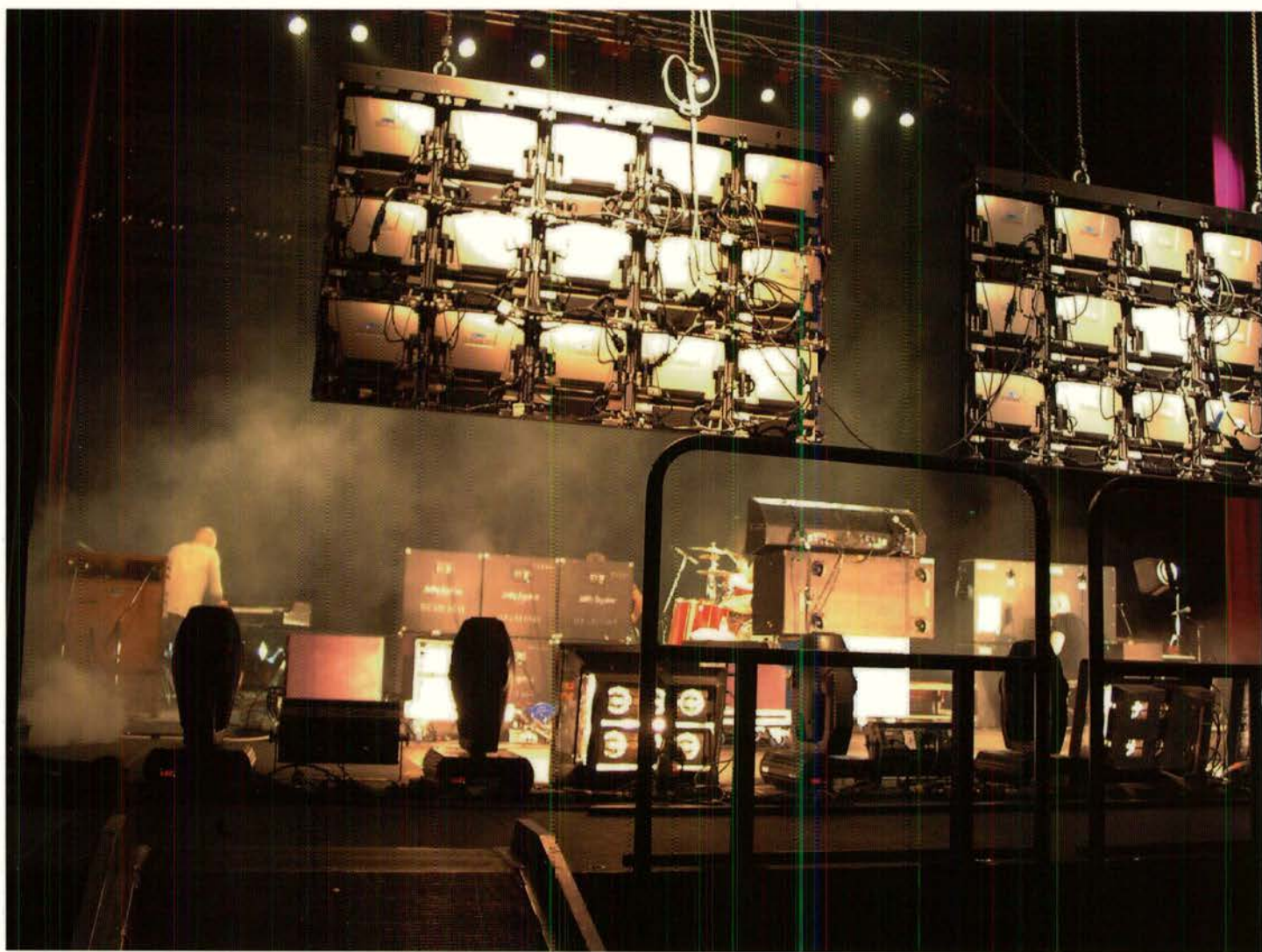


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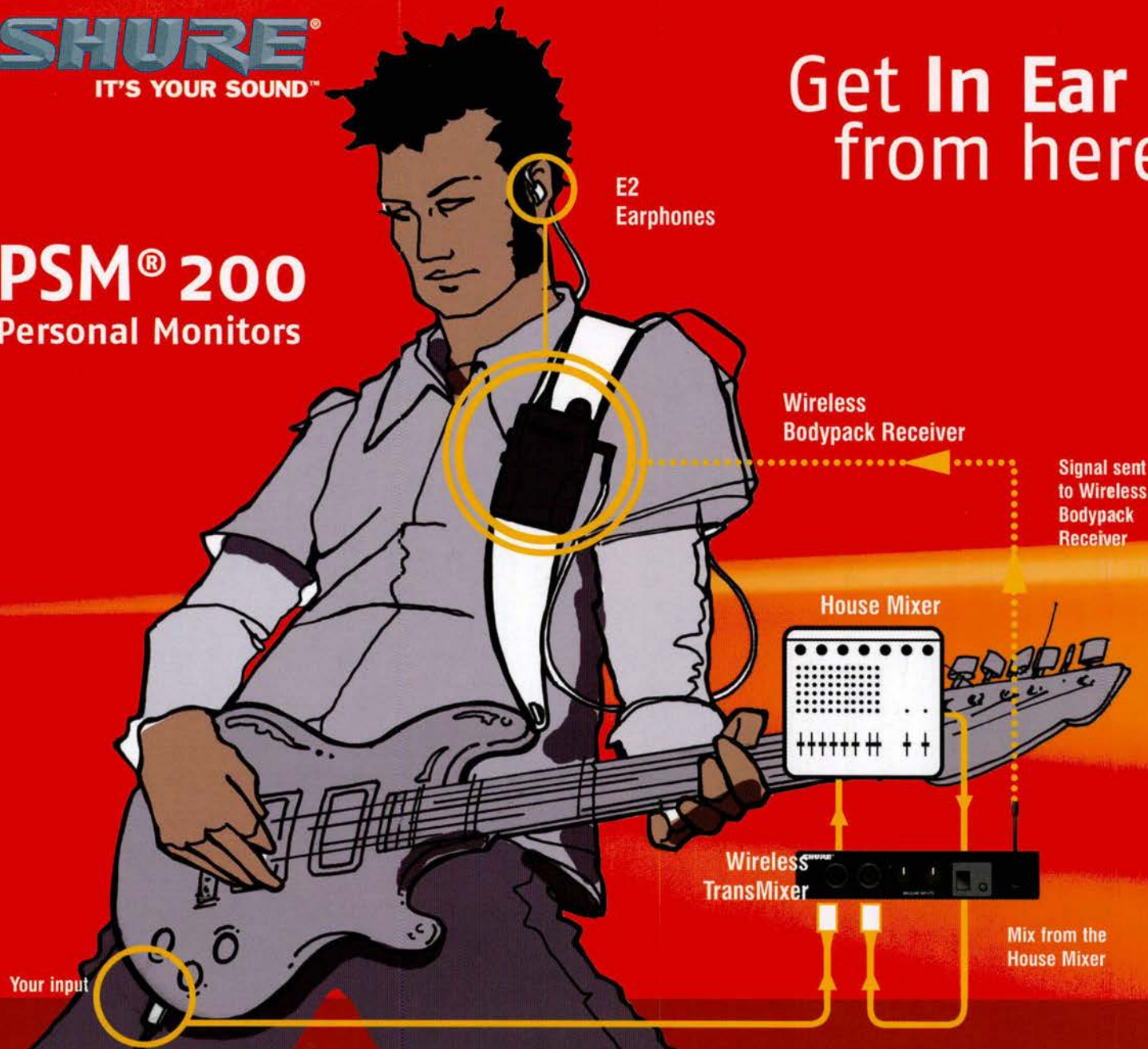
technicians survival manual



