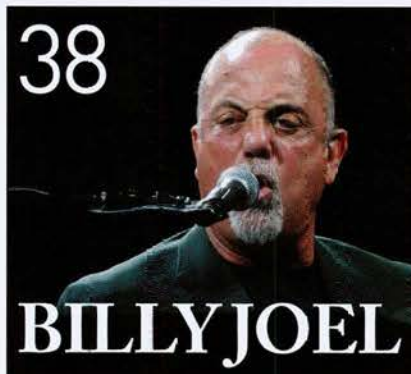
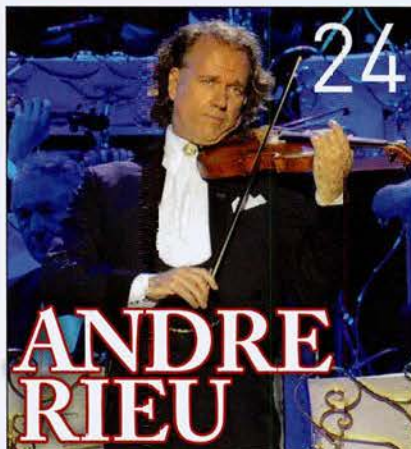


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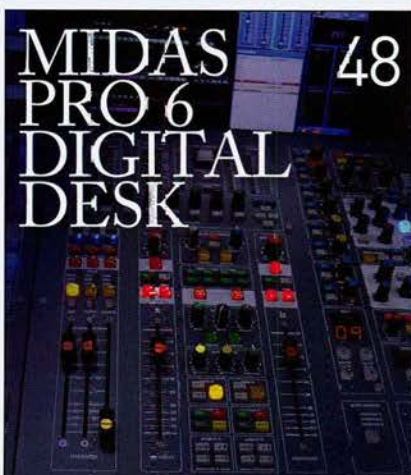


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## WAY BACK WHEN



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## CUE03

### 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

## ANDRE THE GREAT

Featured in this issue, Andre Rieu went beyond and delivered. Example – angels who helped older audience to their seats. Critics knock him and local industry grumble he brought everything with him, when it comes to raising the bar and making a bigger show, he has no equal.

## FOUL RAP

Techies and tour-ies complain each time a rap tour goes through but we need to remember the genre is built on arrogance, aggression and drugs on tap. Women are depicted as hoes. Groupies oblige with security needed at the hotels to make sure they are legal age. Rap is usually anti-social. Be disgusted.

## SHOOT THE MESSENGER

With staff angry at a faceless board which keeps shifting the goal posts, Staging Connections people rightly feel frustrated to read about it in CX. There are a lot of very talented people working for the firm and its subsidiaries. If Management communicated better, CX wouldn't have a story.

## PAGET TRUCKS ON

With judgments accumulating against some of his companies, Hills Concert Productions (HCP Events) owner Paget Blackburn faces further allegations. When young guys claim wages payment issues, they could get discouraged and possibly leave the industry.

## 3G WIRELESS NET

I somehow managed to clock up \$1,300 in download charges over a few days in China. Any mobile roaming should be done carefully; I wasn't surfing big files, just checking emails and websites. A lot of home pages run hundreds of megabytes wide, it's easy to get caught.

## FRIENDLY V PARANOID

Loving how most places have embraced the open, honest, happy management mantra. Can't stand paranoid bosses, their businesses become infected with fear and caution. We exposed a couple last year, and probably will again this year. Call it a weakness, but this publisher gets arced up by certain things, including mediocrity and wheenie-ness. It's a privilege to write for you in CX, anytime you feel we go too far chasing our prejudices, please let us know.

*Julius*

## SET IT UP

Looking at the photos of AC/DC and Andre got me thinking – what is it that makes a show memorable? Out of the thousands of gigs I've seen in the last twenty-something years, two stand out in my memory. Not because the sound was great, or the lights, or even the band, but because I've got something to hang the memory on.

Memories of the Stones in '95 hang on the giant metal fire breathing snake that reared over the stage, memories of Alice Cooper in '89 hang on the guillotining of Alice, and the collective memory of AC/DC in '09 will hang on it being the 'train tour'. Great sets may not make a great show, but they make a memorable one.

So kudos to the set people, the designers and the builders. The rest of us can put on a good show, but you make it the gift that keeps on giving.

## LIGHT IT UP

I'm having something of a resurgence of excitement about lighting, as a result of seeing a lot of almost great light shows. 'Almost great'? That's what I said. Shows where the still photos look better than the live action, because they capture the great looks that people are achieving between moves.

There's some brilliance out there, we just need to spend less time looking at the console and the lights and more looking at the whole picture. Even with the technology we've got now it's still possible to come up with a great show. Just make sure you rule the hardware, not the other way round...

## SMARTEN IT UP

Another issue of the mag, and I hear yet more stories of people getting shafted. People not getting paid for the work they've done, suppliers not getting paid for the gear they've supplied, people treating other people like dirt. How hard can it be to do the right thing by people? It's so bloody demoralising.

## KEEP IT UP

And finally, as we lurch into yet another new year, I'd like to thank everyone who's helped us through the last one. The review suppliers, the contributors, the editorial and production team and, most of all, the readers. Thanks, and enjoy the new year.

*Andy*

# PRO 6

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Continued from page 8...

vendors has seen half of all entrants in our directory as new ventures in the last decade. Between 2004 and 2008 most production firms have invested around half a year of turnover. This has slowed dramatically in the second half of 2008, according to importers.

"They aren't buying moving lights - that market is dead", one told CX, "and the new LED products are crashing in price, so we sell twice as many to make the same return". Digital audio consoles are the current bright spot, with most production companies we surveyed saying they have, or will, invest significantly in that area.

"I'm not buying anything, but I don't owe very much either", one of the largest production suppliers in Australia told us. "We can run our overheads, and sit tight". Others talk of not meeting turnover targets, and there is a hiring freeze at many firms.

At the end of the day, a well run hire company is a great business. But only if you buy right, and treat customers and staff properly. That's harder than it sounds.

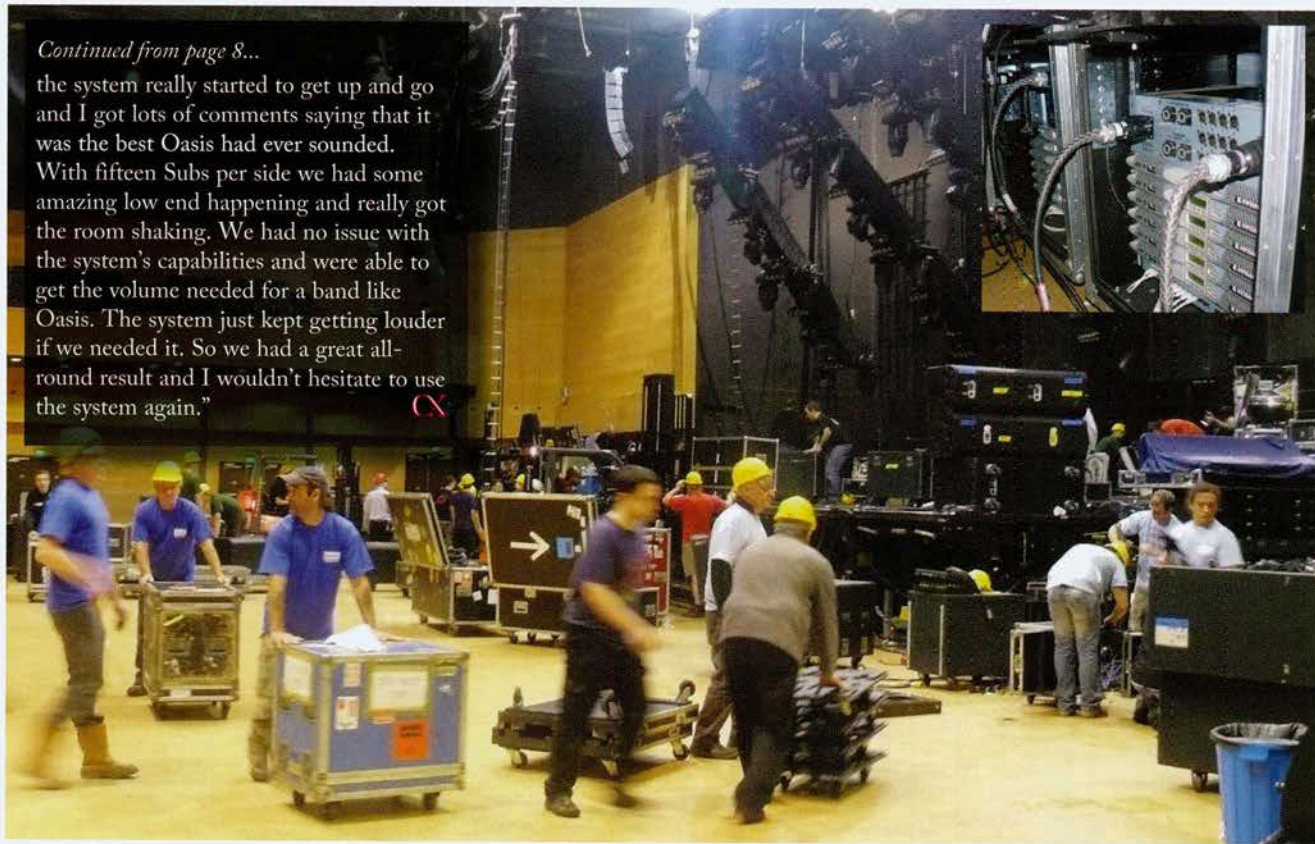
**ONLINE: Visit the Forum at [juliusmedia.com](http://juliusmedia.com) for more on this.**

## CUT PRODUCTION COSTS, NOT CORNERS

- Every company faces the same pressures!
- Review & remove complexity
- Package systems, cut prep time
- Refurb & paint, present better
- Negotiate better supplier deals
- Improve processes and paperwork
- Review and refresh marketing
- Quiet times good to review costs
- Train up staff to be more efficient
- Get government grants for training

Continued from page 8...

the system really started to get up and go and I got lots of comments saying that it was the best Oasis had ever sounded. With fifteen Subs per side we had some amazing low end happening and really got the room shaking. We had no issue with the system's capabilities and were able to get the volume needed for a band like Oasis. The system just kept getting louder if we needed it. So we had a great all-round result and I wouldn't hesitate to use the system again."



### ARX UPDATE 8 PRE

ARX the Melbourne, Australia based manufacturer of Professional Audio products have recently updated their popular 8 Pre 8 channel microphone pre-amp with new generation ultra low noise Transistors and Integrated Circuits.

They have shaved dBs off the noise floor with the 8 Pre now down at -93dB, unweighted with 20dB of gain dialed up while still retaining the 116dB Dynamic Range and distortion level of .004%, 20 Hz - 10 KHz.

Full details on the updated 8 Pre from ARX can be found at: <http://www.arx.com.au/International/8pre.htm>

ARX products are distributed in Australia by The Resource Corp. [www.trc.com.au](http://www.trc.com.au)

### CORRECTION PINK AND ENTERTAINMENT INSTALLATIONS

In our Pink feature last issue, we goofed. Entertainment Installations supplied the stage lighting, Martin LC Panels, Media Server, LX console, some additional gear for Sunrise production and rigging.

Their crew went in the evening prior and did the stage setup and some programming: LX rigger (Christian Yanni) and the lighting/panels operator/programmer for the gig (Bryce Mace).

They supplied the same service for the Pussycat Dolls Sunrise performance the week before.



## CX NEEDS YOU!

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Do YOU know how to?

Could YOU be the contributor we're looking for?

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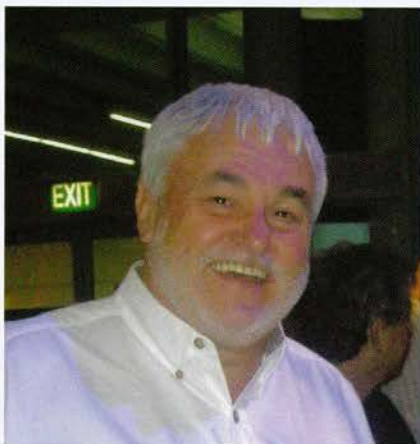


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### BELL FOR SYNTEC

Syntec International is pleased to welcome David Bell as Manager for Professional / MI products.

“David has over 25 years experience within the Professional and MI markets” said Robert Sloss, CEO of Syntec. “David has a wide range of experience across numerous markets, both domestic and international and we believe that David is well suited to further develop the Professional / MI division for Syntec”. **CX**



### BLACK FOR STAGING

Philip Black has been promoted to the position of Director of Sales & Marketing for the Staging Connections Group. Most recently Philip was Staging Connections' Director of Venues and prior to that Director of Strategic Relationships and was responsible for managing the team that secured the Atlantis Palm Jumeirah venue services contract in the UAE.

He also led the bid teams responsible for securing long term Group partnership deals with leading five star hotels including Starwood, Hyatt, Tabcorp and Crown. **CX**



### EAW SHIP BABY ARRAY

JFL210 is one of the cuter baby line arrays we've seen, and it lets you choose your own amplifier eschewing the self powered trend of the day. Loaded with 2 x ten inch woofers it packs enough oomph and then it will pole fit into a friendly sub as well.

EAW suggest using this in groups of two, three or four boxes and quote very high SPL.

[www.eaw.com](http://www.eaw.com) **CX**



### AT SET UP FIREBIRD COMMUNITY

Acoustic Technologies will be launching a new section on its website called “The Firebird Zone”. Firebird is a composite line array system which has been a big hit with rental companies around Australia. With twelve systems around the country, the site will be community based allowing Firebird users to share their experiences in a public domain.

Steve Pannan of Steve's Pro Audio, based in Brisbane, is the latest company to take delivery of a new system, complete with the new Blackbird System Amplifiers. Another new user is Rob Anderson Productions in Albany, Western Australia.



Country Rock Star Adam Brand purchased a Firebird system two years ago and is still touring with it with great success.

The Firebird System is really a nickname for the CLA 1000 composite line array cabinet and the CLA 2000 bass cabinet. The CLA 1000 is virtually four

Blackbird 308 Line Array cabinets in one box. It is sold with 2 racks, each with processors and amplifiers.

\* On the 28th of November, Richard Faint, Director of Engineering at Acoustic Technologies, celebrated his 30th anniversary at AT. Richard has been designing electronics all of his life. **CX**

Axel, BEHRINGER Germany Systems Engineer, was the proud father of the ground-breaking XENYX mic pre amp.

Thomas, BEHRINGER Germany Technical Director drove the technology of the 2442FX to the limits of physics and then half a kilometer beyond.

Thomas, BEHRINGER Germany Software Engineer, steered the USB interface and ASIO drivers for the 2442FX.

Shou Long helps assemble the XENYX 2442FX at BEHRINGER City, our highly advanced manufacturing complex. He may very well have built a 2442FX 4U!

Bing, one of our R&D Assistant Test Engineers, helped make sure that the prototype 2442FX complied with all internationally-recognized safety and RF emissions standards.



**GEAR GRINDER**

**HARD DRIVER**

**BIT MECHANIC**

**PIT CREW MEMBER**

**SAFETY FREAK**

These are some of the 3500 technicians, assemblers, designers and engineers who are BEHRINGER.



# XENYX 2442FX. Not every marvel of German engineering has four wheels.

Some have twelve subtweet-sounding XENYX mic preamps, four buses and an outboard 2-in/2-out USB interface. But the Thomas's, Alex and the rest of the BEHRINGER Germany development team didn't stop there. They included four bands of mellow "British" EQ on each channel. And, so you don't have to spend more bucks on plug-ins or outboard processors, they added 100 24-bit effects including reverbs, delays, phasing and flanging.



Uli Behringer (center) isn't an easy person to please.

When everyone, including the hyper-picky Uli Behringer was satisfied, the XENYX 2442FX emigrated to BEHRINGER City where it underwent grueling stress, life cycle and safety testing...and then final meticulous production.

Learn more about the 2442FX and other XENYX mixers at your BEHRINGER dealer. And then get behind the knobs of a truly fine piece of high-performance German design.

There are 13 XENYX mixer models from which to choose. Two and four mix buses. Five to twenty-four inputs.



## GIANT LIVESTOCK EVENTS CENTRE UNVEILS NEW PA



At a cost of \$30 million, the Australian Equine and Livestock Events Centre (AELEC) in Tamworth is set to raise a new benchmark in the Professional Audio installation industry.

Ten years in the coming, this three tier government project is best described as being like a horseshoe with outer buildings ringing the stadium. The stadium is designed on two levels and features an indoor arena with tiered seating for 3,360 people. The site occupies 22 hectares with a further 20 hectares of parking. Ultimately the indoor arena will seat 5,000 with stables able to hold 700 horses.

The initial brief for the project was the supply and installation for a Public Address, Back Ground Music and

emergency system. The project was awarded to local sound installer, Scoundy's Retravision – Tamworth together with major supplier Audio Products Group (APG) of Alexandria. APG is the national importer/distributor of Biamp, TOA and AKG.