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FP2600 – 2 x 840W at 4 ohms, 8kg



FP3400 – 2 x 1500W at 4 ohms, 10kg



FP6400 – 2 x 2300W at 4 ohms, 10kg

Lab.Grupper are based in Sweden and have been manufacturing touring grade switchmode power amplifiers since 1987. They are one of the leading brands in Europe and have recently expanded distribution to include Australia and the USA. The flagship of the range, the FP6400, delivers 2300W per channel into 4 ohms and an incredible 3200W per channel into 2 ohms. It weighs only 10kg, is 2RU in height and only 347mm deep.

While the power to weight ratio is an important feature, it is the sonic quality of Lab.Gruppen that has seen many users change from both conventional amplifiers and other brands of switchmodes to the Lab.Gruppen FP series. Here are just some of the local production companies who are now using Lab.Gruppen.



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iSpot 150

- **Philips** 150W CDM-TSA lamp, 6000 hours
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- **Strobe** adjustable flashing speed, programmable chaser effect
- **Colours** 7 + white
- **Motorised focusing lens**
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ProSpot 250 LX

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- **Gobos** 6 indexable rotating interchangeable + open
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- **Strobe** adjustable flashing speed, programmable chaser effect
- **Colours** 11 + white rotating at variable speed
- **Motorised focusing lens**

meenie



iSpot 575 EB

- **Philips** 575 MSD lamp, 3000 hrs
- **Gobos** 12 easily interchangeable, rotating on two wheels of 6 gobos each + open
- **Dimmer** mechanical, electronically controlled
- **Prism** 1 rotating at variable speed
- **Strobe** adjustable speed, ZAP effect
- **Colours** 12 dichroic + white
- **Motorised focusing lens**
- **Electronic ballast**

mighty

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- **Zap Strobe** electronic strobe 0-100 Hz
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Finding the best of the BIGGEST!
We lined up the highest powered,
lightest weight power amplifiers
and audited them. The result
may surprise some.

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FRANK BARES ALL

How well has he recovered from his
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RADICAL NEW PA

It appears the claims of a Century of
Change – overnight may not be over the
top. This is a new adaptation of a
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new material technology. CX has a world
exclusive – this new system is from a
company who do not yet even have a
web site. We heard it – it works!

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The long awaited concert tour for
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REPLACES CONNECTIONS MAGAZINE
EDITION TWO: MAY/JUNE 2003

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and Microphone



8x colour coded frequencies



recharge battery bay

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Hands off the Sydney Entertainment Centre. There's a new reason why....

This is a Sydney story that is also relevant in Dubbo or Dunnedin.

The entertainment industry suffers when important venues are closed down.

When Leon Fink demolished the classic Regent Theatre in Sydney's George street, he didn't imagine for a minute that the site would remain a hole in the ground for twenty years. Or that his admirable contributions to the arts would be forever overshadowed and judged by one real estate transaction.

The NSW Government built the Sydney Entertainment Centre after tens of thousands of people got soaked at the Cricket Grounds trying to watch Bob Dylan in the mud. At the time the memory of Abba in the monsoon at the Showground was still recent.

Nowadays Sydney has a Superdome, out at the Olympics site at Homebush Bay, and some people allude (or have created the impression that) the competition – the Sydney Entertainment Centre (SEC) – would be shut if the 'Dome struggled.

And the Dome struggles. They really do.

The Dome is a really great venue. It seats more than the SEC. It is easy for the production community to work inside. We all like it. Trouble is, the paying punter prefers the SEC. And the production community like it too. There are persistent rumours it will be closed.

It's a question of location. SEC is within a walk from Central Station, the largest rail hub in the region. Along the way are restaurants, bars, hotels, espresso and diversions. Taxis and a light rail system pass the door. Way out at the Dome, you are stuffed for almost anything, because it is a wasteland of mega expensive venues, an Olympic precinct.

There is one Hotel within a half hour walk of the Dome. No shops. It is 15k from the city

There is one Restaurant within a half hour walk. One railway station, which is a ghost station – a subsidised dead end. There's 5,000 parking spots for an almost 20,000 seat venue. Get the picture?

Now there's a new realisation, a reason why Sydney – and every other city with an indoor venue – really needs to keep them.

Audiences are as of now actively boycotting some outdoor concert events. The Rolling Stones knew that. Bruce Springsteen didn't.

The Bruce tour cost promoter Kevin Jacobsen a massive \$1.7 million loss. Funny enough, that's KJ (right), doing a presentation at the 20th Birthday celebrations for the Sydney

Entertainment Centre. He is involved with the management of the Centre.

Promoters get bad press whenever a concert or show messes up, and often they don't deserve it. The Springsteen debacle was not of Jacobsen's making. Wind and rain are the enemy outdoors, and also the tour accountant. The Bruce tour featured the very best sound that money can rent. But the USA audio team were not prepared for the wind, which did two things. It assisted sound pollution spilling out to the residential areas near the Sydney Cricket Ground, and it robbed many seats of anything coherent.

Funny enough, 15 years ago. Australian sound engineer Bruce Jackson toured with Springsteen and featured delay towers to better distribute sound. Today's Springsteen team relied too readily on the proven ability of the line array to project sound a very long distance. Which it will do. Unless adverse winds come.

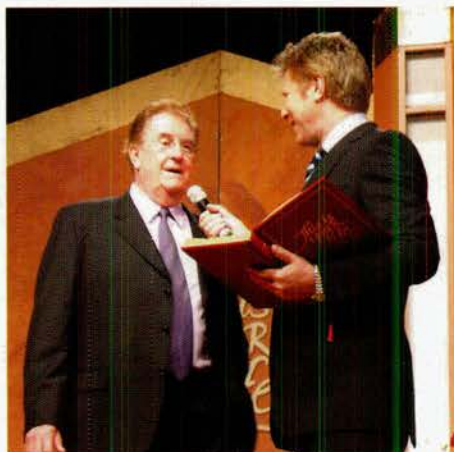
They miscalculated, the winds came, the audience are mighty unhappy. The Springsteen fan site is full of complaints.

The audience were unhappy about the venue even before the show, Mr. Springsteen, and your people didn't make it any better.

Think back a few years to Barbra Streisand outdoors in Sydney – in the pouring rain. Bruce Jackson was the engineer, the PA was the i4 line array from Clair Brothers. Jackson still had delay towers. The i4 could do the throw, but he – wise engineer – knew he needed the security of being able to micro-control distribution of sound. It worked well.

Bruce Jackson knew something the Rolling Stones know. Audiences HATE outdoor gigs.

Only the huge festivals can survive outdoors. Touring acts now are only viable indoors.



CX mag: the Feedback!

Some really good things happened for us when the first issue of CX was distributed. I admit I was very nervous – there is no guarantee a new magazine will ever work.

Publishing friends told me I was crazy to kill a successful mag (Connections) and replace it with CX, because it gave everyone a chance to opt out. Subscribers, readers, and advertisers.

"Julius, you will be judged for everything bad you've done in the last ten years, and there's been way plenty of it", an old hand bluntly advised me. "And then each and every stakeholder will sit and think, 'do I really want to support this thing into the future?'"

He was right. There was a heck of a lot of movement at the station before the first issue hit the streets. Some jumped.

Then the feedback came in and it was all green lights for us!

First came the calls and the letters – they spanned praise and *constructive* criticism. I've picked a general cross section for the letters page. Thanks!

Then the Subscriptions! They really came in – we were hard pressed to process them. **We are not on newsstands any more, so please DO subscribe.**

Ad sales are also a good barometer for a mag like this – Louise cranked up 52% more for this issue than we had in the first issue! That's proof.

And finally, hits at our news site, www.juliusmedia.com went through the roof in March. We went from 196,000 in February to around 500,000 in March! Our page views shot from 10,000 to 90,000. The reason? In March, CX mag was on streets, feeding interest.

Much of what you said *has influenced this issue*. Please keep telling us what you like!

-Julius Grafton



◆ **TC Electronic** announce the new EQ Station. The 8-channel EQ Station-8 and the 4-channel EQ Station-4 are 2U rack-mount units. Each channel simultaneously provides 6-Band Parametric EQ, 29-Band Graphic EQ and 3-Band Dynamic EQ plus Delay (600ms) and a Peak Limiter.

Each EQ Station can be operated directly from the front-panel or via Ethernet using an external PC/Mac software editing package.

The optional MotoFader remote (light-weight and only 4U) can also be used to directly control up to 32 channels of graphic EQ during live performances.

Amber Technology, Tel: (02) 9452 8600
Fax: (02) 9975 1368. www.tcelectronic.com

◆ At times like this words fail us, so it is quite inadequate to say that with great sadness we advise that **Cameron Howie** from Sound Devices (Sydney), his wife and one year old daughter have been killed in a car accident. Sad news, came at presstime.

◆ **AAV Limited** and **Regency Recordings** have done a joint venture encompassing manufacture of DVD, VHS, CD, and audio cassettes. AAV Regency will operate manufacturing centres in Braeside and Mt Waverley in Melbourne and Northmead in Sydney. AAV Regency has six DVD replication lines with a total annual capacity of over 25 million units as well as complete DVD/CD mastering.

◆ **Richie Michan**, well known Australian

Lighting Control systems specialist, has joined LSC Lighting Systems in Melbourne to help bolster the Technical support for LSC's worldwide Distributor and customer network.

◆ Sydney based audio distributor **TAG** has added four new staff members. High profile audio boffin **Greg Simmons** fills a product specialist role for the recording and studio markets with an additional Euphonix technical support and training/demonstration brief. **Mat Sly**, previously with AV Pro and GUET, will concentrate on the retail markets with TAG's developing line of volume based products. **Tamie Whitton** returns to handle desktop publishing and web design after a stint with advertising agency BBK. And **Shannon Mitchell** joins TAG's warehouse with embedded experience from Penrith Long Haul Logistics.

◆ **Metropolis Audio** now have a new website at www.metropolisaudio.com.au

◆ **Neil Salter**, formerly the audio tech at John Barry Group and ASC (Syd) has set up business "Custom Audio Cables" in SA supplying high quality assembled cables Australia-wide to the pro audio, AV and film/TV industries. Cables can be custom-made to suit individual requirements, free delivery is available anywhere in Aust. Ph: 0416 224049, or neilsalter@bigpond.com

◆ **Audio Solutions**, a Canberra audio-visual service provider was recognised as Australia's top company in technical

production at the National Meetings & Events Industry Awards held in Newcastle. The award was accepted by company director **Greg Williams** and Project Manager, **Pete Foley** at the gala dinner. **Simon Byrne**, the company's Managing Director commented "we are very pleased to be recognised by our peers in this way."

◆ **D.A.S. Audio** continues it's international expansion across the globe. In Australia, D.A.S. systems have been used in the refurbishing of two famous hotels in South Australia. Built in the early 1800's, the Victorian style Lion and Royal Hotels conserve the elegance and enchantment of the period while integrating the latest in sound reinforcement systems. **BSS Light and Sound** were responsible for the installation of the products.

◆ **Debb Rosman** says: 'I hope one of you 'road warriors' will write the roadies history book! There are so many 'true' stories of Freeman, Yogi, the Brewsters, Sculls bros, Scrooge, Oberg, Pop Hawton.. Swampy, CB..... Infamous road crews, touring schedules that were over the top, the time before mobile phones, trucks missing in Melbourne, band members missing in Melbourne, infamous gigs... the Lifesaver... home away from home, etc'.

Phil Eastik has put his hand up, and says if there is enough interest, he'll write it! Have a look at www.juliusmedia.com HISTORY section to whet your appetite, then email mail@juliusmedia.com with your thoughts.

◆ Responding to input from the marketplace, **Tannoy** has launched the V Series, a new range of Point Source, Dual Concentric sound reinforcement loudspeaker systems. There are 4 systems in the range. The Tannoy V15 incorporates an entirely new, high performance, Dual Concentric drive unit – the 15" PowerDual. With substantially increased efficiency and power handling over previous 15" units the V15 not only replaces the i15 but also the T300.

The Tannoy V300 (right) is designed to offer the ultimate in sound quality for critical applications



such as theatre, acoustic music venues and houses of worship.

The constant directivity 12" SuperDual ensures the most even frequency response over a wide coverage area in the medium size venues for which it was designed. the Tannoy V300 replaces the S300, which has been chosen for top venues and live shows worldwide.

The V range are priced thus:
V8 \$1530, V12 \$2409, V15 \$3939, V300 \$5097. Syntec International, call +61 2 9417 4700 or go: www.syntec.com.au

♦ **Stuart James** from Phase Shift writes: "I would like to point out a mistake in your article on Taxiride. The Sony projector mentioned on page 27 is in fact owned by Phaseshift Productions and not by Taxiride. The projector is a Sony FX-50 which until very recently was Sony's flagship model.