The very landscape of AELEC, with both large indoor and outdoor areas, required sound reinforcement with minimum audio spillage. Controlled sound is achieved by thirty-six TOA HX-5 Series Compact Array speaker systems that are employed in such a way as to avoid hot spots and create equalised SPL levels throughout the centre.

In addition, 42 TOA BS1030B 2-way box speakers, 46 TOA CS154 15watt outdoor music horns, three 6watt CS64

outdoor music horns and ten TOA 15watt 2-way ceiling speakers cover the area.

To further meet the requirements of equal and sustained sound levels, two Biamp AudiaFlex Digital Sound Processor systems with selected input/output cards and CobraNet were chosen. The Biamp AudiaFlex DSP system meant that level matching, frequency response and SPL levels were easily controllable. Other supporting Biamp products include three NPS-1 Network Paging Stations together with input/output Expander cards.

A total of nine TOA digital amplifiers providing 36 channels of 250-500 watts were needed to amply meet the sound level requirements. To negate the need for extended microphone cable lengths, Biamp's NPS-1 Network Paging Stations meant the constrictions on placement of microphones at precise locations were eliminated.

Similarly, the project also called for four AKG rack mount receivers (SR4000V) and matching HT4000V50 transmitters with an AKG managed antenna system. Eight TOA Electret condenser handheld microphones together with four matching TOA WT4820 16-channel dual tuner frames and six AKG CHM21 hanging microphones were also used.

Providing touch control throughout the venue, to what was potentially a very complex system with many inputs, zones and options, the solution was an AMX controller. There is over 12km of audio cable used throughout the complex.

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



Australian rock legends Noiseworks have recently been touring the country racking up 20+ shows over six weeks with all audio and lighting production as well as production staff supplied by Adelaide's Novatech Production Services.

Renowned for their unforgettable live sets, Noiseworks regrouped in June 2007 after disappearing from the scene in 1992. The initial run of shows sold out quickly, and loads of gigs were added to the tour

schedule. Noiseworks were supported by Taxi Ride and Move Trees (Noiseworks bass player Steve Balbi's side project).

Playing medium sized (2000-4000 seat) venues the production spec was fitted to suit. Audio was a full L'Acoustics rig with Kudo for front of house and a DigiDesign D-Show console. Monitors were L'Acoustics 115XT-HiQ cabinets with a Yamaha M7CL. The band are very particular with their monitor mix.

The lighting for the tour was a mix of Martin MAC 600 & 250, Martin Atomic strobes, Kupo blinders and LED strips driven by a Hog 1K. There was a real lack of power in some of the venues on the tour so the production team had to always be planning several shows ahead to make sure that the designs could be delivered and integrated into the house rigs when needed.

Lighting Designer Michael Blundell said "It's usually just one 3 phase outlet and that's incorporating house rigs as well. Consequently I introduced twenty-five LED DMX Strips to the show which adds a modern-day edge to the show." In terms of lighting, the band wanted a rock'n'roll show and the LED lighting was a bit of a shock to them being used to banks of par cans. "The band is happy with the results and Jon Stevens, with his theatre background, can be quite particular, he really knows what he wants which is good".





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## TRICKY ACOUSTIC AT TILT SLAB CHURCH

Located in Blackburn, Melbourne, One Community Church (OCC) is a modern building of clean lines with a capacity of approximately five hundred in its main auditorium. However, its tilt slab construction presents some awkward acoustic anomalies when it comes to addressing the needs of an equally modern form of worship, embracing as it does all the paraphernalia of reinforced sound.

"We have been dealing with the church for the past eight years and were approached to give them an idea of our capabilities with regard to their new premises," explained Jordan Mitchell of Melbourne based Dr Audio, an AV installation specialist and the company charged with providing an effective sound solution for OCC.

Some acoustic treatment had

been included by the architect and implemented by the builders, however further treatment was considered necessary as OCC includes live bands in its services, with music ranging from youth rock, to a more restrained but no less powerful, adult contemporary. "There was no designation of desired SPLs," explained Mitchell, "but keeping control on the sound was important due to the fact the church backs onto a residential area."

Consequently the selection of sound system and design was crucial.

"Looking at our options with regard to the audio system for the church, we narrowed down our possibilities for the loudspeaker system to d&b audiotechnik. We had experienced the clarity, versatility and performance of the system at previous touring venues, revisited the system specifications and knew it would provide the best result for our client's

requirements."

Mitchell, in collusion with Shane Bailey at National Audio Systems, d&b's Australian Distributor, arranged for some of the church leaders to attend a real world PA system demonstration; a concert at a local venue by Tommy Emmanuel - one of Australia's virtuoso guitarists.

The final installation is founded upon elements of d&b's Qi-Series installation loudspeakers comprising Qi1s with Qi subwoofers rigged in CSA mode, with E3s employed as front fills. The system is driven by d&b's D12 and E-PAC amplifiers that are controlled remotely using their R1 Remote control software. Mitchell is employing the delay function to precise effect; giving the E3s that slight arrival over the main system that provides the congregation with a correct audio image emanating directly from the worship area.

Roger Bently from OCC managed the project on behalf of the church, "We've been very pleased with the work provided by Dr Audio, and their attention to detail has, as always, been superb. As for the sound system, Tim Keating & Joe Tular who train our operators have told me their job is made easy, the PA gives such faithful and true reproduction."

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



## BEHRINGER VISITS FOR 20TH ANNIVERSARY

Uli Behringer made his first ever visit to Australia late in 2008. The four day schedule was very hectic with store visits and evening functions in Melbourne, Sydney and Brisbane. The evening dealer functions were extremely well attended and included a one hour "Denton style" interview with Behringer Australia GM Michael Jago asking Uli questions about the company, its history, right through to today's economic climate.

Uli is still very much hands on in the company, with his roles including Chairman, CMO (Chief Manufacturing Officer), and Head of R & D. Musically, Uli is an outstanding jazz pianist, and

he delighted many music store staff with his playing during the visit. He is also still gigging regularly in his home city of Manila. It wasn't all work however, and time was allocated for Uli to experience Sydney's best view by enjoying the 3 ½ hour Sydney Harbour Bridge climb.

Finally, a Melbourne store visit to Factory Sound produced a rather funny 10 minute vodcast that is well worth a watch. Uli was interviewed by Tony Lofts for Factory Sound TV.

While checking out the Behringer clip, have a look at some other Factory Sound TV clips - the trip to Vegas is worth checking, Lofts is clearly a little tired and emotional mid Pacific, and decides to interview half the economy class cabin before being told to sit down. Priceless.

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



Photographed from left to right are: Uli Behringer, Michael Jago and Tom Crowley.



Share your Obsession

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# DAZZLING NEW THEATRICAL 'BRAIN' IN SINGAPORE SHOWCASES ARUP EXPERTISE



Singapore has a new \$520m performing arts space suspended six storeys up between three 24-storey towers. Designed to look like a brain, the theatre – Genexis – is a flexible, curved performance space.

Keeping with the idea of neural signals, Genexis glows and flickers with an interactive light show programmed to synch with activity inside the complex at night: from cool flickers when only a few people are present, through orange, to a warm red glow when fully occupied.

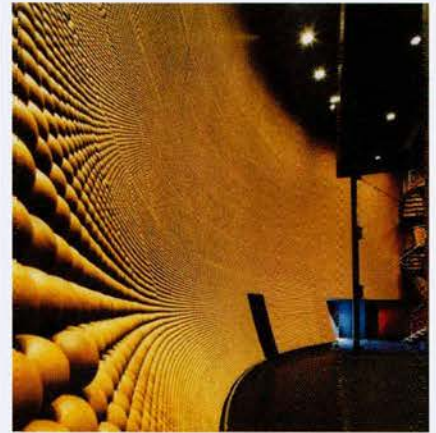
Genexis was built with the expertise of Arup – the global firm of design, engineering and business consultants – which provided a range of services using consultants from the US, UK and Australia.

Arup's regional acoustics leader,

Andrew Nicol, who led the theatre design team for Genexis says: "This place sizzles with a synergy of cultures, languages and creativity. A building like this has to be more than simply floors and walls – it has to have a spirit. What really matters is the way the building interacts with the people who live and work there.

"This is a serious matter because people – creative people especially – are much more productive when they are comfortable in their surroundings. What's also remarkable, from our point of view, is the convergence of so many of Arup's niche skills – sophisticated lightweight steel design, specialist theatre consulting and acoustics, tailored fire engineering and interactive lighting design."


Two of the most interesting aspects



of the complex are hidden from view. The development's plans originally called for 20% more steel than was eventually used. The reduction in steel is a credit to design refinements engineered by Arup consultants in Singapore and has resulted in both an environmental benefit and a significant cost saving.

Despite the theatre being suspended mid-air, Arup's fire engineering team also devised an effective evacuation plan which will ensure the safety of patrons in the event of an emergency. Evacuation is made via the linkbridge to the adjacent towers instead of using traditional vertical stairs.

Strikingly, the theatre's curved walls are covered with panels composed of over 400,000 mahogany beads which help achieve the desired acoustic characteristics.

"The shape of the sphere has broken all the rules of conventional theatre design, but visually, acoustically and practically, Genexis works," says Nicol. 



Don't think of Iran as old fashioned, the Azadi Tower (pictured) has a big lighting installation, courtesy of TechnoPro in Dubai.



Laservision faced challenges lighting the Nexus building in Hong Kong, not the least of which was the highly reflective nature of the façade. They have produced a building that looks like a video wall at night.



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# FEMALES IN A.V. – THE GAP NARROWS

## *RMIT survey shows that girl techies are growing in numbers*

Until now there's been a dearth of females in technical roles, and the reasons why are generally known. This year RMIT (Melbourne) and Julius College (Sydney) have record participation by girls in technical courses, although the best result is 25% female participation, against 75% males.

The study by Rebekha Naim, a trainer in Audio Visual at RMIT, drew on interviews with female students, staff and industry, and found that employers tend to favour female graduates. At RMIT 90% of graduates find work in the AV industry, a result consistent with outcomes at Julius College in Sydney.

Females studying AV at RMIT report they enjoyed training alongside men. "They talked of the positive aspects of studying with men and their '...easy going natures...' (Student A), with less '...cattiness...' (Student C). They also mentioned that working with men was a lot less emotionally draining, even if they had to put up with

occasional sexism."

Most females at RMIT had come from supportive families where other female role models were engaged in gender breaking careers, or where the males were trades workers. This shows that positive support at home can precondition women to take on a role formerly thought of as a boys' job.

Our industry still has some primitive workplaces.

Simply being a woman, regardless of her strength or capabilities, is enough to deter some workplaces from employing women technicians, the paper says. As one respondent revealed: "One guy I did work placement with wanted to know if I was strong enough to carry the camera all day and he said I should seriously consider the 'appropriateness' of my career choice. I couldn't believe it (Student D)."

Another student was shocked when a potential employer questioned her physical strength and capability to lift loads effectively as she was a woman. She observed that at the time the males working in their factory were using forklifts and doing two-person lifts and felt offended this was not considered something she could be a part of.

Girls schools are visited by RMIT in Melbourne and Julius College in Sydney, and girls are receptive to working in AV once their concerns are addressed. "Will I be raped?" was an extreme concern voiced at one, and "so I don't have to lift big black boxes" was a very common comment across many groups.

The colleges are aware of the usual boy – girl dynamic, and work to address issues. "The women I interviewed considered themselves 'not necessarily tomboys'", says Rebekha Naim. "They also classed themselves as not being 'girlie girls' either. Two even mentioned that being 'girlie' was a disadvantage in the program, as some male students teased such women".

One of the women interviewed, who was the victim of a lot of these taunts from a particular group of men, found that while on some occasions the sexist comments deterred her from asking questions in class, at other times it spurred her to ask even more questions than usual, stating: "You just have to be strong and ignore the guys. They only tease me when they are in a group, never by themselves".

This was the only woman in the research to discuss being teased or victimised by



# Norwest Productions

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Following the successful acquisitions by Norwest Productions Pty Limited of Oceania Audio and McLean Audio Services we have conducted a review of all our hire inventory spread over our offices in Australia, New Zealand and China. As a result we have identified inventory surplus to our current needs which we are offering for sale via our website.

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Follow the link below for full details. We expect to be adding to the list as we assess further the requirements of the group so I encourage you to keep watching if you are interested.

[http://www.norwestproductions.com/exhire\\_for\\_sale.html](http://www.norwestproductions.com/exhire_for_sale.html)

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men in any way while studying in the Diploma of Audiovisual Technology and her comments were validated by another participant in the key research group. Student C also classed herself as being highly feminine which she attributed as having long painted nails, long died blonde hair and tight fitting clothing. She also identified herself as different from the other women in the program who wore loose jeans and tops with their hair tied back. She was aware she "looked more feminine" than the other women in the program but preferred her appearance and the way she dressed, even though she had to endure occasional taunts from the men because of it. Some women in the program also found her unusual. However, it is this kind of confidence with one's own preferred gendered behaviour that should be supported as it paves the way for other similar women to successfully progress in the program without enduring sexism and taunts.

Guys in AV classes can sometimes be blokey and slightly dismissive towards girls, but this is usually picked up quickly by trainers and also by the broader student body, who tend to be loyal to each other irrespective of gender.

The dropout rate for females in AV courses is low, but vigilance is always needed. "Sometimes the pressure of the male-dominated culture was too much and I had to leave class early. Just all their talk about girls and sexism and stuff", said a girl who dropped out of RMIT.

Julius College had 7 females in a class of 28 in 2008, of whom 5 graduated in full with an Advanced Diploma and one dropped out. The other achieved valuable Units towards a full qualification. All female graduates have work lined up at presstime.



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## SUITABLE FOR SEX

According to Col West, mayor of Darwin and proprietor of most business in the frontier town, his newly patented Framelock Counter will support weight up to 250kg. Alarmingly his list of suggested uses ranges from the plausible (ticket sales, bars, food, merchandise) to the aforementioned activity.

Framelock is part of Eventquip which is part of Top End Sounds, and Total Event Services, a conglomerate which supplies sound, lights, pavilions, stages and event production for entertainment, exhibitions, and things like that. They've recently branched into air conditioning install and hire having perceived a slight need inside their various pavilions as the mercury tops out like it can in Australia.

The venture is run by Col West and his right hand girl Kerri Alterator. Top End

Sound started decades ago and was given a big boost when veteran Australian audio legend Howard Page invested in the firm before flying off to tour with every major American act ever since.

Now Framelock is an emerging manufacturer of crowd barriers, with a unique design that has seen sales around the world. The Counters product is a clever extension, and clearly a new idea for events and entertainment, where merch and ticket counters are often fabricated out of roadcases, or improvised from fragile furniture. They also have uses in catering and retail.

They pack down flat into 45kg and allow for different colored facades and finishes. Reach them at

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

## HK PARTNERS IN WA

XDC from Bunbury have been providing PA and production equipment to Bunbury and region. Prior to that, Managing Director John Hayes ran some production out of Perth before buying South West Sound Systems and combining the 2 companies to create XDC Pro Audio and Lighting. "It's done a few shows now (HK Contour Array) and I have to say it's smooth-as-silk and just sounds brilliant" he says.

Also in the capital, Dream Catcha Productions have a Passive Contour Array and a bunch of Contour CT series monitors. "We have used plenty of systems over the years, our customers love the monitors and the front of house, as do we!" says Jeremy Harris - Managing Director.

Corporate Concept Production (CCP) is a Western Australian owned and operated Production Company, specializing in Lighting Equipment, Operators, Riggers, and technical support for events ranging from motor car launches to large outdoor events. "I dig my Contour Array - you point the furry bits forward and away you go" remarks Tim Bradsmith the managing director. "It has such a great sound and a very easy to use PA system", he concludes. **CX**

## UK PA CO IN QLD

In a move that will set the cat amongst the pigeons, UK audio goliath Wigwam are opening an office and warehouse in Australia with its Far East partner 3db Audio.

Wigwam are sending a number of d&b J and Q series loudspeaker systems as well as the new E series cabinets complete with D12 amplifiers and this will be complimented with control systems from Digidesign and Digico including the new SD8 Console.

Full touring monitor systems from d&b, L Accoustics and Firehouse will be available with radio systems from Shure and Sennhieser plus a large selection of in ear equipment.

They plan to have all the equipment currently available in the UK to be available out in OZ within a year or so. 3db have some major corporate clients in Australia and will be looking to cover all aspects of production including lighting and video in house.

Wigwam have many of their touring clients working in Australia most years. **CX**

## LIGHTHOUSE ADD ACCESSORIES

Lighthouse Distribution have new DMX cables with all 5 cores connected, in various lengths ex stock. They also have added lighting stands and T bars to stock. [www.lighthousedistribution.com.au](http://www.lighthousedistribution.com.au) **CX**

## SELECON REBIRTH WEBSITE

Lightes alert: How Bright is Bright? Find the answer in the knowledge bank on the Selecon web site, which is a great training aid. They also have a lighting calculator in the Product area, which lets you choose a fixture, a lamp, and a throw. It then gives you lux and beam diameter. Truly fabulous.