Congrats' to you on a great new mag and you can be assured that it's being well read here. In regard to your Top Ten list, here are a few more.

- You think sleeping inside the console lid is "comfortable".
- You change the gels in your living room lights nightly.
- Everything you own has "Dimmers", "Monitors" or "FOH" stenciled on it.
- You "Figure-Eight" your garden hose at home!

♦ **High End Systems'** new x.Spot Xtreme fixture is 40 percent brighter. With the 2:1 lens, x.Spot Xtreme is 40 percent brighter than the original x.Spot with a 4:1 lens. At 16,000 lumens, its brightness surpasses all other competing fixtures in its category, they say.

Great advances in lamp technology are key in creating this new product. Philips has developed the P3, or improved pinch lamp which essentially allows the lamp to operate at higher temperatures than ever before. This offers increased brightness and extended lamp life. Software modifications and changes in the power supply also help boost the brightness.

The x.Spot HO (High Output) will continue to be available, thus offering professionals two choices in x.Spot brightness.



♦ **Vale – Brian Horman.** One of the significant contributors to the evolution of professional audio in Australia, Brian Horman passed away in March.

Mr. Horman established Klarion Enterprises in 1954, and was himself a significant practitioner in audio. He recorded the Melbourne Olympic Games in 1956 – providing audio to various film units.

Klarion was an extremely successful firm, importing Otari, Soundcraft and dbx products. The firm was involved in cassette and multitrack duplication, along with court recording – or the opening years of all these technologies.

The firm wasn't routed in the past; it expanded and embraced new audio – importing HH power amplifiers and Martin Audio loudspeaker systems for the new era of sound reinforcement in the late 1970's.

It became a family company when son Andrew and daughter Fiona worked in the business.

Mr. Horman was astute, and recognised a good offer when he saw one. In the early 1980's he sold Klarion to Rank Industries, who at the time had global aspirations for its Strand Lighting and Rank audio distribution businesses. The combination of Rank and Klarion, dubbed 'Klank' by some, created uneasy bedfellows with many duplicated brands – Soundtracs, Soundcraft and Alen and Heath as just one example.

Doubtless Mr. Horman foresaw Rank's woes, but he had his payout, and went into semi retirement.

He passed away due to relapse of cancer, which he had previously fought and defeated.

♦ **ENTTEC** is proud to announce the release of a new firmware version of the DMXStreamer V1.2. This new version incorporates a solar clock, this permits calculation of sunrise and sunset times anywhere in the world all year round. With this new feature you can schedule shows to start or stop on sunrise or sunset. By combining different scheduling options, the DMXStreamer can accommodate virtually any scenario. www.enttec.com

♦ **Jansen** has recently installed a new sound system in the new Tamaki Recreation Centre in Glenn Innes in Auckland. The system consists of Proel TFL series speakers hung in a central cluster using 3 x TFL212 double 12" speakers and 2 x TFL 12 single 12" attached to a custom made earthquake proof bracket. To see a virtual tour, go to www.tamakirecreation.co.nz www.jansen.co.nz

♦ **Audio Telex** has developed a new Corporate Training Theatre in its Sydney premises. The facility has been fully decked out with the ability to be either a speaker/amplifier demo room or to be a classroom for up to 16 people who can be taught the latest in DSP systems from MediaMatrix, RANE and others.

The facility will be opened to clients across the country and in addition to specific product seminars, the facility will be used for seminars on speakers, feedback control, hearing assistance and more.

♦ **Good Idea Dept.** Labelling devices in an effects rack is tricky. So Deluze Audio fit this alloy strip to each side of the rack! Simple, and effective. And neat.



x.spot XTREME



♦ It was the lack of sensation in his legs that first worried **Johnboy Davidson**. He had walked in the stage door with the sun behind him, and fallen four metres through a gap where the floor had been. Lying in the dark, he slowly crawled 5 metres to where his mobile phone had landed. There was no reception.

The accident was during rebuilding at the Union Theatre, where Johnboy had been closely involved. He had been meeting with the architect and the builder, sometimes daily, and was supervising the job.

"I had a meeting with the builder in the morning. The iron (fire curtain) was down, and I wanted to be sure that the stage area was safely secured. Unknown to me, a contractor had come in and ripped up the floor – then left without posting any signs or putting up any barriers."

Johnboy had a spinal injury. He had fallen in the darkness, not knowing what was happening. He landed on his feet, and his lowest vertebrae exploded. After months of care, and enough titanium implant to build a laptop, he went into physio and started a five year recovery.

Probably the worst aspect of this pointless accident was the legal ordeal that ran through the courts for years. As an employee, Johnboy had limited recourse against the negligent parties. His injuries were de-classified as 'not serious', and as he explains, under current state laws in Victoria, if you have your left leg amputated under the knee, that is still an impairment under the 25% threshold at law that entitles you to a greater measure of compensation – if any at all.

"It is soul destroying being in and out of court as the insurance companies fight tooth and nail to attack you. I had a private investigator follow me, and video me at home and at work. It was five years of hell".

♦ **Fairlight** collapsed just after the first issue of CX was released. The whole saga is chronicled at www.juliusmedia.com.

John Lancken has revived the company. "As a major share holder and Chief Executive Officer I am excited to apply my experience to a company that not only do I love but also has been a huge part of my life" he wrote.

"The new company was formed after finding four other passionate leading audio professionals and business partners throughout the world, willing to devote their time into making this company a leading force in audio production once again."

"Although the 'new' Fairlight has new owners we have retained the experience of key R & D and management personnel to ensure there is continuity in product development, support and manufacturing. We have also purchased all the essential assets including intellectual property, trademarks, patents, inventory, plant and equipment."

The company will continue to trade as Fairlight. Email: jlanken@fairlightau.com.

♦ Leading British digital console specialist, **Soundtracs** caused heads to turn at the recent Las Vegas NAB show when they unveiled their latest creation, the DS-00. Designed to meet an escalating market demand for ever more performance & flexibility within increasingly tight budgets, the fully flexible, modular and expandable DS-00 sets what Soundtracs believes to be a new price/performance standard for digital audio consoles.

The DS-00 can be tailored to suit virtually any digital audio mixing application including Broadcast, Post Production and Music Record-

ing. It expands too.

In addition, the DS-00 design allows multiple consoles to be networked within a multi-studio environment to maximize resources for projects of virtually any size or complexity.

The core DS-00 console features a 17-fader surface with 64 fully-featured channels, 40 busses, twin hi-res full-colour TFT touchscreens and 8 user-programmable macros. The console is capable of handling Stereo, LCRS, 5.1 & 7.1 surround formats whilst the 40 x 8 Matrix has two calibrated levels and insert points for Dolby insertion. Standard interfacing includes 8 x Mic/Line inputs, 16 x Line Outputs, 24 x AES/EBU I/O's (with Sample Rate Conversion) and 8 x Optical I/O's.