[www.seleconlight.com](http://www.seleconlight.com) **CX**



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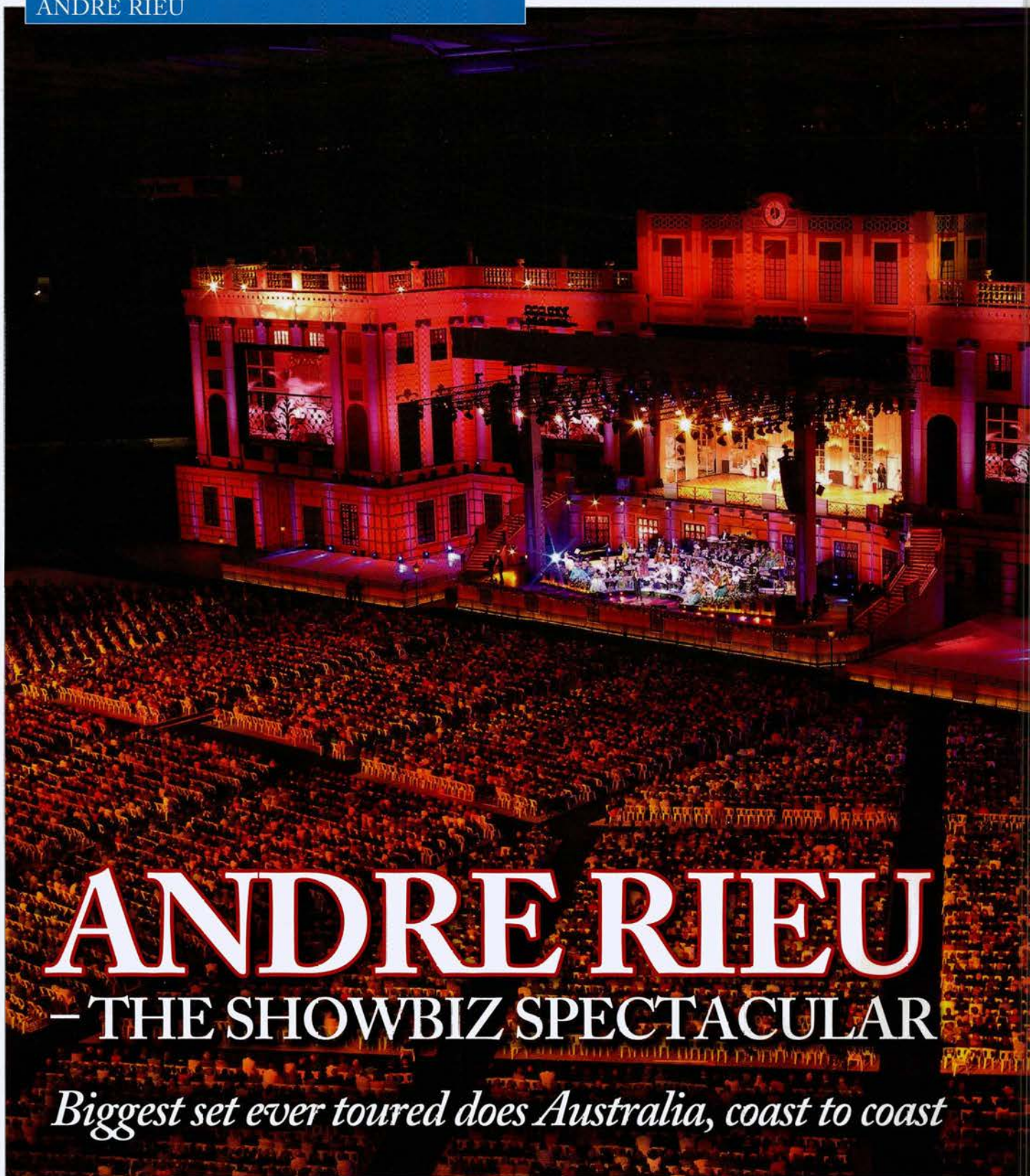
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# ANDRE RIEU

## - THE SHOWBIZ SPECTACULAR

*Biggest set ever toured does Australia, coast to coast*

*From nowhere a really large phenomenon blew in to carpet bomb the mass GP market. Andre Rieu did a promotional tour earlier this year where he played his violin to a backing track in shopping centre's, and signed CDs. Somehow that sowed the seeds for the largest concert tour ever staged in Australia. By Julius Grafton with Mike Garside.*



The staging was larger by an order of magnitude than anything before it. Over 500 people came in to the country with Andre Rieu, and around 900 locals were directly hired in various roles. That doesn't include indirect employment like hotels. Then there was the set, which dwarfed anything ever built for entertainment, anywhere on the planet.

## THEY TOURED IT RIGHT ACROSS AUSTRALIA

Remember Riverdance? The Puccini Spectacular? Or even Walking with Dinosaurs? This is the kind of mass general public market where promoters dream about a concept that will capture the imaginations of the broadest community. So how on earth does a guy who doesn't sing or dance go on to stage a truly massive show, backed by an orchestra? And get massive merchandise sales? Plus a repeat tour of Arenas next spring that looks like it will outsell Pink?

Andre Rieu tours 11 months a year and employs around 200 people. He manages himself. He is the promoter and takes the risk. He was quoted in Melbourne as saying the risk was over A\$5 million per show. That takes balls. The guy is clearly a genius.

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## ANDRE – THE SHOW

CX went to the Sydney show on Friday night at ANZ Stadium, formerly known as the Sydney Olympic Stadium. In sports mode it seats 80,000. With the 700 tonne set, a replica of the Schonbrunn Palace, soaking up almost half the playing field, the seating kill area delivered a house of around 35,000 seats.

These filled up before 8pm, and with rain threatening the countdown started on four LED screens built onto the front of the castle. Andre and orchestra march on from the front of house to a recording of '76 Trombones' which works really well as an opener.

His Johann Strauss orchestra of 40 plus players with a dozen singers follow his lead, which is irrepressibly upbeat and happy. Herein lies the appeal, he brings popular orchestral numbers to an audience while connecting with them. Orchestras normally dress in black and the conductor has their back to the audience.

Andre and his hirelings crank through the hit parade of several hundred years ago, including hits like Nessun Dorma (Puccini); White Horse Inn (Stolz, Benatzky, Gilbert); Bolero (Ravel); A Little Night Music (Mozart); and Blue Danube (Strauss).

It's a show with lavish costumes, two skating rinks with Australian skaters, ballroom dancers, and horse drawn carriages.

Through the procession of visuals, Andre is the convivial host, alternating between a puckered look when caressing his priceless Stradivarius violin and an arched eyebrow to punctuate a corny comment or aside. It's a cheesy but timeless show, in the tradition of events with a wide audience. What isn't timeless is the technology, which is up to the minute.

On come the Platin Tenors, known in their own right, and later Australian soprano Mirusia Louwerse – who auditioned for Rieu several years ago in his Dutch homeland. It's fair to say there is a strong representation of beautiful women in his entourage. In the second half, Mirusia appears as an Angel in a flying segment.

Then there are the sight gags – one of the Platin's is Hungarian, so he tries to present Andre with a giant pot of Goulash, dry ice pouring out. There's the whistling segment, where a female strings player gets the audience to help out. Then there's the 'poor musician who is thin' story/gag, where the fat guys up the back present their corpulent-ness and the audience laugh at the idea Andre is – or ever was – poor.

It's all enthusiastically introduced by The Andre, in this way: "An enormous applause for...." and if such applause isn't powerful enough, "Already now an enormous applause!" You do smile and get caught up in it all.

The end has pipe bands streaming in, and some Australiana kitsch, including Tie Me Kangaroo Down Sport. Andre will be happy when he gets to Japan on the next leg and doesn't need to deal with that.

## THE PRODUCTION

It's controversial when touring shows import their equipment, but in this case a lot of people got a lot of work. There were a lot of crosshires, with the entire Meyer PA in Perth hired locally from Norwest/Clearia and Coda Audio. Chameleon supplied lights for Perth as well, since the production timeline was impossible for the imported equipment to get there and back.

The touring palace presented some logistical challenges for Stageco, the international staging specialist who designed and built their largest touring stage to date.

Rieu and his production manager/son Pierre asked Stageco Germany to examine a number of technical and logistical challenges after building a life-sized prototype of the stage for concerts in Toronto, where Rieu first performed his "One Night in Vienna" in December 2007.

It was clear that the traditional scaffolding approach to stage building would be time consuming and impractical for an international tour. Stageco's research and development teams in

Germany and Belgium designed a slightly scaled-down structure, 110 metres wide, 27 metres high and 30 metres deep.

Stageco's solution was to use its steel tower-based system, which forms the structure and shape of the "palace". The company developed a new tracking system for this tour which allows the elaborate décor to be raised and lowered swiftly. This speeded up the build and de-rig processes while allowing the scenery to be lowered rapidly in the event of high winds.

The company's understanding of international touring ensured that the system would present few problems at borders: it avoided Australia's tough quarantine regime for imported wood by ensuring there were no wooden components in the system.

In Australia two sets were leapfrogged, CX couldn't get consistent answers about how many trucks this needed, but over 200 shipping containers came into the country which means maybe there were 80 or more trucks at each show. That dwarfs any rock tour.

## AUDIO

Getting consistent sound to every seat in a stadium, usually outdoors, is hard enough but harder when the source is a quiet orchestra who are all close miked. The potential for wind bluster usually leads to a pre-record, where the orchestra play over the top and the sound engineer mixes up whatever works best.

At the designated hour for the CX audio interview, the crew became unavailable due to a sudden orchestra call. They were required to record on the stage for one hour before the house came in. This gives a clue to the need and the use of a backup recording. It also shows the difference between a fussy, unionised and public funded orchestra (like we usually see in Australia) and a fulltime, happy ensemble who do what they are asked. Andre employs all his people fulltime, and tours 11 months a year.

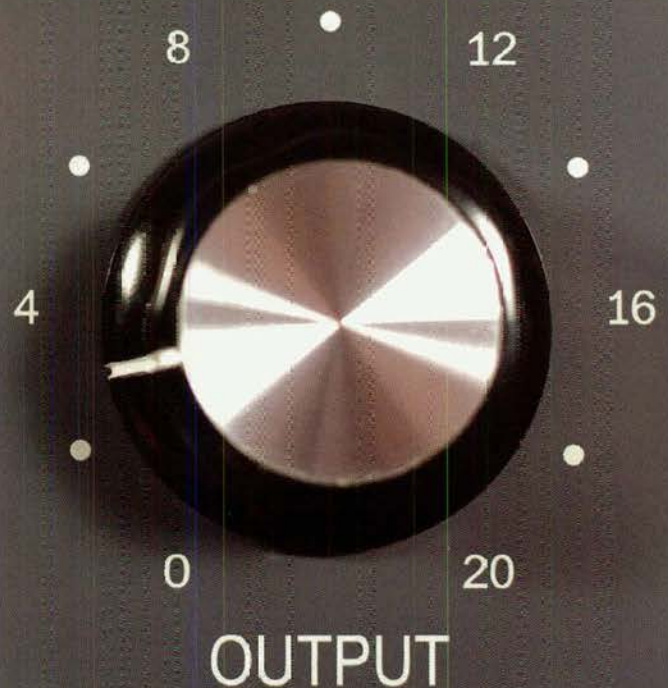
There's no doubt that they do play live, and the sound was brilliant in Level 4 East, Row 15, seat 20 – the back of the house. The Melbourne concerts attracted a few criticisms of sound, but on the basis of timbre and fullness where the critics were comparing with a recital hall. As far as CX is concerned, the audio team on this tour delivered exactly what was required.

Audio supplier Solotech from Canada have served Andre for a decade or more.

David Brazeau, Senior Project Manager of Solotech has worked with André Rieu since 2000 while his colleague Fred Cantin, Head of Audio, joined the tour in March this year. They work to a brief created by Ancré Rieu and Front of House Engineer, Wim Van der Molen.

"André can be a fierce critic when talking about sound," says David. "He knows exactly what he wants. At the preliminary stage of the design, he decided he wanted the same atmosphere and the same sound quality

# TURN UP



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wherever we went. Therefore, we needed to test the sound with the new structure and the new decoration elements to make sure it would work. This meant we had to find solutions which avoided using delay towers in stadia as far as possible. That was probably my biggest challenge.”

As a result, the team specified Meyer Sound components throughout with a PA consisting of 48 Milo for the main system, with 12 700HP. On the side arrays were 32 Meyer Mica with 8 700-HP subs. Another 20 Mica did front arrays.

To get sound out to the back, 16 Meyer SB 1 soundbeams were used, along with delays of 12 MSL 6 and 6 MSL 4’s.

Monitors were usually mixed from FOH, and included CQ1, CQ2, UPA-1P, UPJ-1P, UM-1C and UPM-1 devices. 44 were used in full. Plus there were some MSL-4’s stacked around the fountains for near fill.

The mixing consoles are a Yamaha PM-1D and a M7CL 32 inputs. Most of the instruments are mixed in the PM-1D except the Violins that are mixed using the M7CL. All FOH components and the stage are linked using Neutrik Opticalcon fiber system. There are

2 Riedel Artist 1D interfaces for the PM-1D control to/from FOH connected to 2 redundant DSP-1D. Those are clocked externally from a Rosendahl Nanosync HD so are the Yamaha AD8-HR (used as external preamps for the M7CL) and then convert into an Auvitran network to FOH. Basically, there are no copper links to FOH (apart from comms).

The drive of the system is all Soundweb 9088IIs (X14), Soundweb 9014 (fiber interfaces) and Soundweb 9000 (hubs) at different locations to minimize the copper links. This makes it very versatile and adaptable.

RF is all Shure UHF-R and all the microphones are a combination of DPA, Neumann, Sennheiser (lavs and MKH-40)

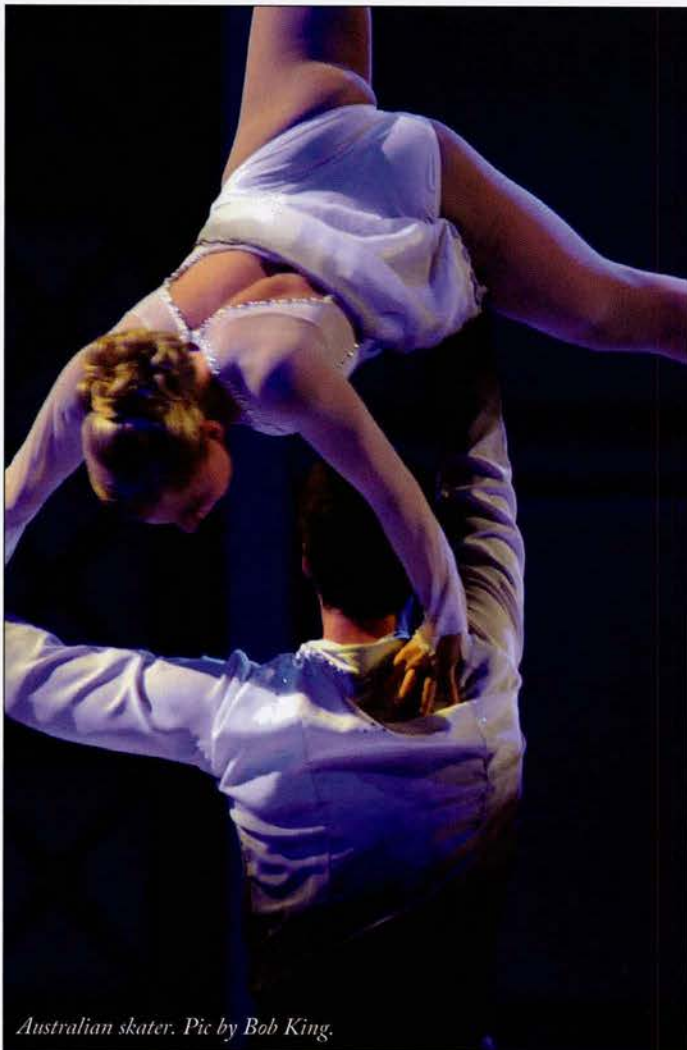
The monitor are mixed from FOH by Wim Van der Molen (André’s FOH engineer). The system is tuned using Meyer sound SIM-3. The system tech is Fred Cantin and the SIM tech is Alex Forgues.

There are Meyer Sound Beams (SB-1) set up on specially designed StageCo outrigs to eliminate the need for delay systems.

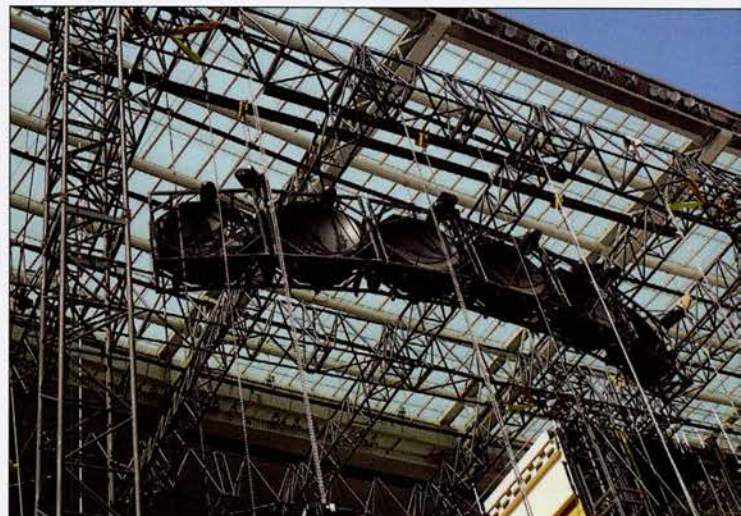
“André Rieu has been using Meyer sound since ‘Day One’. It’s a versatile system that can be reconfigured if need be. Also, the self powered advantage makes it easier for cross hiring of extra PA. You know what to expect when you are renting a self-powered Meyer Speaker in another country. This is part of the solution to keep the same consistency,” says David.

Fred explains the particular challenges presented by a classical spectacular of this nature. “The PA has to be discrete but efficient. The visual aspect is very important as people want to see the orchestra, but not the big speakers hanging there.”

The role of making the speakers, lights and screens as unobtrusive as possible fell to Head of Rigging, Johan ‘Joop’ van den Heiligenberg, who has been a member of the André Rieu team since 1999. “I work with every department from load in to load out. I start once Stageco has done its work, and it takes four to five hours to hang all the motors. This is a heavy show: the first thing Werner at Stageco said when he joined the tour was, ‘You hang more equipment than The Rolling Stones and Robbie Williams.’ I get comments



Australian skater. Pic by Bob King.





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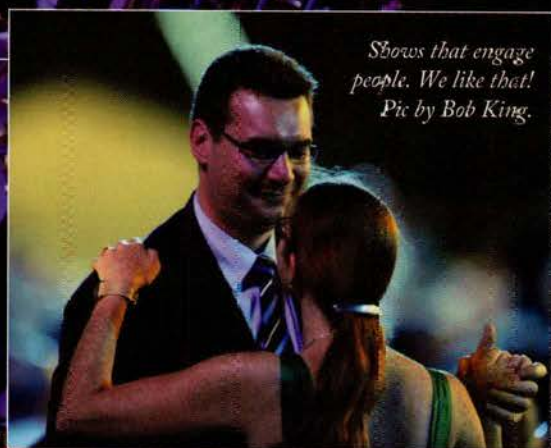
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*Shows that engage people. We like that!  
Pic by Bob King.*

*The talented Australian soprano Mirusia Louwerse. Pic by Bob King.*

like that every time we arrive at a venue!

"The large orchestra, the details such as Christmas trees, chandeliers and decoration, as well as all the lights, sound and cameras means everything has a very specific place. Attention to detail is vital."

## LIGHTS

Richard Bovee, André Rieu's Lighting and Power Production Manager, has the challenge of creating a lighting design that matches the 'wow' factor of the stage and set. The technical specification for the show was the result of extensive discussion between Lighting Designer Maurice Verbæk, Richard Bovee and André Rieu himself. "On the first show at Schönbrunn we discussed the lighting with 'the boss' himself. He explained that he wanted a fairytale quality to some parts of the show, a moon-song quality to others or specified certain colours at certain times. With that information, the designer started work, using an ESP programme to visualise the lighting."

The result is a tableau of complementary and contrasting colours which mixes with the mood of the performance: from upbeat waltzes and exquisite ballet performances (on ice and on a real ballroom floor), to the emotion of the solo performances building towards

the celebratory and climactic finale.

"For the tour we have 450 moving lights and approximately 400 conventional lights, mostly Martin and Vari-Lite with High End Showguns." For the Australian tour the team will be deploying the brand new Mac 3, recently launched at PLASA. "It has high output, a very effective zoom and impressive new optics," says Richard.

Control was from two Wholehog 3 consoles with 49 DMX universes.

## VIDEO

The video element of the production is equally challenging, with an operation that features six giant screens, nine cameramen, three technical assistants, eight projectors and two brand new robot cameras.

Video designer and director, Michel Fizzano, has worked with Rieu for the past ten years, and the Schönbrunn project is the most ambitious so far. "For the first show in Toronto last December, we had six giant screens: two 30' x 40', two 18' x 24', and two 12 x 24' portrait screens. Our challenge was to master the complexity of having a different signal routed to each screen: at any moment of the show we could send a different picture to each of them. In contrast to

normal television, where you have a director to call the shots and assistants at the controls to mix, I do everything myself."

"Watching 11 cameras at the same time, calling the shots, cutting and mixing is a 'mind boggling' task. After a show I don't want to watch any more TV monitors!"

Michel uses LED screens for the outdoor shows, while the indoor events use two converged 20K Christie projectors for each of the 30' x 40' screens, one 20K Christie projector for each of the 18' x 24' screens and one 16K Christie projector for each portrait screen.

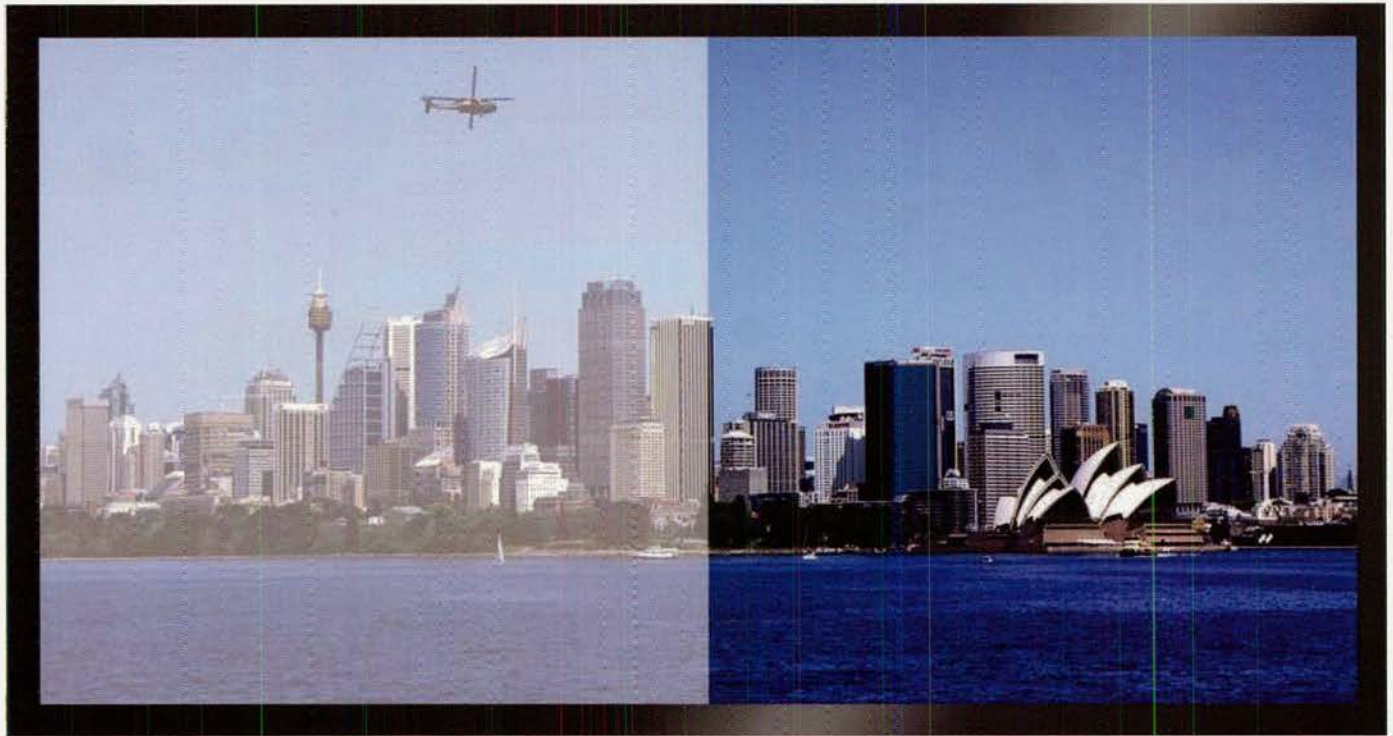
## WOW!

Did we mention the fountains? And how long does it take to freeze the ice rinks, outdoors in summer? Those questions and more went unanswered, as the touring crew were worked to within an inch of their lives and several appointments we had were broken. That's the nature of our business, the show comes first.

Notwithstanding the amazingness of all this, everyone we came into contact with had nothing but good things to say about the Man Himself and the family vibe. What a genius!



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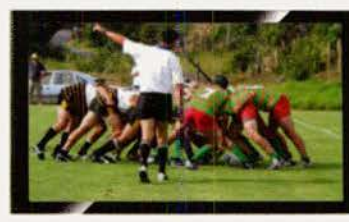
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# CALLED TO THE CHURCH

...and not entirely ready for it

*Dunk finds the Lord working in increasingly mysterious ways.*



BY DUNCAN FRY

Well, it's that time of the year again. A time when we put aside old differences, catch up with old friends, reminisce about the old days...BTW I'm talking about Christmas, not a celebrity funeral. Hang on though - no, I'm mistaken - the original celebrity funeral was Easter. Christmas was the original celebrity christening. Sister Mary Elephant (thanks Cheech and Chong) would have me writing out the Old Testament ten times for getting that wrong.

Just before Christmas, I got a phone call from LL, the drummer from the Amazing Harris Tweed Band. And that's amazing in the sense that they're still going and that people still want to hire them!

"Dunk," he rasped, in the voice of a true forty-cups-a-day man, "Get out your cassock and iron the dog collar - we've got a gig in church!"

In church? This band? In the immortal words of Lord Gnome from Private Eye magazine, 'Shurely shome mishtake?'

I found it hard enough to believe that someone had been thinking of hiring a band for a church function without having to accept that their mind had naturally gravitated towards a band solely consisting of members of Atheists R

Us. The AHTBs\*\*\* weren't organised on the same lines as Alistair Crowley's hedonistic devil worshippers, but not far off.

How on earth had they got this gig?

And then I had a thought. Perhaps LL had realised, as we all must do eventually, that he was on the inexorable downhill path to the twilight years, and everything that entails. Maybe he was ensuring himself a spot in a church sponsored twilight home for retired drummers - a place where the sole dinnertime conversation consists of "So, what sticks do you use?"

"What sort of church is it?" I asked, as visions of 60 Minutes stories on some of the more exciting brands of religious enthusiast flitted through my mind, making the risk of being stoned onstage by thousands of adoring believers who had no Sympathy For The Devil (a popular opening song for the lads) seem very real.

"It's a church over in Balwyn (a middle class conservative Eastern suburb of Melbourne, immortalised by Skyhooks' song 'Balwyn Calling')," he replied, sensing my unease. "So it's safely out of the Born Again Belt. And guess what? They're supplying full production for us!"

Sensing an easy way out for myself, I saw my chance and took it "Full production? So you won't be needing me

then?"

But LL was not letting me wriggle off the hook that easily.

"Don't be silly - you'll have to play guitar too. And see if you can find one from your collection that will stay in tune, willya?" Ouch - a below the belt strike referring to my liking for ultra light gauge strings that went flat as soon as my giant sausage-like fingers touched them!

He had one more parting shot to impart.

"Oh, by the way, we've gotta back Doug Ashdown on a couple of songs, too. I'll email you the charts."

And with a click he was gone.

Doug Ashdown. There was a name I hadn't heard of in a while. Like many other people in the late 70s I had a copy of his hit Leave Love Enough Alone, more commonly known as Winter in America. It featured heavily on my late night seduction cassette tape that I had loosely titled 'Hot Lips, Cold Hearts and Fornicator's Favourites'. Along with Paul Williams 'Waking up alone', Jim Croce 'Time In a Bottle', The Eagles - anything in 3/4 time - Lobo 'I Love You Too Much To Ever Start Liking You' - who hasn't used that as a breakup line - and other favourite songs of relentless, mournful self-pity.

Aided by a cask or two of red, I used to make it to at least the second or third

song before passing out!

So, I was quite looking forward to getting the music and finding out what the real chords were to the song.

When LL's email arrived, I printed out the attachments and eagerly scanned the music. And then my heart sank. The music was in a key that had six flats in it! How could this be? There are only five lines on the music stave; surely no key could have more flats in it than that?

As I type this I can hear in my mind all those keyboard players that I treated in such a cavalier manner in one of the more recent stories are now laughing themselves silly at my expense 'Six flats? Looxury. We 'ad to play everything with eig ht flats in it when t'keyboard got ploogged into 110 volts accidental like!' (Apologies to Monty Python's Three Yorkshiremen).

To digress momentarily, at primary school I was a bit of a whizz on the recorder, and entered a school competition to win a delicious second hand lump of stewed liver with onions. Second prize being two lumps! For the final I chose the theme from the Dam Busters movie, a tricky piece in B flat. Tricky because the descant recorder is primarily a C instrument, and some fancy

fingering was required. So, overawed by the occasion, I fluffed a couple of notes, and lost out to some snivelling, smug little turd who played Mary Had a Little Lamb or something equally banal in C, and made no mistakes. I caught up with him in the playground later, and judging from where I left his recorder he was farting in B flat for the next month or so!

But it was a KISS (Keep It Simple, Stupid) lesson I never forgot (and as I imagine, nor did he).

Nonetheless, this music looked way too tough for me, so I rang up RH Positive, the bass player in the band and keeper of the lost chord.

"Have you seen this music?" I yelled down the line. "Holy crap, what key is it in?"

"Ah, no problem," he replied, "it's in G flat."

"G flat? Who plays anything in G flat on a guitar?"

"Oh, it's pretty easy," he explained, "you just use a capo and play it normally."

Hmm. It's always good to know one's limitations, and unless it is something simple like Mr Tambourine Man with the Bob Dylan capo position and only 3 chords, then I'm lost. All those dots on the fingerboard just dance before my eyes

and the music dribbles to a halt.

The joke about 'how do you make a guitarist turn down? Put a chart in front of him' is precisely correct in my case!

"I tell you what," I suggested. "How about you call him and see if he's got the charts for the Maracca part"

"I don't think there are any maraccas in it as far as I can tell," he replied.

"Even better," I laughed, and hung up!

In the end, the gig went surprisingly well. Doug turned out to be a hell of a nice guy, and GT, the other guitarist, handled the song pretty well, while I just wandered off to the side of the stage and did nothing. It's what I'm best at!

However, Doug's final number with us gave me some cause for concern. It was Bob Dylan's 'Knockin' on Heaven's Door'. Rather prescient of him really; as I looked around the rather elderly audience it seemed to me that not only were most of them doing just that - they had one foot in the grave and the other on a banana skin as well!

*\*\*\* The band's name, not Attention Hyperactivity Deficit Syndrome blah blah (A.K.A bored kids), although the similarities are considerable!*

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# AC/DC

## WITH A WHOLE LOTTA 'ROCK 'N' ROLL TRAIN'

*Here at CX we reverently await the next AC/DC tour, Australian dates to be announced. There's some connection with the band.*

**B**rilliant Stages built the spectacular focal point of the Black Ice Tour, the 'Rock 'n' Roll Train.' Conceived by Fisher Studio's Jeremy Lloyd and Mark Fisher, the centrepiece is inspired by the first track of AC-DC's new album and requires a 'life size' steam locomotive which appears to have crashed onto stage.

The locomotive needs to be hidden upstage at the top of the show before, self-supported and powered by crew alone, moving 4.5m downstage to slew round into its final position between two video walls and over the walkway.

Various effects needed to be incorporated into the design, including lighting, pyrotechnics, smoke, CO2, headlights, a brass bell and deployable, light-up devil horns, not to mention concealing - and then supporting - a huge inflatable known as "Rosie"!

The complete centrepiece, as always, has been designed for touring needs with all parts fitting into 10' long, 8' high, 44" carts for trucking and upper deck air-freight.

Stufish enhanced the dimensional effect



Photos by Mark Fisher @ Stufish



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by adding an exaggerated perspective to the design, a maquette of which was made before being handed over to Brilliant Stages to work on the full-size fabrication.

Rob Edkins team at 2D3D created the strong, lightweight panels of the locomotive's skin from thin-sectioned GRP, which the ever-strong CAD team at Brilliant Stages had to marry, along with the other effects, to a suitable rolling and slewing sub-structure.

The sub-structure is based around a 1500kg, 2.9m x 1.5m x 1.8m high steel base turret with two cantilever arms, supported by a reinforced section of the main performer stage. The stage section has been designed as a rolling support to be integrated with the main stage, enabling the locomotive to be built remotely from the main stage

and then rolled into place, thus aiding construction time and space in tight venue halls.

To assemble, the panel support structure consists of a four-tiered truss arrangement to facilitate building the locomotive from the venue floor. These are raised by hoists as each layer of panels is added, finishing off with an aluminium 'cow-catcher' and distressed, 'broken' aluminium rails and fibreglass sleepers cantilevered under the train assembly.

The 3500kg locomotive, still on hoists, is then tilted to its 23° show position, and attached to the central turret, after which the hoists are detached, leaving the 10m wide, 8.35m tall (6.7m of which is visible above stage) behemoth freestanding.

Surprisingly, at a total of 6000kg,

the locomotive can be pushed up and downstage by only two stagehands and takes just three people to rotate it to its show position.