The optional EX-00 Expander is an 8-fader unit complete with TFT touchscreen. Up to four EX-00's may be added to the core system to form a 49-fader worksurface. Also available is a dedicated FP-00 Film Panel expander and HD-00 19" Rack Section Expander as well as further options such as an on-board Digital FX package.

The console is priced around A\$80k, with an expander selling at about \$17k. The prices are for a solution that works straight out of the box - no tricky options!

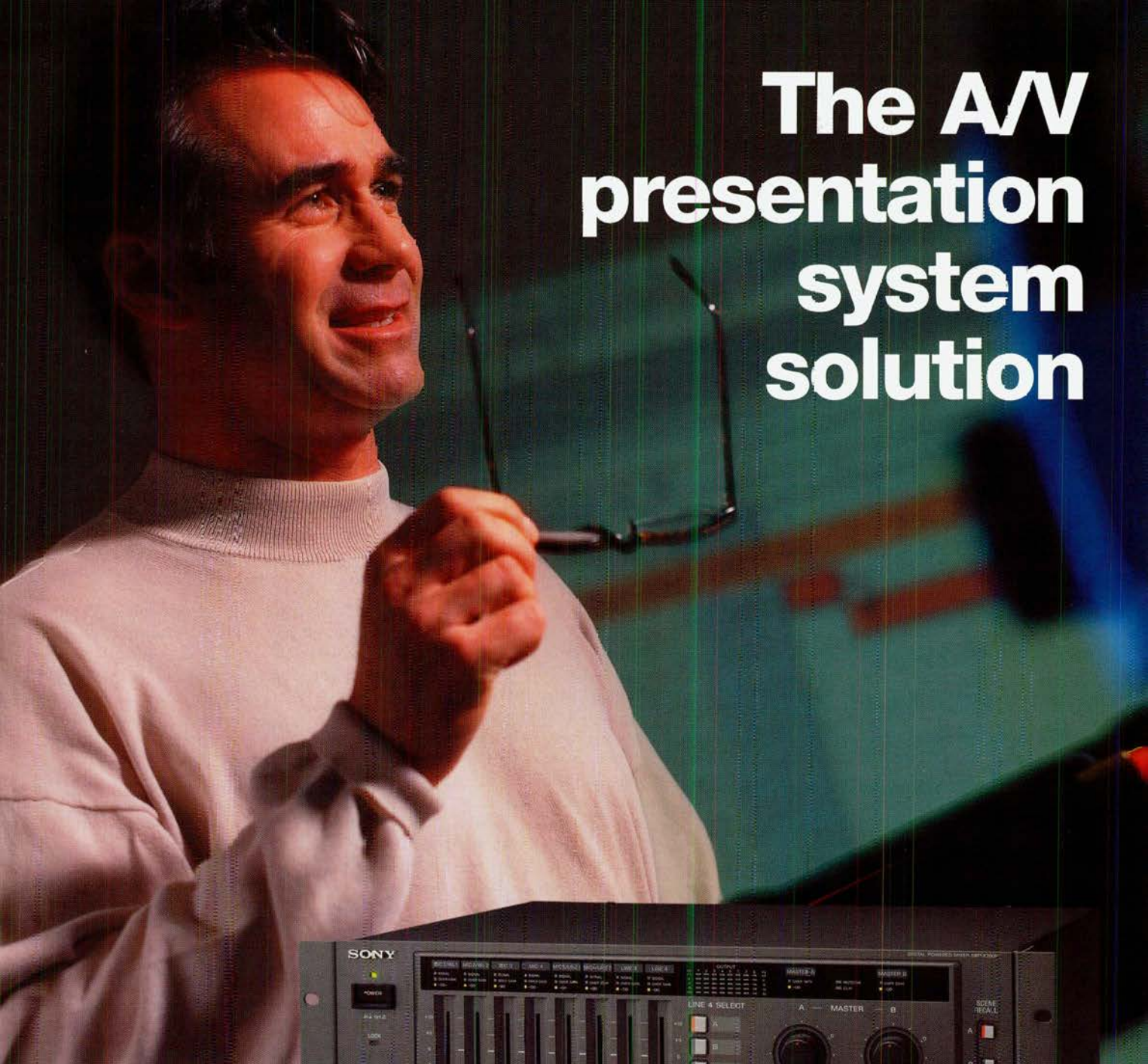
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◆ **DPA Microphones** has released Low-voltage versions of the 4061 and the 4066 headband microphone, known respectively as the 4063 Miniature Lo-Sens and DC, and the 4067 Adjustable Miniature Headband, Lo-Sens and DC.

Incorporating a new preamp design, with a lower DC set-up down to 3V, these new DPA miniatures will be compatible with a wider range of wireless system brands and be able to connect directly to inputs (via a suitable resistor) of mini Disk or PC cards etc.

The 4067 Headband (*below*) will be of interest to pro-audio engineers seeking a suitable wireless microphone for a very loud singer. The 4067 is a low DC and extra low sensitivity version of the 4066. With the new combination of lower sensitivity and higher SPL handling, (154dB SPL peak before clipping), the 4067 will be able to be used on a loud vocalist without the risk of overloading some transmitters. The 4067 furthermore features an acoustical 6dB/octave lo-cut (-3dB at 40Hz).

Pricing for the 4063 is \$624.00 and for the 4067 \$1018.00. Comes in Black or Beige. D2a Pty Ltd. +61 2 9957-5389.



◆ **Whirlwind's** new Connect Series snakes feature multiple layers of rugged heat shrink at the most critical points; and metal wire mesh strain relief and grip on the box - not the plastic tie found on

other economy snakes. All connectors are hand soldered, not crimped, to the XLRs.

16/4 100ft \$999, 24/4 100ft \$1,499. From Audio sales and Marketing, Ph +61 2 9585 1011



◆ Held on Waiheke Island, New Zealand, over Easter weekend, the annual **Waiheke Jazz Festival** presents a wide range of jazz genres and a playbill of international talent. For the first time, studio specialists **Sound Partners** provided a NEXO GEO S rig.