Tony Bown of Brilliant Stages comments, "We enjoy the challenges which this kind of project brings. Richard Hartman as Project Co-ordinator and Mo Hale as Head Carpenter have been great to work with. We have worked successfully with Stufish on a number of projects over the years and always look forward to the next creation they will bring!"

Spectacularly lit by Patrick Woodroffe and Dave Hill with Dale "Opie" Skjerseth as Production Manager, the Black Ice Tour marks the first appearance of AC~DC in 8 years.

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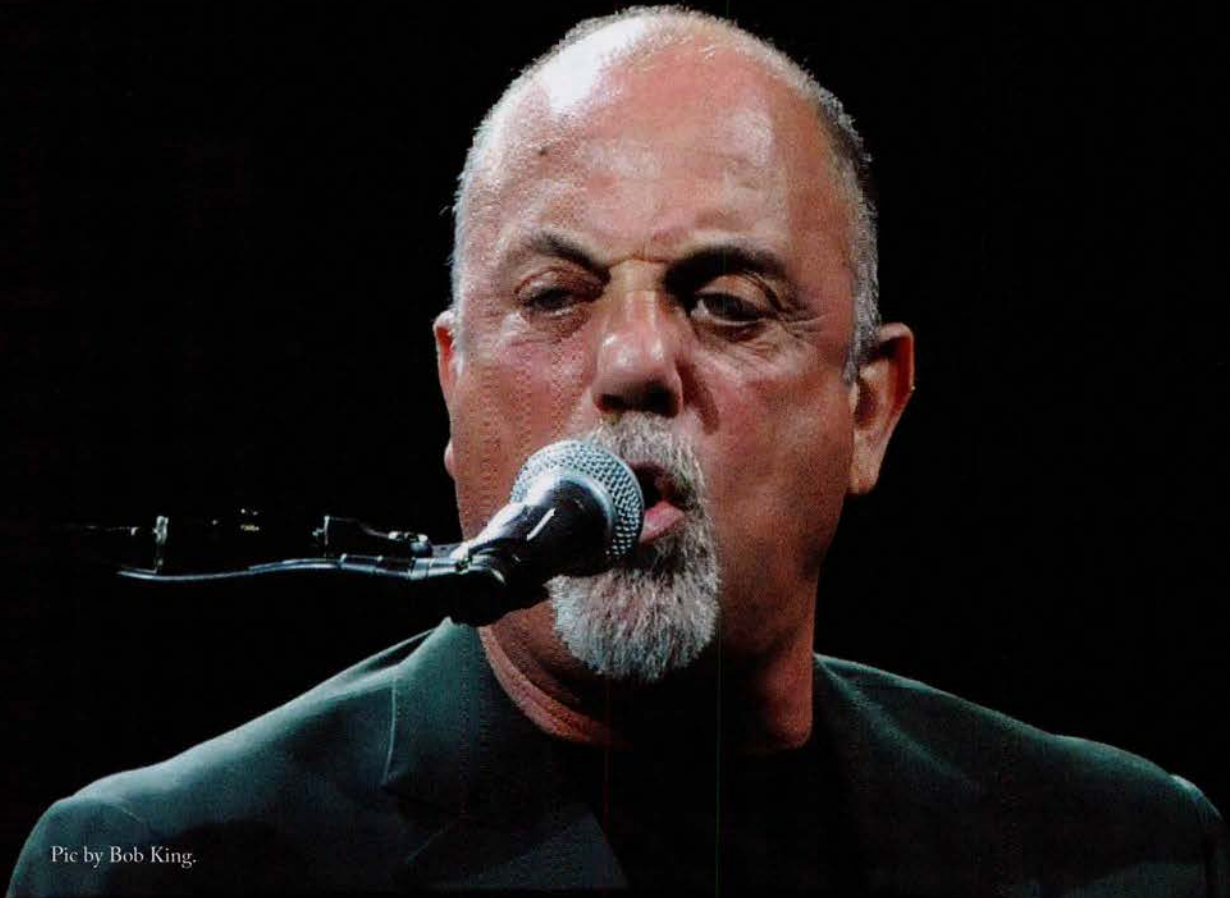
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Pic by Bob King.

# BILLY JOEL

## TOURING MACHINE

*King of the legacy acts, so how good is he?*

BY JULIUS GRAFTON

**B**illy Joel's 2008 tour of Australia became a financial mess with the mega plunge (40% fall) of the Aussie dollar. His management at Gelfand, Reenert and Feldman take no prisoners, so Frontier Touring had a cold shower despite selling plenty of shows. My seat at Acer in Sydney cost \$349 in row 6 and the chunky chook next to me half blocked the view, her cheaply shampooed hair kept whipping my face.

Thinking about it, I'm not averse to a little whipping by a bottle blonde on the dark side of 40. Until tonight I hadn't ever managed to score one. She and her happy fat friend were so much into

the gig and having fun that I didn't say anything. They did – yelling to each other continually. The dour facial expressions of the people in front of them said it all. They were getting quad sound – concert front and cow noises from the ugly rear. Frankly it grew too much to take so I started finding empty seats, rolled out of each one when its owner returned from the bar or the loo. Homeless in the VIP section. What a feeling.

I think now I'm into Ovation and pay to view. \$25 for a concert like this on TV at home would be awesome. Then I'd miss the accurate live sound mix, but get multi camera angles, the lights, and lounge service from my gorgeous one at home.

For the record, there were around 30,000 seats sold at 2 Acer shows in Sydney. One sold out and seated all around, the other one, which I attended, with a back drape.

### CLAIR BROTHERS

With Clair having the global Billy Joel deal, for Australia it means Jands provided a JBL Vertec system, which seems to work really well in Acer. For the second Sydney show a large drape covered the back ultra high seats that weren't sold, but it didn't have much bearing on the acoustic. Acer is a well behaved large space, with all seats padded and properly treated walls.

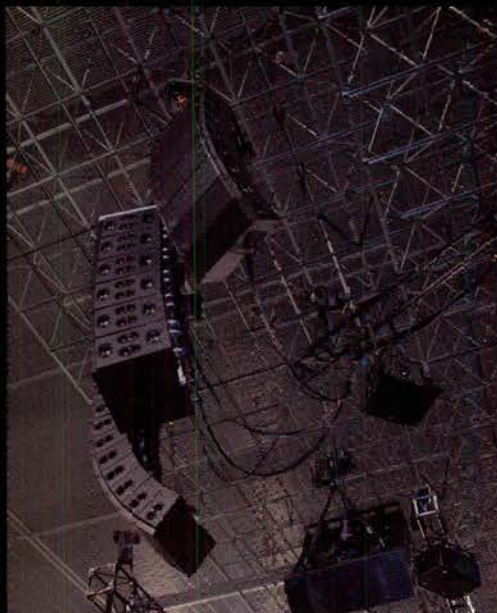
Brian Ruggles is the live sound

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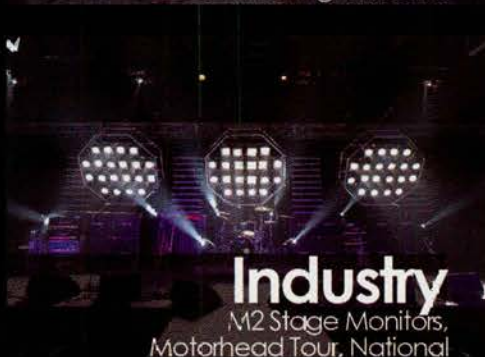
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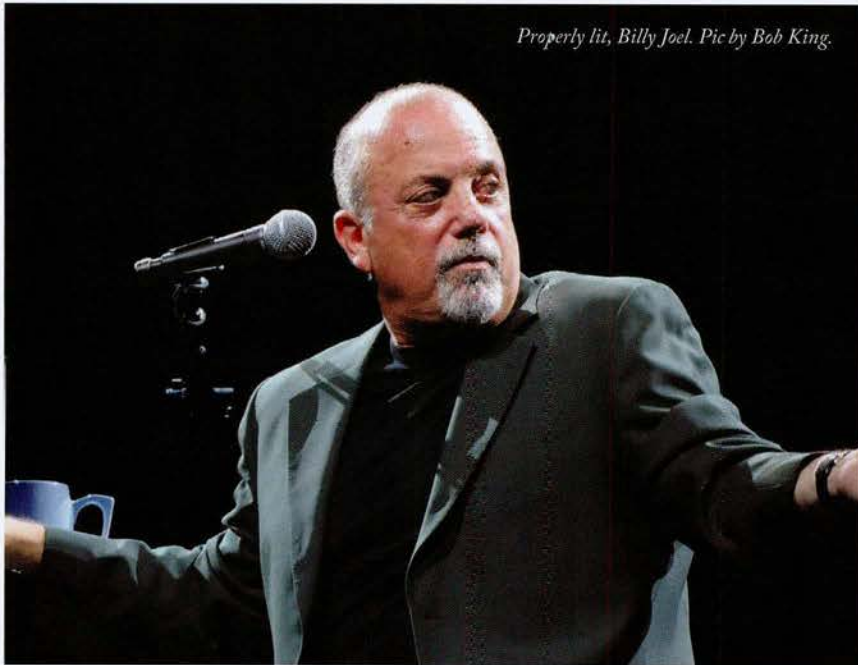
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*Properly lit, Billy Joel. Pic by Bob King.*

producer, and jointly responsible for the show design along with Lighting Designer Steve Cohen. The mix was 'on the money', and presumably pleasurable due the diverse songbook and the tightness of the band.

You want tight? This was Toto tight, with just seven musicians backing the man. A super big kit of drums almost

hid Chuck Burgi, while New York cool looking guys on Keys and Guitar filled out stage right. Handsome and strangely tanned they were. Centre rear was an astoundingly good percussionist, mouth harp and sax player (Crystal Taliefero) who also produced the only female backing vocals.

Transfires that Andy Cichon on bass

originates in Adelaide. There is another brass player. That makes an ensemble which fits around the staggeringly good pop piano from Joel's fingers.

Lots of Clair AM12 wedges are used, mostly under the Tait Towers stage. I didn't see in-ears on this gig.

Best of all, they didn't do Uptown Girl.

Joel plumbs his back catalogue – Zanzibar, New York, The Entertainer, and Billy the Kid. Then there is Italian Restaurant – “bottle of red, bottle of white” and the lights do that. Oh, the lights...

## LIGHTS

Angry Young Man starts with a fast piano riff, and the 24 movers on the low rear truss all lock in and gobo upwards into the thirty foot void behind the seven musicians. Joel has the band around him in less than fifty feet of stage, so the lights have some space to fill. Red drapes are the dressing at stage rear for this show, the previous Sydney show was sold right around the rear.

This is clever LX, the rear audience – when they are there – can see over the top of the bottom truss. There is a top rear truss too, and the profile movers are mirrored on both.

Two feeble IMAG screens far left and

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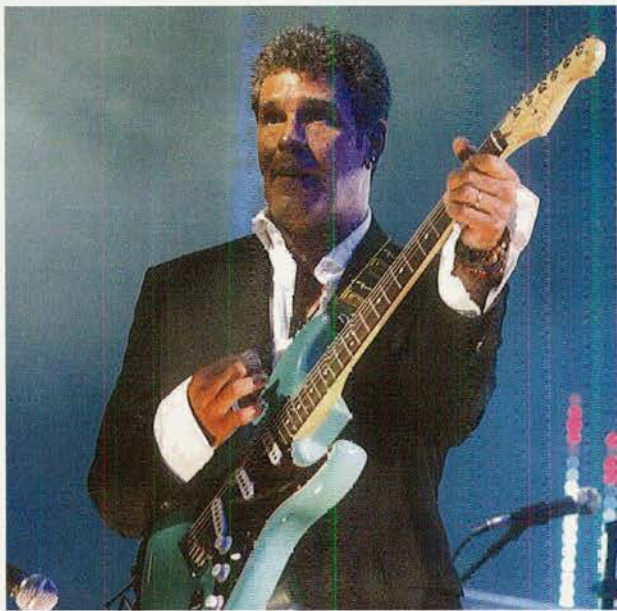
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# SHOW DRAPES



Percussion, mouth harp, guitar: this is Crystal Taliefero.



New York look, this is Tommy Byrnes, MD.

right placate the people in the cheap (\$200) seats.

13 follow spots in the trusses mean that the money is lit all the time, with colour and precision. This is one of the best lightshows I've seen, piloted by long time Joel collaborator Steve Cohen. A special mention: the orange gel in the followspots was lush.

It's also one of the neatest rigging jobs as well, with cables railroad tracked along trusses and the tidiest of cable drops. The lights came in from the USA, as PRG do a global lighting gig for the act. This accounts for the tidiness.

A 'T' truss runs out over the audience, and a really large number of aircraft landing lights or audience blinders do just that. I start closing my eyes in anticipation, and feel the heat on my face each time they arrive.

As known, I can't stand poor use of moving lights but I can't find anything in the Billy Joel show that warrants a bad word. Colour, movement, mood, timing and Mr. Joel is always lit properly. Take note, kids.

CK

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# ROAD STORY



*Since it's just after New Year, a summer tour story is most appropriate for CX!*

## FROM THE LIGGER'S DIARY

Long time ago, don't really remember when, we took an Orana 8 tonner with 6 tons of gear to Bundaberg and back, with only 16 stops along the way to do gigs. We started with four crew, and came back with four, but they weren't all the same guys.

### DAY 1

With a support band crew of two, we loaded out of Cardiff (stairs) in just under 2 hours. The pack wasn't too tight, but at

the back were four 18' winchups which I had discovered only ever went 16' tall. Go figure. **Highlight:** Keith the kid unfolding the pajamas his mum had packed for him.

### DAY 2

Newcastle Gronknuckle Inn. Mixing console could be upwind or downwind of the do it your self BBQ. I chose downwind, disadvantage the smoke but at least I could watch the girls try to cook meat. **Highlight:** The stage guy got a girl who had friends. They didn't mind waiting while we loaded out in just 1 hour.

### DAY 3

Coffs Harbour – Plantation. Not a good day, with a hangover, a late departure (8am) and a blazing sticky hot wind blowing through the truck cab. 3 crew in a Falcon wagon, me in the truck. Picked up a hippie chick and at least had someone to talk to. Average gig, strange crowd.

### DAY 4

Teranora Lakes. This is where the JX5 crossover went on the fritz, thus causing a stereo PA to become mono. I hate that! **Highlight:** Keith ringing mum in tears

*"I write songs that ask for extreme shifts in dynamic and volume..."*



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*Glenn Richards Augie March*



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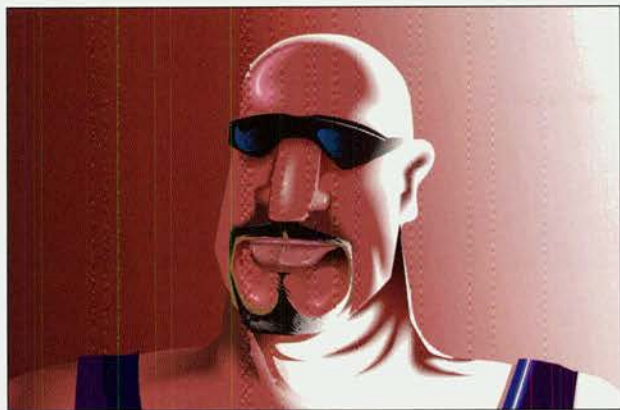


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EAR MONITORS AUSTRALIA



because the monitors guy was ragging him about his PJs. I saw the writing on the wall and got onto a crewing agency in Brisbane to arrange a new lightie.

### DAY 5

The Playroom. This infamous icon, on the highway at the Gold Coast had a wonderful owner, I think her name was Beryl. She appeared onstage for the encore, with a bottle of champers.

**Highlight:** Unbelievable quality and quantity of suntanned babes, one of whom was only too happy to have a little liedown in the truck sleeper.....

### DAY 6

...was off, so a sleep in until about 2pm was in order. We'd gone to the Jet Club after the Playroom to catch up with another crew and help them demolish their bands' rider. I don't remember driving the truck back to the motel. I especially don't remember backing it up to the wall, so no one could break into the back. As if they would.

### DAY 7

A dreaded lunchtime gig at Uni of Queensland. My personal least favorite gig was anywhere with Uni students, and today was no exception. Load in at 9.30am and bust a gut to start at 1pm. Horrible pissed hoons everywhere. Then loadout after a 2.30 finish, on the road at 4pm, and into some forgotten pub in the suburbs for a night gig. Mad rush all day. **Highlight:** bedtime.

### DAY 8


That club in the Valley. Somehow easy for a late loadin, use the house PA, put my mixer and FX rack in, and the new lightie Derek used mostly club poop. Fast and simple, bad crowd, band off colour. **Highlight:** Derek wasn't Keith.

### DAY 9

Gympie whatever it's called club. They don't have registered clubs like we knew in NSW up here. It was upstairs (I think) and it was kind of hokey pokey. Nice secretary in the office, all flirty blonde and plunging cleavage. I spent fruitless hours plying her with drinks before the headline band and she went with the drummer instead. Grrrr. **Highlight:** putting a motel breakfast order for everything (to be delivered at 6am sharp!) on the drummer's doorknob as he capitalized on my hard work inside.