◆ **The Golden Horn Sound Co** of Wellington, New Zealand, which has been hiring audio equipment for the last 30 years has been sold to **Oceania Audio Limited** of Auckland. Oceania took over the Golden Horn assets and clients on 1 May. Existing sound hire clients will benefit from the much larger range of equipment and personnel available through Oceania. The Wellington operation will be known as Oceania Audio Wellington and will be under the control of Adrian Watts, one of New Zealand's best known theatre audio technicians. Ian Hull-Brown will continue with a new company, Golden Horn Audio Limited, which will continue with design and sales of audio

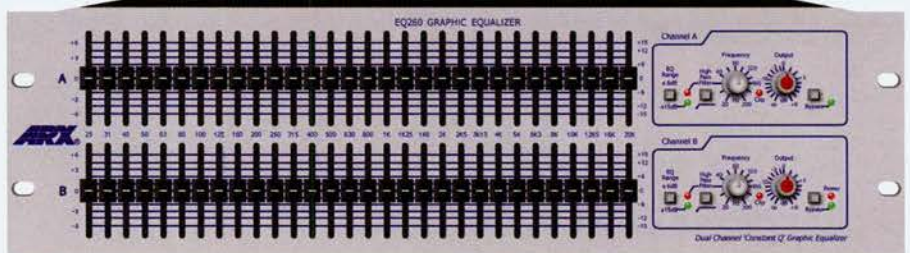
systems for permanent installations. Contact Ian on +64 4 479 4111.

◆ **Major Music Wholesale** has been appointed as the Australian **Carillon Audio PC Distributor**. "We have been searching for a professional PC Audio Solution for several years", explains Greg Cato - Manager of Major Music Wholesale. "And the Carillon Computer Core is the result of several years research and testing by many industry professionals".

Each one incorporates a heavy duty, 19 inch, all aluminium steel chassis. It's purpose engineered for Ultra Low Noise and features front panel patching and bays for their unique 'real controllers'.

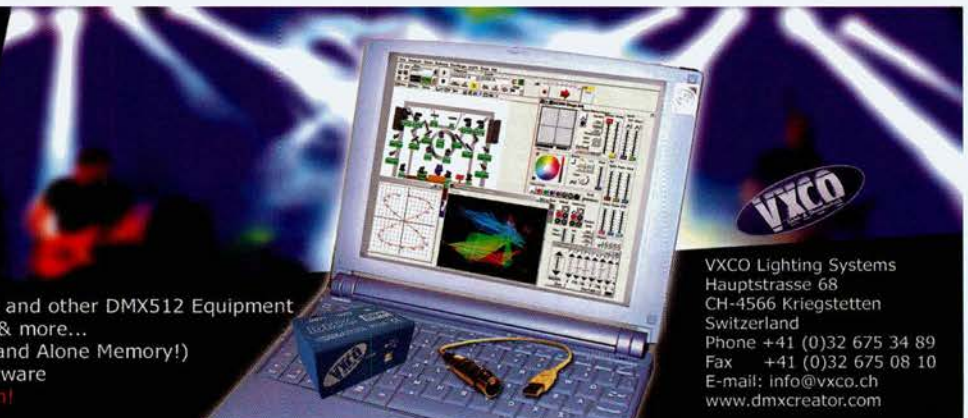
Carillon machines are equipped with only the best pc components. All components have been thoroughly tested to provide the most professional and, most importantly, stable audio computer system available, they say. Additionally, virtually all combinations of hardware and software have been tested. Major Music Wholesale. Ph: +61 2 9545 3540.

◆ **ARX Systems** have released the new EQ 260 Dual Channel 1/3rd Octave Graphic Equaliser. Each channel on the the satin grey front panel features 30 Extended Resolution long throw, centre grounding sliders, switchable to either $\pm 15\text{dB}$ or $\pm 6\text{dB}$, for the ideal combination of high fader resolution and maximum cut and boost.. Info: www.arx.com.au



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P.A. AMPS: finding the best of the Biggest!

Julius Grafton fitted the earplugs and unpacked the big hitters for this comparison article.....

Comparing amplifiers was almost going to be a party, since we had upwards of 30 requests to be involved. This is despite limiting the category to ultra high powered, light weight power amplifiers. This should have deterred many who wished to be involved, simply because they didn't have an amp in the category.

There are 45 brands of amplifier represented in Equipment Search at Juliusmedia.com, and another 20+ that we know of. But as there are only a handful of ultra high powered, light weight amplifiers, it's easier to compare them.

So what is a light weight amplifier? Something that weighs less than 15kg, and in the case of this review, delivering more than 1000w per channel. The light weight part comes from a solid state power supply, rather than a power supply based around a heavy metallic transformer.

Carver were one of the first notable manufacturers of a light weight amp – at the time known as a switch mode amplifier - and they rose to considerable fame and fortune before sliding off into audio oblivion some years back. Their amp did a reasonable job. Clair Brothers selected them to power their refurbished S4 PA cabinet in the early 1990's.

But there has always been a stigma about lightweight amplifiers. I should know – I helped fuel it.

I once owned a factory where we built high powered mosfet amplifiers under the Australian Monitor brand name. We imported a huge 10 amp toroidal transformer for the power supply, and married it with two monstrously large capacitors. Our power supply would recover faster than the duty cycle ever needed, so when we quoted 800 watts per channel driven at 4 ohms, it was conservative.

Nowdays power supply technology has raced ahead and so the latest iterations of what we once called 'switch mode amplifiers' bear little relationship to the Carver generation.

Enter the contenders:

Camco Vortex 6
Crest Pro 8200
QSC PLX 3402
Digam Powersoft 7000
Crown CTS 3000
Lab Gruppen fP 6400

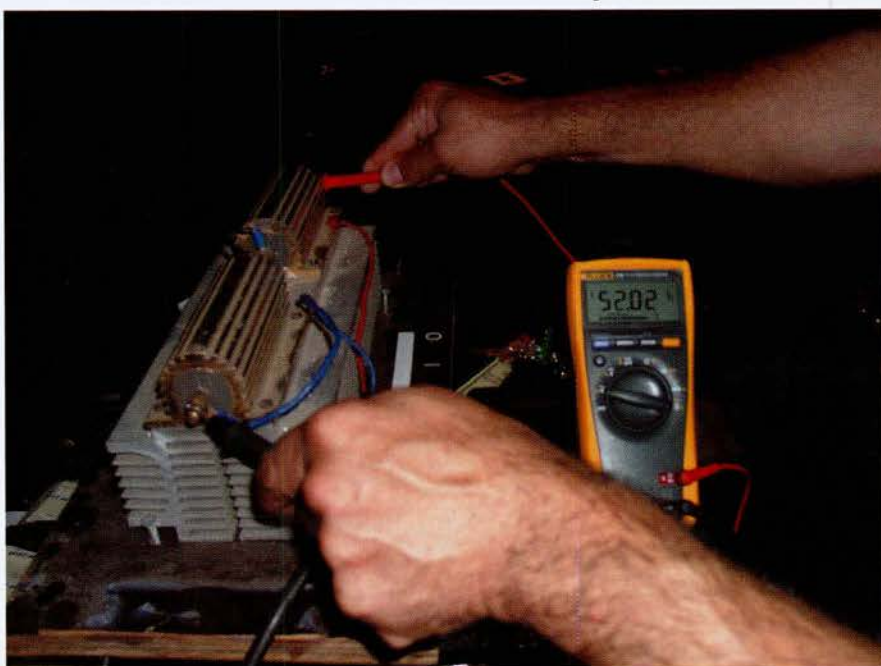
Our test was never going to be easy. Please note whenever we talk about wattage from now on, we refer to wattage per channel, with both channels driven, into a 4 ohm load. We don't talk about bridge mode, or wattage into 2 ohms. 4 ohms is what the real world wants to know about.