### DAY 10

Bundaberg! Who in their right mind would want to tour further north than this in summer? It was so humid you'd sweat while sitting still. We celebrated our turning point with a great gig, the support were good, and the T Bone steak tasted unreal.

**Highlight:** Home was only 10 days away, due South. 



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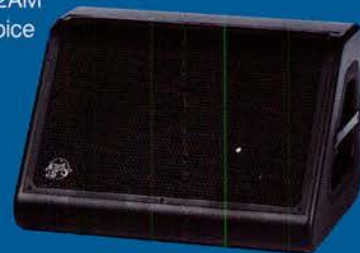


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# history



We go back to February, the hot and sticky month that frankly we don't enjoy. This is a good time to go to New Zealand, which is wonderfully temperate while Australia bakes and sweats. Then again, there is always Tasmania.

Anyway, welcome back to the future as we plumb over our magazines from 10 and 15 years ago. Not long until we turn 20, whereupon there will be another, older trove of bad grammar and dodgy layouts to embarrass us.

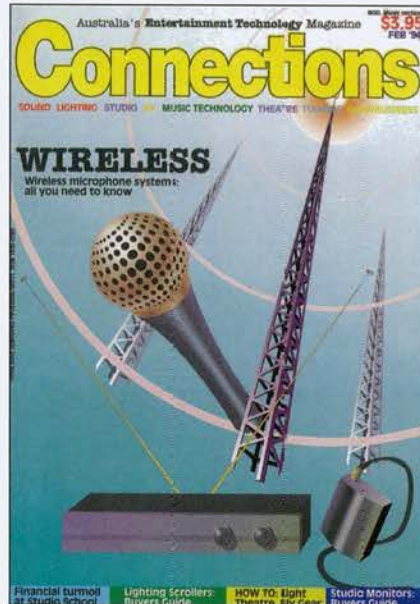
## 15 YEARS AGO: FEBRUARY 1994

**Opera House Crew Strike:** Technical crew at the Sydney Opera House downed tools for 24 hours as their union and the management locked horns.

Peavey launched Media Matrix, and what a success that product is today. It was probably the biggest departure from a core market we've seen, Peavey of course are still firmly known as backline / instrument makers.

Juke Magazine closed. On the Street, one of the first street rags, was an unhappy ship. Cyberlight was launched by High End.

Still on Tina Turner, there was another letter supporting our complaints



that the engineer mixed the vocal too deep into the band at a Sydney concert. Mark Woods was a former Tina Turner engineer, and he stressed the main vocal always needs to be on top. That's the primary job of the sound engineer, isn't it?

On the same theme, another letter slams the acoustics at the Sydney Football Stadium, now known as Aussie Stadium, for the U2 concert. With several hundred S4 boxes spraying sound indiscriminately



the slap back off the curved stadium room garnered player complaints. It was the first time punters complaining about sound really started to cost promoters money.

Studio Course Crisis, this story was about an audio college run by Paul Rich, and went on to talk about a trail of unpaid bills associated with a recording studio. Along the way there was a dispute with students who had prepaid for their

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courses.

Also in this magazine: plenty of snippets from the era. A long feature on ATM Flyware. When lots of stand alone speaker boxes needed to be flown, you needed lots of steel and shackles. These days, the line array comes with a proprietary flying system. We forget how hard things were.

Teatro, Cloud, Celestion. Where are they now? For that matter, there's an advert for Mackie in this mag as well. Then there are the complete miss technologies, like Nimbus. We wrote that it could be the video CD format of the future. It wasn't, the DVD came along.

#### WHAT WE PAID:

- Clay Paky Miniscan 300 \$2999.
- Crest 9001 amplifier \$8,280.
- 1000w Selecon PC spot \$345
- Showcraft Par 64 Scroller \$1,470
- Yamaha QY20 sequencer \$1,095.

#### 10 YEARS AGO: FEBRUARY 1999

'No year 2k bug stories!' the cover says. At the time there was a real media beatup underway fuelled by the I.T. guys who swore that life as we knew it would stop when the computer clocks turned from 1999 to year zero. Airplanes would fall out of the sky, power stations would shutdown, yada yada. It was a painful myth which generated countless dollars for charlatans everywhere. We pointed out that anyone could test any system by resetting the clock.

Fairlight was valued at \$44 million as a chunk was sold to a culture capital fund.

Australia had embraced the summer festival. We listed a bunch of them, and just Livid, Falls and of course Big Day Out survive to this day.

A really good PA Page by Michael Orlard detailed the precarious nature of using Mini Disk as a show backing medium. Various acts had been embarrassed by the things skipping or outright failing. A professional act he toured with had 2 broadcast MD decks in a foam lined rack with a A - B switch for the outputs. One wireless remote fired both units in tandem with the same disk, and if they malfunctioned, the stage guy just hit the switch so the good unit took over seamlessly. Memo all sound ops: have a redundant deck.....

The strangeness that was Greater Union Entertainment Technology was restructuring and expanding ahead of its eventual death. It didn't make sense 10 years ago.

Modem too slow? It took 30 minutes to download a 5Mb file on dial up. Broadband arrived, \$495 to buy a cable modem, then \$65 per month for the first 100Mb of downloads. Then 35c per meg thereafter. Wow!

Dancing and bass - Nick Orsatti reported a formula which goes: number of punters dancing equals  $SPL_{/m} 2(df)$  over the price of one standard spirit times 0.05. This is where SPL capacity is measured per square metre of dancefloor. Right.

Great story about Blondie the band where the LD had rules established by the act: 'Don't flash, don't use a load of colour, and don't have wiggle lights going 'wiggle wiggle'. We love it!

#### WHAT WE PAID:

- Beyer U400 wireless system \$3,499
- Yamaha O1V mixer \$4,000
- Soundtracs DPC-II console 'from \$140k'
- CLS 2 metre tri truss \$531.80.



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# NEW LAMPS FOR OLD

*While the entertainment production world has been busy romancing the new generation of LED fixtures, physicists and electronic techs have been busy marrying two technologies that have yielded another lamp source to rival LEDs in efficiency and surpass them in other areas.*

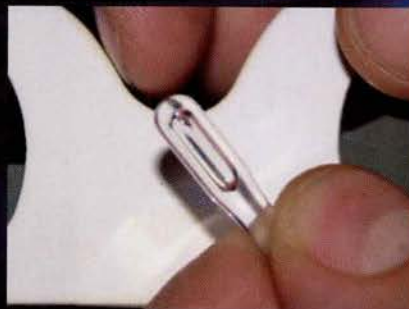
BY RICHARD CADENA

The new LiFi solid-state plasma lamp is a tiny bulb, radio-frequency power supply, and electronic circuit that puts out a tremendous amount of light in a very efficient manner.

## TINY AS A TIC TAC

Just how tiny is the bulb? They're so small that you could probably fit about 36 of them in a Tic Tac box, which is the number of Tic Tac that normally comes in that box. That's because they

are roughly the same size as a Tic Tac. But the power supply is slightly bigger, coming in at about 10x10x7cm, so the entire package with the bulb, power supply, and circuitry is still very compact.



**Figure 1** - The LiFi plasma bulb is about the size of a Tic Tac.

The bulb has no filament or electrodes. Instead, it is filled with gas and metal halides. The power supply creates an electric field at a very high frequency in the radio band. The electric field transfers energy to the gas and ionizes it, creating a ball of plasma gas. The heat produced by the plasma evaporates the metal halides and then they combine with the gas and give off light - a lot of it.

There are two models of the LiFi lamp at the moment, the LiFi-ENT-30-01 and the LiFi-ENT-30-02, and the manufacturer, Luxim, is pushing them both in the entertainment industry. According to the manufacturer, the '01 produces 11,000 lumens with 230 watts input and the '02 gives produces 17,000 lumens with 280 watts input. If you do the math you'll see that they range from 47.8 lumens per watt to 60.7 lumens per watt. Compare that to an incandescent lamp at about 17 lumens per watt or to an MSR 700 short arc or MSR 200C short arc with an electronic ballast at 80 lumens per watt or 86 lumens per watt, respectively. So the LiFi compares favorably but it doesn't have the highest luminous efficacy on the planet. So what's the big deal?

The big deal is that the plasma source is so small that it is easier to gather and use the light it produces than the light produced by a short or medium arc lamp. Therefore the light emitted can be more useful and the fixture efficiency can be higher.

## GOOD LIGHT, GREEN LIGHT

Besides being an efficient package, the light produced by the LiFi also has a color rendering index (CRI) of 91 for the '01 and 94 for the '02. That means that it renders colors very well, especially compared to an MSR, which has a CRI of about 80. The reason for the higher CRI is more easily understood when you look at the spectral power distribution curve of the LiFi, or how the light is distributed through the color spectrum.

It's a much more continuous spectrum than a typical discharge lamp (see figure 2) and it is fairly well balanced between the red and blue ends of the spectrum..

The balance between the red and blue ends of the spectrum, of course, is also an indication of the color temperature, or in the case of a discontinuous source, the correlated color temperature (the equivalent color temperature of a lamp with a continuous spectrum).

And because it has no filament or electrodes, it has a relatively long life of about 20,000 hours for the '01 and 10,000 hours for the '02. One of the down sides is that, at the end of the rated life, the output is expected to be about half. That's not a fabulous maintenance of lumens.

But the upside definitely outweighs the downside, and it won't be long before you'll start seeing these lamps in the field

### WAGONS HO!

Already, at least two entertainment lighting manufacturers have jumped on the LiFi bandwagon; Robe and Ocean Optics. Robe has a prototype fixture using the lamp in a moving yoke assembly that looks to the naked eye to be comparable to a typical 575-watt fixture. It has a beautifully uniform field because the arc doesn't wander between

the electrodes and the optics don't image the electrodes, since there are none. It is expected to hit the market some time in 2009.

Ocean Optics is already shipping a fixture with the LiFi lamp source – the Nemo. The color-changing ellipsoidal reflector spotlight uses an ETC Source Four front end, the SeaChanger dichroic color mixing engine, and the LiFi lamp in a custom-built back end. The fixture specs claim an output of 15,000 lumens

with only 180 watts of input power and 15,000 hours rated lamp life. The source is another version of the LiFi called the ENT-30-OL.

It's unlikely that the LiFi will overtake LEDs or even come close to gaining as much market penetration in the near future. But it's also likely that more and more entertainment lighting and video manufacturers will build luminaires around this unique lamp source. Tic Tac anyone? CX

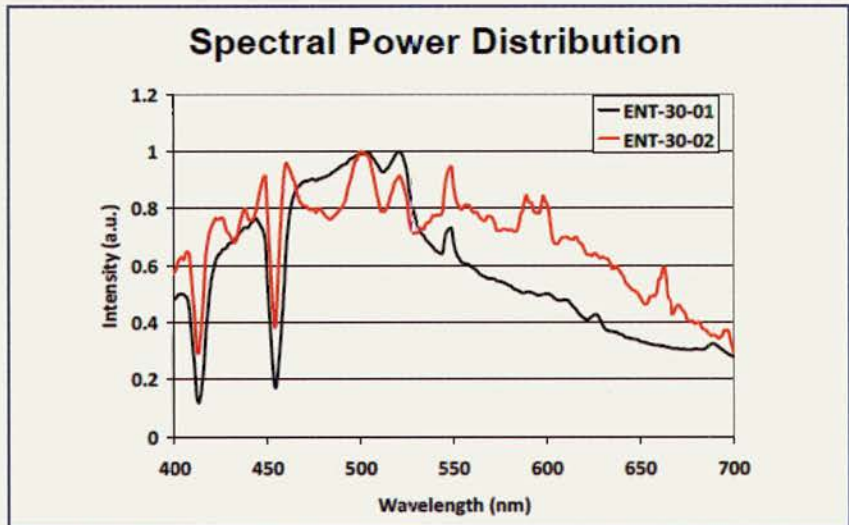


Figure 2 - The spectral power distribution curve for the LiFi lamp shows why it has a high CRI.



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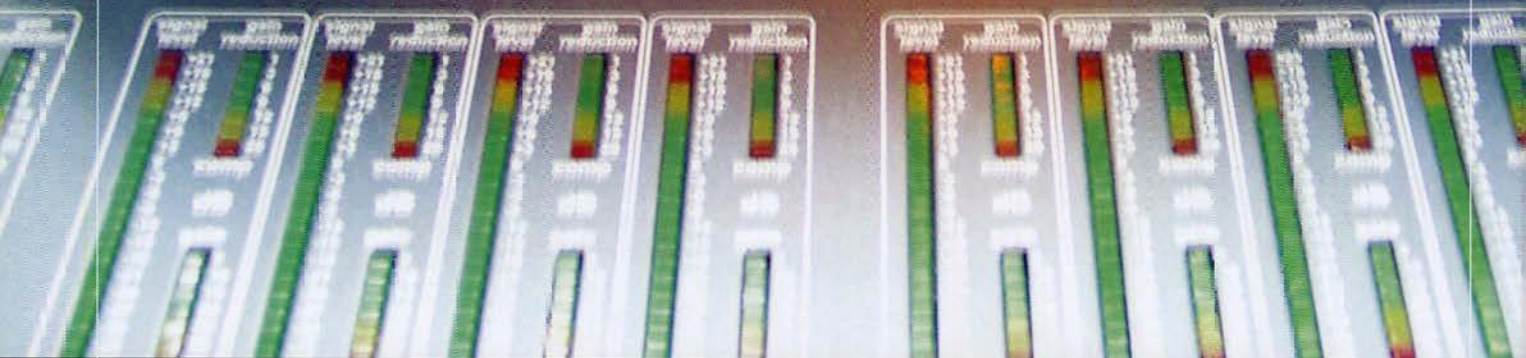
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# PRO 6

LIVE AUDIO SYSTEM

## MIDAS PRO 6 DIGITAL DESK



*The system for the rest of us, based on the XL8. CX takes a first look at the Midas solution to the 100 grand question, which is 'who gets the sale?'*

BY JULIUS GRAFTON

**M**idas Pro 6 is the digital mixing platform for the times if you are migrating up from analogue Midas. It may also be a brand changer for users of other consoles, who tended to stick to their preferences when the consoles were all conventional.

Priced right at around 120 grand, the system comes pre-wired and patched in most excellent roadcases complete with 2 x 100 metre Cat 5E multicores. After you

plug in a forest of power cables, you start to mix.

Like the XL8 from which it is derived, the control surface – let's call it the mixer – can be operated by two engineers. Why you ask – but an example was the Led Zeppelin concert in London where Page and Plant each wanted their own engineer, so it was. Hey – they're paying! On the Pro 6, one engineer can use the 12 input bank on the left with a channel control strip and screen, while the other uses the four input bank on the right, which also has its own channel control strip and screen.

In case you're wondering, you could mix the same channel in both places, which opens up a big can of whup ass.



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## I O, I O IT'S OFF TO MIX WE GO.....

Micas do things with military precision, the Pro 6 is no shrieking violet in the tough devices lineup. They say they've dropped it more than once, and that the mixer has a steel backbone into which go two spigots from the roadcase floor. This is to keep the weight off the patchbay at the back when the case is on its wheels. Tick that box, and it goes towards understanding why the mixer weighs about 100kg before it is cased.

Then there's the redundancy, with up to three power supplies in some places, including the mixer. They say there hasn't been an XL8 death, with 90 shipped.

Cutboard is the local rack, and it is shipped in a roadcase. At stage is a stage rack with the processing. Cat 5 hooks it all up.

With the work surface energized and alight, the two screens radiate Airbus like and promise to work in sunlight as well as at altitude. This is a most attractive system, and unmistakably Micas in appearance.

There's a lot of depth and complexity in the explaining, so we are focused just on mixing with Pro 6, not the extreme flexibility and alternate ways to do things. To make it affordable, they deleted some of the extra surface real estate of the XL8, so there are less ways to control the dynamics on Pro 6. Three different ways to set the compressor threshold on any channel is enough, isn't it, compared to six on the XL8.

There's 56 controllable inputs on the mixer, organized into 14 blocks of 4. If you want to bump along in blocks of 4, eventually you'll find channel 56 and whatever is on it. A better way is to hit a VCA button.



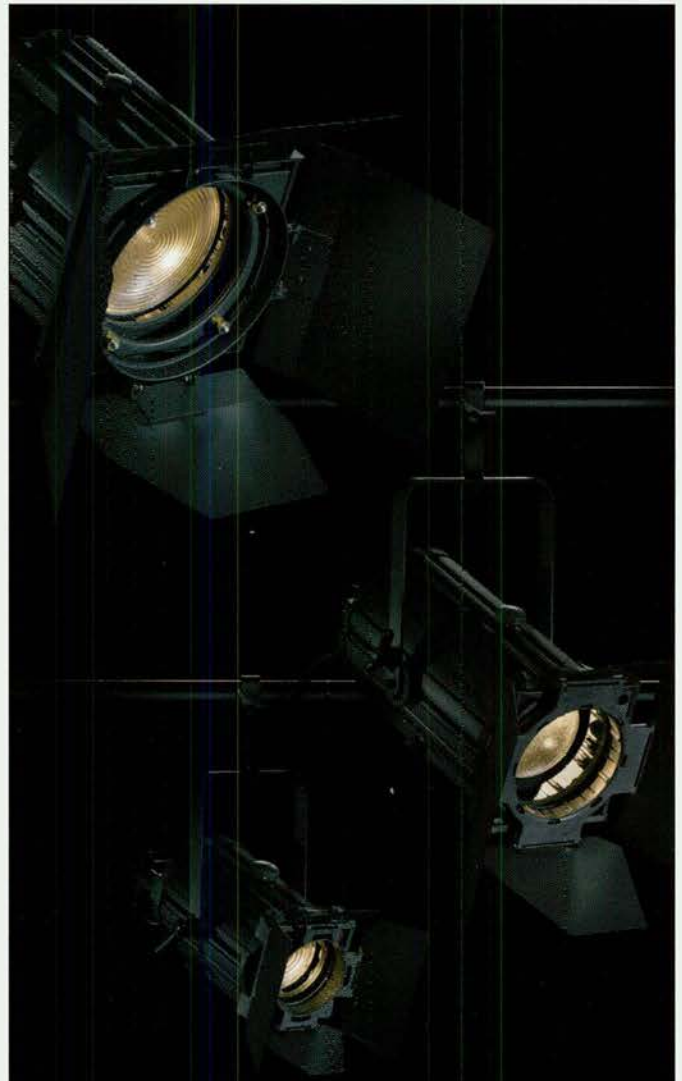
## VCA? REALLY?

They spent a lot of R&D time to retain these traditional initials, which no longer can possibly mean Voltage Controlled Amplifier, since there is no such analog-ism in the system. Now they say it means Variable Controlled Association, which loosely describes what happens when you use one.

There's 10 VCA faders and 10 big LED backlit select buttons. These can be coloured, and labeled. In use you'd group things onto them, like Vocals, Drums, Horns, Percussion, Guitars, Keys and so on. When you hit one, you get that bunch of channels delivered to the 12 input faders on the left, and all the LED buttons all go the same colour.

Think GREEN, and put all the vocals on green. YELLOW for Guitars. How about a random arrangement of your most busy channels, with the main vocal always on the 12th fader – the one nearest? You can do that.

Above the 10 VCA groups are 6 POPulation switches, which give you VCA style grouping but no master fader for each of these 6 groups. Again, this is a handy way to get any group of channels onto the input faders, and again, colour code them.



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## PATCH TIME

You can control up to 264 ins and outs on this system, albeit in lots of around 80 at a time. There's 32 mix busses, plus left/right/centre, so you have 35 real time outputs available anytime.

An endless myriad of options means you can have A & B inputs, different stages, and things going everywhere in a venue. Vast majority of cases, this is a 56 input system with up to 35 outputs and some inserts on the local rack.

One slight oddity is that there are but 3 mic inputs on the local rack, along with 24 line inputs. This makes it slightly bothersome if your act has a B stage somewhere near the mixer, since those mic lines will need to go somewhere else, like back to the stage rack.

Nicely there is a RTS, or 6.5mm jack option for inserts on a local card at the back of the mixer. Really, there are enough of everything on the standard system to make 95 out of 100 engineers happy.



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## MIX TIME

Without having done a mix here, I suspect I'd settle down fairly quickly and enjoy life in front of a Pro 6. The ergonomics are great, the feel is really solid, and the P&G Faders feel like they'll keep going for years.

It will take me a while to get my head around the sectional EQ though. This is an XL8 feature where there is one band of EQ with four buttons. You choose Low, Low Mid, High Mid or High, and use the same three knobs to do the parametric EQ thing.

Dynamics is the same, there's 6 knobs and some buttons but once you operate the files you get an assortment of devices. Midas spent a lot of time creating differently styled compressor limiters – 8 in total. I didn't really know there were so many to choose from!

The presentation I saw was by Richard Ferriday from Midas, and he says that a Midas distortion is not a dirty word. They have apparently toughened up the A to D converters, or moved the red light threshold lower, so you can flog the inputs and get less of the fried egg noises that usually arrive with a hot digital input.

Finally, there's a lot of third octave EQs available (and links to Klark's RadidE controller too) but it is only when optioning up a lot of EQs – such as when doing a stage monitor mix – that you have to get selective about processing power. This means maybe less effects in favour of more EQs. But it's a moot point, and can be overcome on the options list by buying more processing.

## CONCLUSION?

Buying for Church, Venue or Touring, then you need to shortlist this. The decisions are getting harder. Soundcraft, Digidesign, DigiCo, and Yamaha all now offer systems in this spec set.

Midas promise a specific sound, huge reliability, and complete interchangeability with all the XL8 hardware. At around 120 grand, it looks neat.



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# KLEIN + HUMMEL PRO X SERIES

*Not every PA is a line array, and not every situation requires one. Klein + Hummel may not make a concert line array, but they do make an impressive range of small PA boxes. CX dragged a pile of them into the bunker for a test run...*

BY ANDY MACKENZIE

**K**lein + Hummel are a German loudspeaker company with a long history. Established in 1945, the company became part of the Sennheiser group in 2005. They build studio monitors, installed PA boxes and the Pro X touring PA range.

## THE INVENTORY

When we asked the team at Syntec to send us some K+H Pro X boxes, we weren't sure which ones we wanted, so they sent us the lot. We wound up with three pairs of different full range boxes, a pair of subs and a system processor. We didn't get any amps, so we sneaked up the road and pinched some from our neighbours at Lots of Watts. Not that K+H don't make suitable amplifiers, we just didn't ask for them.

The smallest of the test rigs is the Pro X12/80. This is a full range two way system using a twelve inch bass driver and a one inch horn. The Pro X12/60 also uses a twelve, but combines it with a coaxially loaded two inch mid/one inch high combination horn, giving it a little extra grunt. The same horn system appears in the Pro X15, coupled with a fifteen inch bass driver. Any of them would be fine on their own for some applications, but there are always going to be times when you need some bass extension. This is where the front loaded double fifteen Pro X SubL comes in.

## BUILD AND FINISH

Straight out of the box I liked it. It all looks good and is finished well – and consistently – throughout the range. All the boxes are built from heavy ply, and they feel incredibly solid. To complement the good looks of the system, K+H offer two grille options – if you expect the things to get a bit of bashing around you can get a version with the metal outside the foam, but if you really want the best looking option you can have the foam



outside the metal grille. Even if you're not that fussed about the appearance of the thing your clients might be.

With all this sturdy construction and heavy plywood, these boxes are anything but lightweight, particularly in a world where people have got used to small speaker boxes being plastic. This has been allowed for in the handles fitted to the boxes – they are proper handles cut into the ply and they're in the right places to present a balanced load when lifted, unlike many of the handles fitted to lighter boxes.

Handles are only one of the things the boxes are well equipped with. The entire range is fitted with flying hardware – the Pro X12/80 has threaded inserts while everything else is fitted with flying track. Everything has feet where it should, including the sub which has feet both on the bottom and the side, allowing it to be stacked in different ways. To go with this

multitude of stacking options, the sub cabinet is riddled with shallow, precisely placed cutouts to interlock the stack on the sub. This makes the stack more stable and ensures that the mid/high boxes are correctly aligned or arrayed.

Connectivity for the whole system is accomplished using Speakon NL4 connectors, with two switches on the back panel switching the Pro X15 into active mode. When the whole system is running two-way, you can loop through the sub to the top box as you would expect.

The only thing that left me slightly uncertain about the physical design of the boxes is the idea that they can be laid on their sides for use as wedges. I tried this, and wasn't totally convinced by the results – the angle was a bit low for my tastes and I thought it was a bit too easy for a clumsy musician to knock the thing off balance. If it was to be a success as a

wedge, I'd like to see a larger surface on the ground, and a more upwards tilt.

### SOUND QUALITY

I like the sound of the boxes – it's smooth, clear and consistent across the frequency range, and has a definite hi-fi quality. The similar voicing across the range means that they could be combined effectively in an installation. Hooked up to the LabGruppen amps, they gave plenty of output from a relatively compact package on a small footprint.

If I had to come up with any criticism of the sound of the system, it would be that it's slightly hot in the high mids, up around 3-5kHz, but it's not much and there are plenty of people out there who'll just see that as slightly enhanced vocal presence. Some people will also feel that the sub could be a little bigger to match the Pro X15 mid/high – again a minor criticism.

Clarity and intelligibility are both excellent, even when the rig is running hard – it goes loud without any significant increase in harshness, remaining crisp and clean. You could obviously run it into distortion and disarray, but we backed off when the processor told us to.



The Pro X family - 15, 12/60 and 12/80.

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## APPLICATIONS

You could stick this system in just about anywhere, in just about any application, and get a good result. It would be outstanding in applications where speech reinforcement or musical accuracy are critical, and conversely may perform slightly less well in environments where raw SPL and sub-bass are the defining points. Not that there's anything wrong with the system, I just think the nightclub and rock venue markets might want the odd extra sub.

The boxes are small enough and easy enough to fly that they could be made very effective in a range of contexts including churches, theatres, function centres and commercial sites like shopping centres.

The system is also solid enough to tour, while providing sufficient versatility to cater for a broad range of gigs, although I would probably steer towards wheelboards and lightweight covers rather than roadcases – just to keep the weight down a bit.

## SYSTEM PROCESSING

This isn't really a review of the system processor, so I'm not going to go into exhaustive detail about its capabilities, just a few quick points. The Pro C28 system processor will work with any combination of the K+H boxes and has a couple of funky little add-ons like a choice between analogue, AES/EBU and S/PDIF inputs and choices between transformer and electronic balancing on the analogue inputs and outputs.

The processor provides you with everything you'd expect from a device of this type – a bunch of factory presets designed to control all K+H's boxes along with a multitude of user settings and tweaks that allow you to tailor it to your particular application. There are user controls for input and output gain, delay and phase, there are parametric equalizers and crossover adjustments.

All of these features can be accessed from the front panel of the C28 or through an RS232 PC interface. In principle the processors could be used to control speakers from other manufacturers, but I imagine this would be fairly unusual.

## PRICE

The retail prices for the systems we tested start at \$3899 per box for the Pro X12/80. Next up is the Pro X12/60 at \$5749, then the Pro X15 for \$6699. The Pro X SubL goes for \$5549. All these prices include GST and there's no difference in price between the foam outside and grille outside versions.



*The corners of the foam are protected by a little grille.*



*Pro X SubL - All the interlocks, handles, feet and flying points you could want.*

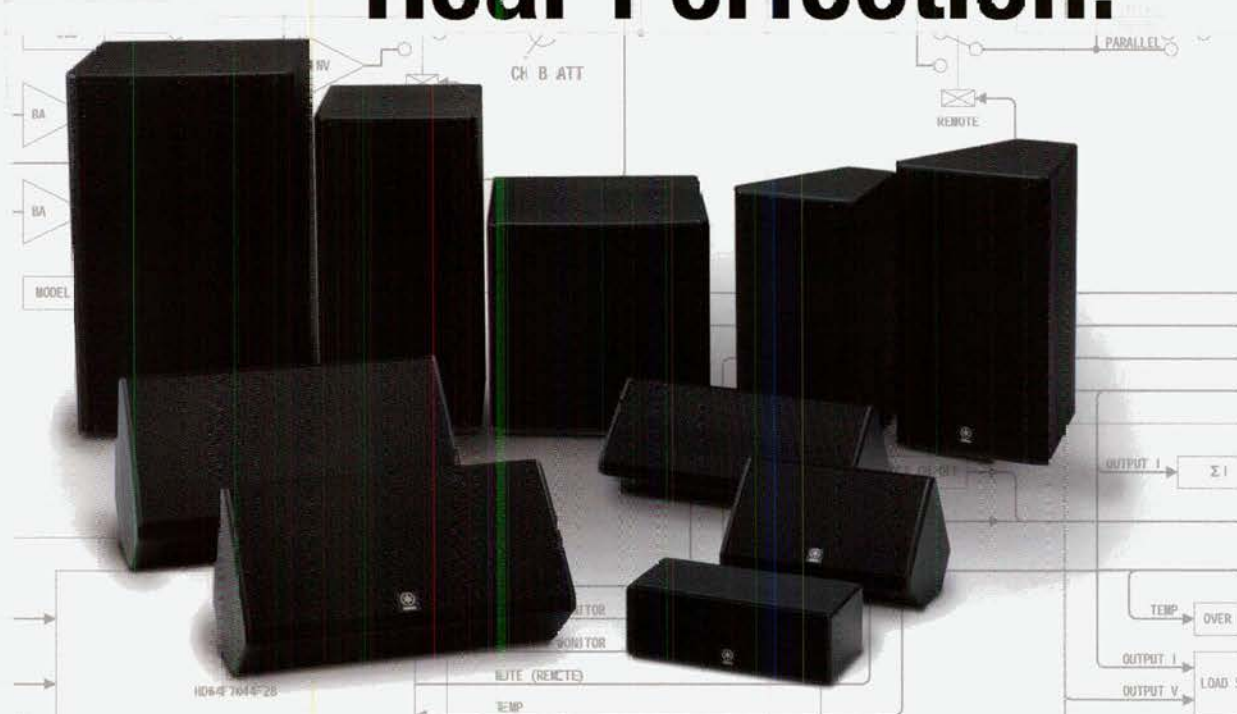
The Pro C28 system processor comes in at \$7599, and the amplifiers in the range are priced similarly to equivalent high powered high end amplifiers from other manufacturers.

When all's said and done, the K+H system stacks up as a quality product at a reasonable price which is capable of

meeting the requirements of a range of users and applications. It's loud enough, it sounds good and it looks nice. The build and engineering are solid and should last well, and the processing is accessible and user friendly. Syntec are the distributor, and they'd be happy to show you the range. **CX**

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# YING WEI LED LIGHTING

*As we showed you last issue, China is big. It's got plenty of people, plenty of factories and handles a huge share of the world's manufacturing – most of it for other people. But what happens when a Chinese manufacturer goes it alone?*

BY ANDY MACKENZIE

## THE YING WEI STORY

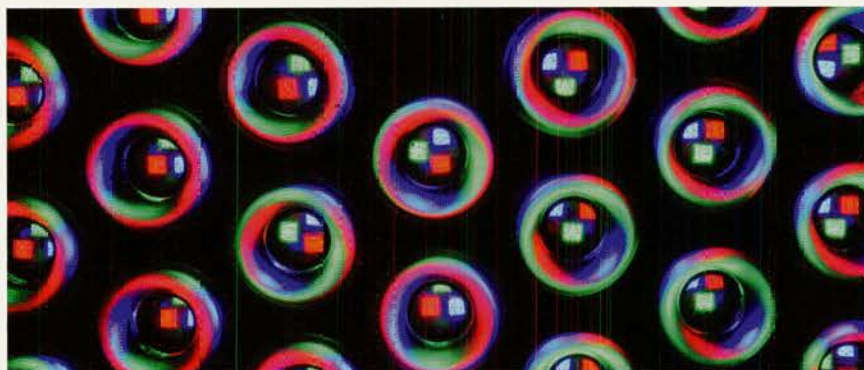
Despite their relatively recent appearance as an equipment supplier in their own name, Ying Wei have been operating for some time as one of China's larger entertainment lighting OEMs. In the leadup to this review CX spoke with David, from Ying Wei's Sydney office, about several aspects of China's involvement in this industry. Chinese companies operating under their own names face a number of difficulties based

on customer perceptions that are not necessarily accurate.

The largest single problem is customer confidence – in product quality and reliability, in the stability of the company, and in after-sales support with spare parts, warranty, service and so on. These are all reasons why it has been good for the Chinese to do the OEM thing for suppliers with non-Chinese names and reputations, but it has also worked against the Chinese in making it more difficult for them to establish their own reputation.

Ying Wei are keen to dispel some of the misunderstandings. On the subject of quality and reliability, David acknowledges that in the early days of Chinese OEM there were plenty of manufacturers who skimmed on quality control in favour of quick profits. Most of these people, he says, are now gone, replaced by manufacturers who are in for the long haul and realise that it's not in their best interest to operate in such a way. The issue of the stability of the company he answers with Ying Wei's history and success in the OEM market.





Tricolour LEDs.

As far as after-sales service goes, dealing direct with Chinese companies in China has always presented difficulties. In this case, Ying Wei have David in Sydney – and he’s not an occasional resident: he lives here, he works here, his local pub’s in Sydney – so if you need local support, you’ll get it.

### BUT ENOUGH OF THIS CHIT-CHAT...ON WITH THE LIGHTS

Ying Wei produce a whole lot of things, ranging from conventional profile spots and multipars through a range of tink-

wee club effects to serious scaled moving heads. Along the way you find a selection of LED devices – a real strength of the Chinese manufacturers – and it is from these that our review products are drawn. The LED City Color 436 is a blinder/colourwash kind of thing, while the LED Color Zoom 54 is a little moving head colourwash.

### THE CITY COLOR 436

This is yet another variation on an already familiar LED theme. Sooner or later, every manufacturer with access to LEDs is going to come up with something along these lines because it’s

such an obvious idea. On the upside, it’s an obvious idea that uses the technology to great effect doing what it’s best for – big bold floods of colour. It wouldn’t be hard to construct an argument that LEDs are to modern lighting what parcans were to the early eighties.