Because all good surveys require a benchmark, we sourced a Crown Macro Tech 5002 VZ amplifier, which has a conventional transformer based power supply. It is not a lightweight by any definition.

The setup was a nightmare, because we needed to carefully match input gains. Amplifiers come with various input sensitivity-

Camco Vortex 6
Crest Pro 8200
QSC PLX 3402
Powersoft Digam 7000
Crown CTS 3000
Lab Gruppen fP 6400
...COMPARED!

Testing output voltage at the speaker terminals while adjusting the amplifiers input gain. We ended up matching all amps to around 46 volts. To find the wattage, times the voltage by itself, ie: $46 \times 46 = 2116$, then divide it by the impedance (of the test load) - which was 7.2 ohms. The result is 294 watts - which was purely our setup level, and not an important number.



ties – some optimised for as little as .775v, (0dBu) some up around 1.3v (+4dBu).

The difference is a lot of gain, unless they are matched. Put another way, if an amp has a low input sensitivity – like .775v, it will present as much louder than an amp with a higher sensitivity running with the same input signal.

This is why we never mix and match amplifier brands in a PA system.

We needed to use the input attenuators or the amps to set the gain. This proved difficult, since most amplifiers had graduated, detented potentiometers which provided about 40 selected positions. In some cases the difference between two positions was more than we needed! In hindsight, a distributed preamplifier would have been better. In reality, we got the amps matched within a poofteenth.

The numbers that follow aren't important. They are the speaker output voltage at our nominated reference input, with a 7.2 ohm load on the speaker output. We measured the following:

Camco Vortex 6: 46.13v

Crest Pro 8200: 45.9v

QSC PLX 3402: 46.32v

Powersoft Digam 7000: 46.0v

Crown CTS 3000: 46.32v

Lab Gruppen fp 6400: 45.13v

At top right are some numbers that are important, however. These are the mains consumption figures, as expressed by the manufacturers, the output power into a 4 ohm load with both channels driven, the weight, and the Australian selling price including tax.

The mains consumption figures are very revealing. If you use more than several amplifiers, you'll need 3 phase power for some of these – but not others. This can be overlooked – and create problems. If using a touring quantity, then the standard provision of 3 x 32 amps (3 phase) may not even be adequate for some of these amplifiers!

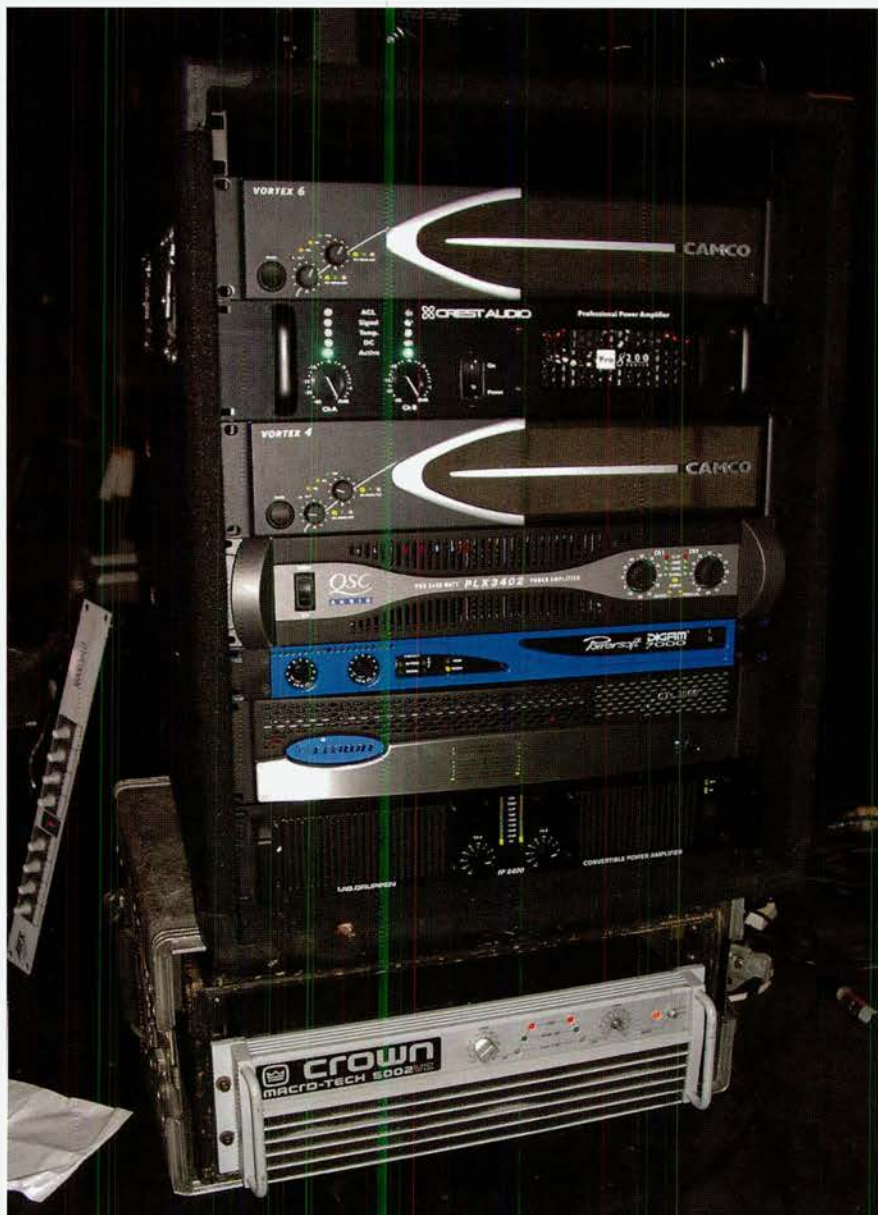
PACKAGES

Our picture (right) shows the very different design approaches taken. The Powersoft is just one rack unit in height – while the rest are twice that. The Powersoft is quite deep, but doesn't exceed the depth of any other amplifier. Crown's CTS is purely intended as an installation amp, which is why it has no gain controls on the front. These are tucked

AMPLIFIER NUMBERS THAT MATTER

WHO?	MAINS	PER CH, 4Ω	EACH	A\$ INC
Camco Vortex 6	12 amps	2,100 watts	12.4kg	\$9495
Crest Pro 8200	16 amps	1,350 watts	19kg	\$7295
QSC PLX 3402	5.8 amps	1,100 watts	9.5kg	\$3895
Powersoft Digam 7000	5 amps	1,910 watts	9.5kg	\$6995
Crown CTS 3000	6.6 amps	1,500 watts	14.8kg	\$6995
Lab Gruppen fp 6400	7.8 amps	2,300 watts	10kg	\$9089

The test line up: Camco Vortex 6, Crest Pro 8200, Camco Vortex 4, QSC PLX 3402, Powersoft Digam, Crown CTS 3000, Lab Gruppen fp 6400 and Crown Macro Tech 5200 at bottom. Why two Camco amps in the stack? The Vortex 4 is there as a reference amp in the second part of the testing, where we ran both sides of a subwoofer off each amp. We needed a mid/high amp so we had some continuity in what we were hearing. Also, the classic Crown Macro-Tech 5002 is shown, it was included in the comparison so we had something that didn't have a high-tech power supply to compare with. The result was VERY surprising!



away on the back panel.