In this case, the unit is square and carries four circular LED panels, each consisting of thirty-six 1W LEDs – twelve each of red, green and blue. The version we had uses fairly narrow lenses, with a beam angle of fifteen degrees, but there are several wider options available. The units are designed so that they can be easily fixed together with captive hardware to build bigger panels, and the whole lot is IP65 rated so it’s good to go outdoors.

DMX control uses eleven channels – the obvious red, blue, green and strobe are in there, along with premixed cyan, magenta, yellow and white. Two of the remaining three channels are for effect and macro programmes and the last one allows you to select individual panels so that you can run different colours or strobe rates on the one unit. This is kind of cool and has obvious applications in large multi-unit panels.

Colour mixing is generally pretty good,

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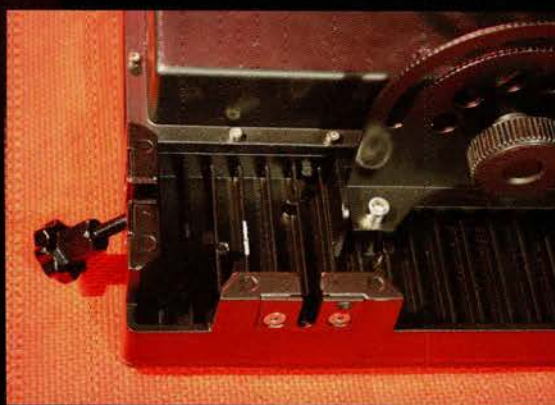
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*The white mix from the tricolour LEDs in the Colour Zoom is much smoother than that from more conventional panels.*



*LED City Color panels can be fixed together to build larger panels.*

but has the standard LED mixing issues – the blue of LEDs just doesn't quite seem primary, which throws the premixed cyan and magenta out a bit although the white premix channel looks pretty good. The other thing which is a common problem to all LED panels mixing red, green and blue LEDs is that the colour mix is really rough close to the fixture and the multicoloured shadows caused by multiple sources are a little disconcerting. These aren't criticisms directed at this fixture specifically – just at the technology generally and within the limitations of the technology, this fixture does its job well.

## THE LED COLOR ZOOM 54

This little moving head device goes some way towards overcoming the multiple source problem by using a 54 LED panel consisting of 54 tricolour LEDs rather than 18 of each colour. Even though the colour elements in each LED are separate, this brings the sources closer together and makes the colour mixing and shadow artefacts much smoother.

Being a moving head this has potential for a greater range of uses than the straightforward panel type product, particularly in terms of use as a beam effect, so the smoother colour mix is appreciated.

In terms of basic functions the unit gives 530 degrees pan and 255 tilt, each with 16 bit resolution and speed set by a fifth channel, along with red, green, blue and strobe. There's one channel driving demo mode, one for reset and a dimmer. This uses a total of twelve DMX channels.

The control data gets into the unit through three pin XLRs on the back panel. Also on the back panel are the captive power lead and corresponding switch plus the straightforward menu controls.

There is also a handle for carrying it about with. Only having one handle is perhaps a little unconventional, but when you could easily carry one fixture in each hand, why not? The rigging hardware and safety cable fittings, on the other hand, are massively over-engineered and could probably be used on a fixture weighing five times as much.

In operation, the fixture works well – the colour mixing is good, the pan and tilt are fast and accurate, the strobe adjustment covers all useful speeds. My only real criticism is that the fan and motor noise is more than I really like. Admittedly, I've probably been a bit spoilt recently by the whisper-quiet fixtures at the upper end of the market. The noise is not enormous, and would probably be fine in any club, concert or similar application, but it might be enough to keep the fixture out of theatre, broadcast and other quiet applications.

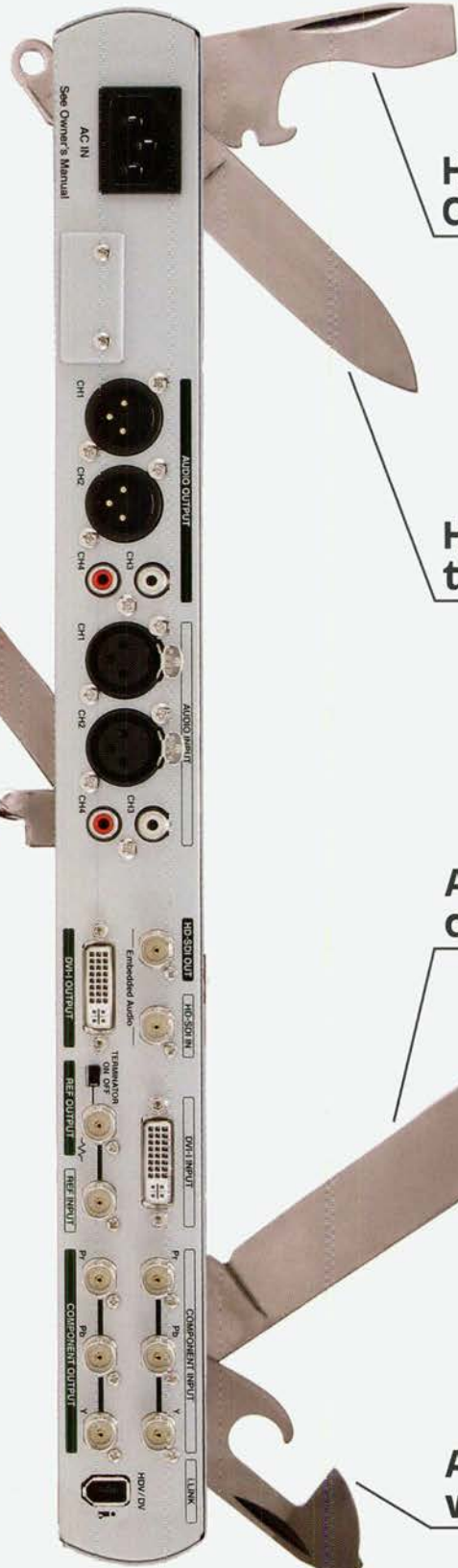
## COSTS AND CONCLUSIONS

Price-wise, both these fixtures come up pretty well, the LED City Color at \$2999 and the LED Color Zoom at \$2599.

In operational terms, they both do what's asked of them, and do it well. As I've said before, the plethora of LED products on the market at the moment rewards the designers willing to put some thought into using them, and I think either of these would be a handy tool to have.



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**John Bowring, Lemac**



# JANDS 4PAK-D



*The Jands 4Pak has been, in its own small way, one of the mainstays of this industry for many years. In its latest incarnation, 4Pak gets smart. By ANDY MACKENZIE*

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It provided a solution to a stupendously large number of small scale lighting problems. The capacity to control four dimmers driven by a single GPO was enough to see 4Paks installed in churches, schools, function centres and every kind of small venue imaginable. On top of this, production companies saw the 4Pak as the solution to two significant issues – venues with no three phase, and the emotional burden of carrying a dimmer rack and console about the place just to run half a dozen 56s and a lectern spot. Add to this the almost bullet proof reliability and build, it's no real wonder there are 4Paks everywhere.

## THE DIGITAL EVOLUTION

The newest 4Pak, the 4Pak-D, has all this and more. Where previous versions relied on old technology analogue dimming control, this one has been hauled into the digital age and presented with a DMX input of its very own. The first obvious outcome is that the 4Pak can now be externally controlled and used as part of a distributed dimming system – if you've got a truss with a few movers and a couple of conventionals on it, the dimming can be done on the truss, reducing the cable burden.

The only negative to this idea is that there's no way to hang the 4Pak up there – it would be nice to see some allowance made for this kind of rigging in future versions. The DMX hookup is standard 5-pin and provides a loop through, while DMX addressing via the front panel is as simple as you would expect it to be.

There are other benefits to the new digital system as well. Since the dimmers are now digitally controlled, the faders are no longer tied to their original purpose – they can be used for other things since they're simply providing input to the digital control. It also allows significantly greater flexibility in terms of chase and scene programming. In the olden days, you couldn't record scenes, and chases were of the 1, 2, 3, 4, 1, 2... variety.

## SCENES AND CHASES

Now you get nine pre-recorded chases, plus the option to record nine more of up to 32 steps each, plus a few other cool functions allowing you to reverse the sequence or crossfade between steps. Fair enough, consoles have been doing this for years but come on, people – this is a 4Pak!

In a similar vein, you can set the beast up to use the faders as playback masters for scenes you have recorded – five faders, four pages, a total of twenty scenes. It's not hard to record scenes or chases – the syntax is broadly similar to Jands' grownup consoles – but it can be a bit perplexing decoding the messages on the display, and I found myself (horror of horrors) reaching for the commendably small manual.

It's also apparently possible to run the things in master/slave mode (I didn't try this – hampered by having only one 4Pak). You connect them all together with the DMX connectors and address them up correctly, then record your scenes using the faders on all of them (up to three slaves per master). The scenes are recorded in the master unit and it controls playback.

## CONCLUSION

So what we've got here is a lightweight, portable device that does everything an old-style 4Pak used to do, but better. On top of that we've got the additional functionality of DMX control, master/slave operation and scene recording.

Not everybody will want all the features it offers, but there are likely to be plenty of people out there who want at least some of them. With a list price under a thousand bucks including GST, 4Pak-D is an affordable and effective bit of gear.



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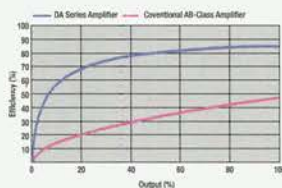


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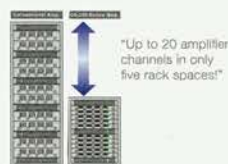
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# MOCOM

POWER VISION

# PROJECTION SCREENS

*Pretty much anything can act as a projection surface provided it's flat enough and reflects light. That doesn't mean that all projection surfaces are the same. When we heard about Mocom's super high gain screens we were intrigued, and had to have a look.*

By **ANDY MACKENZIE**

For the uninitiated, the idea of screen gain is pretty simple – the higher the gain, the brighter the screen. Obviously a projection screen can only reflect the light that hits it, so there will always be a limit to the possible brightness of the projection. Improvements in screen gain are made in one of two areas – the reflectivity of the surface and the concentration of reflected light in the viewing area. Any energy lost in reflection or reflected off to where it's no use is wasted in terms of image brightness.

## HOW IT WORKS

This screen approaches the issue of gain on both these fronts. The surface is an extremely smooth, flat layer of aluminium particles. This reflects plenty of light where you want it while still diffusing it enough to show an image. There is such a thing as too reflective – consider trying to project onto a mirror.

The screen surface is also curved – quite substantially so. The concave shape serves to reflect light far more directly back at the viewer, meaning that when the viewer is in the optimum position the image

is extremely bright. A side effect of the directionality of the screen is that ambient light tends to wash the image out less because it doesn't reflect to the viewer.

I'm not in a position to say if the screen delivers the 18 gain promised, but I will say this. It is noticeably brighter than any other screen we have in the place, and using a smaller projector or making the ambient light conditions worse just makes the difference more obvious.

There is one negative effect of the screen's curvature – because the bulk of the light is reflected directly in front of the screen there is an obvious 'sweet spot' where the image is at its brightest. The image is still good off-axis and effective viewing angles are similar to those of most other screens, and even at the outer limits of the viewing angle the screen still looks good and bright, but there is an observable difference when you move away from the centreline.


## APPLICATIONS

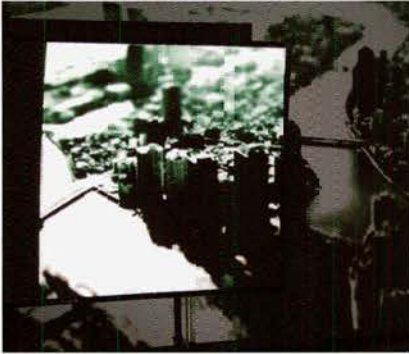
The first obvious point in considering applications for this screen is that the curved surface means it doesn't roll or fold. While you could put one in a roadcase, you couldn't go very big with it. Which means it's not likely to do a lot in

the way of touring.

On the other hand, there are very few users of installed vision systems that couldn't use a screen with higher gain, better contrast and better rejection of ambient light. You could put this into churches, boardrooms, colleges and so on and reap ongoing benefits. Higher screen gain means brighter images – and it can also mean you can use a lower powered projector. This gives savings in terms of energy bills and also in terms of lamp costs, given that some of the bigger projectors out there cost close to ten bucks an hour.

## WHAT'S IT WORTH?

There are a bunch of options in these screens – obviously the bigger ones cost more, but there's also several different surround finishes. Our test screen had the most basic surround, while others come with a highly polished black surround like those on pricey plasma and LCD panels. Anyway, the 75 inch 16:9 test screen as we had it, including the optional floor stand (it can also be very easily wall mounted), retails for \$2648 including GST. The distributors are Ausome Technologies, and they'll be happy to talk you through their range. 



Brightness and contrast are both better than a standard screen.



With the room lights on and a Penhead spinning across the screens, the Mocom screen still looks good while the other is completely washed out.



### SUPER SMALL PORTABLE PROJECTION

When Ko from Ausome arrived with the demo screen, he also brought a projector to try it out with – a rather impressive little toy for small scale projection. The lamp is a single LED, which offers all kinds of benefits. It's small enough to fit in one hand, runs cool so it doesn't need big noisy fans, uses little enough power to run off a laptop-style 19V power adapter, gives instant switch off and restart without waiting for it to cool and offers a lamp life in the vicinity of 30 000 hours (about three and a half years if you leave it on all the time).

It's got the usual array of inputs, plus a USB port which allows it to play video files or display photos straight from a USB drive. The output resolution is only SVGA (800 x 600 pixels) but the image was quite acceptable, especially for video playback.

This turned up in its own special little briefcase which included a small notebook computer, the projector and all its associated guff, and a screen. The screen is a 16:9 26 inch version of the Power Vision screen, and is built into the inside of the lid of the briefcase. A complete portable projection system big enough for most boardroom or other meeting situations, and it only takes a minute or two to set up.

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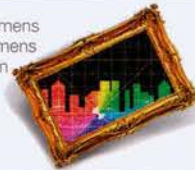
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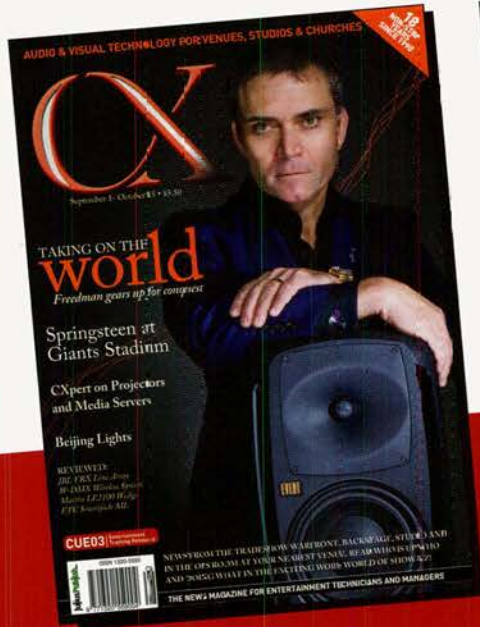
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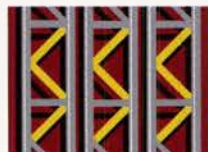
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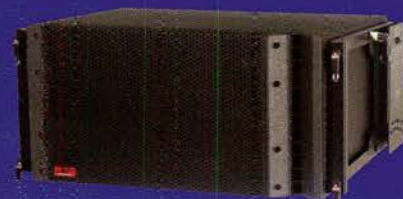
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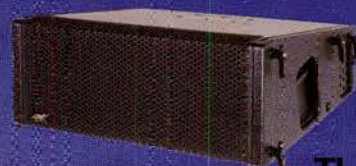
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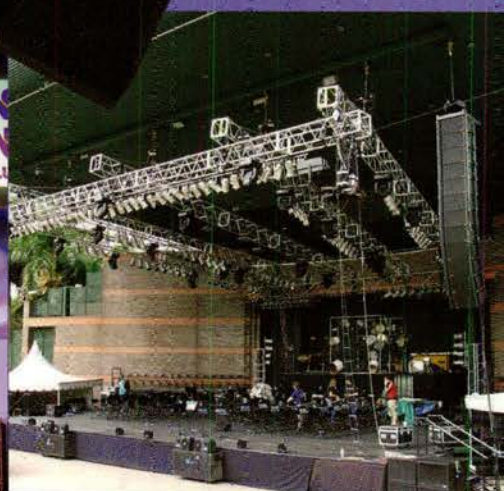
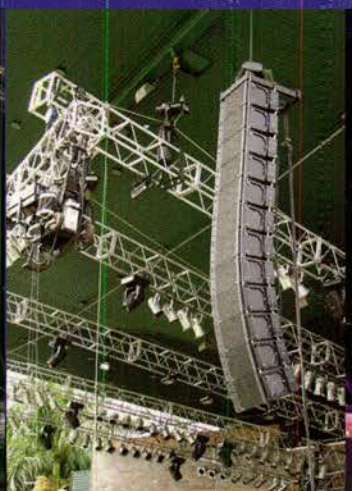
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