We included the Crown because it is the forebearer of touring versions from the market leader – and we wanted to hear it relative to our benchmark Crown ‘heavy-weight’ Macro Tech 5002 VZ.

Weight is such a big issue for portable amplifiers. In our Stage OH&S course we demonstrate manual handling and find that most people are comfortable lifting around 25kg. That rules out the legendary amps of yesteryear! And that’s before you rack a bunch of them. Imagine four classic amps in a rack – that becomes a 150kg item, which is in theory more than four people can lift with confidence.

So why so much power? More output power usually equals more mains draw, with the exception of the Powersoft. Sound designers want more amplifier power to better insulate against amplifier clipping – put simply, we want power in reserve. And today’s light weight transducers are better rated to take more power. Many 15” drivers are rated at around 800 watts these days, whereas older (and heavier) drivers would be hard pressed to deal with 300 watts.

We chase the law of diminishing returns in audio, because an 800 watt driver isn’t almost 3 times as loud as a 300 watt one – it is more like less than twice the power. I blissfully admit I do not have the exact math on hand.

THE TEST

The stigma about lightweight amplifiers mainly involves lack of sustained bottom end delivery where the supply fails to keep up. So our test had two parts – critical listening at the same gain, and then a low frequency comparison with both channels driven.

We assembled the amps at the Parramatta



Back views: Camco (above), QSC, Powersoft. Crown (part obscured) below. The Crown is an install amp, so it comes with basic screw-type connections.



Riverside Theatre, and obtained some loudspeakers. For the subwoofer part of the test we got an EAW dual 18” sub so we could drive both sides of the amplifier – albeit at 8 ohms – with one 13” woofer hanging off each side of the amp. We wanted to run the sub as hard as we could, to determine if the power supply in each amp could keep up.

Lab Gruppen back view (bottom left). It comes with a stack of features.



The second part of the test was to drive a JBL Array box, one side of the amp would drive the horn, and the other the woofer. This was the ‘objective listening’ component of the appraisal, where we would listen to each amp, without knowing which amp was which. By removing brand prejudice, we would be able to decide on the best sounding amp.

We ran the same input to each amp, and as



At full power some of these babies will generate upwards of 120 volts at the output! Be very warned.

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noted before, matched the outputs so the gain was the same. We were not trying to establish which amp went the loudest, or even validate the manufacturers claims. All these amps produce a reserve of output power beyond most requirements. If a manufacturer quotes 1,500 watts at 4 ohms, chances are the amp will come within 5% of delivering or bettering the spec.

With a selection of different musical tracks (see last issue, 'Best 12" and Horn' for music and testing personnel) we started listening to each amp at moderate listening levels. We had rigged a switching system so we could run the same single Array loudspeaker box, placed in the same place, from each amp. We had a processor feeding the amps, so the left channel of each amp powered the horn, and the right channel the woofer.

We switched amps about half way through each music track, and repeated the track until each amp had a turn. We ran five tracks in this manner. Each tester wrote impressions, based on the amps being numbered, since they didn't know which was which. The Crown MacroTech 5002 was one of the amps in the demo.

Then we moved on to the sub test. Ear plugs were applied, and the stack of amps were run up until the first amp just started to clip. This was as far as we would take it. A Camco Vortex 4 was used to power the Array box, so we would have a mid/high reference as the subwoofer flailed away on the floor of the theatre, both 18" drivers working quite hard.

More tracks were played, amps were switched, and notes taken.

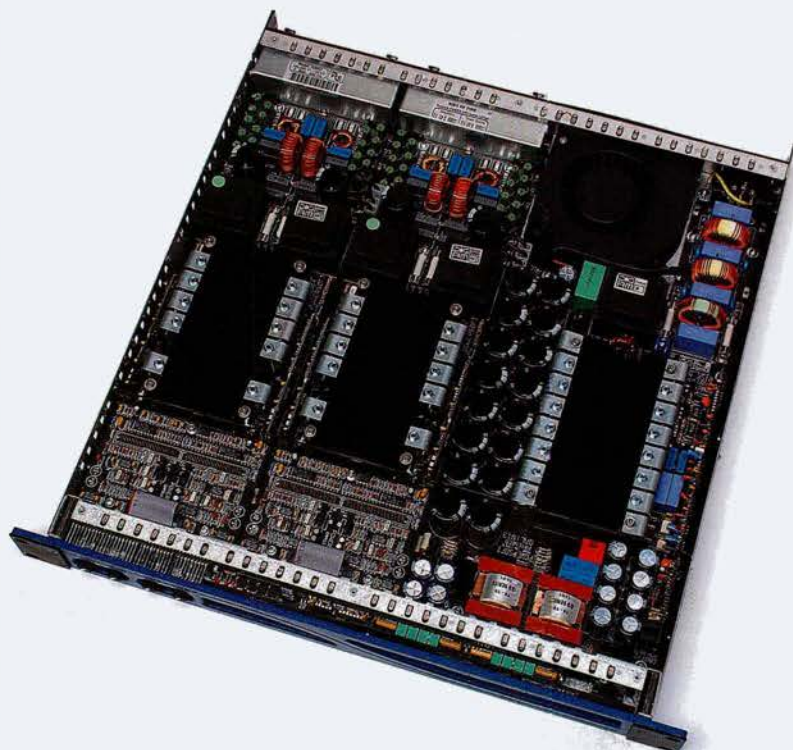
At the end we talked about what we had heard. Our testers had stopped taking notes quite early in the comparison, because there was nothing to write about. Quite literally, all these amps sounded the same!

There was no evidence of any amp being reluctant to drive the subwoofer hard, and remember we had the Macro Tech in there too. I was slightly surprised the Macro didn't reveal itself in the listening, for in theory it should have delivered better bass response – but only if you believed the myths and half truths about light weight amps!

THINGS WE DIDN'T TEST

We didn't run each amp up to full rated power at extreme temperatures. We didn't short circuit the outputs to see if claimed protection circuits actually work.

We didn't load the amps down with long speaker leads, run them at 2.6 or 2 ohms, or vary the input mains voltage to see when the power supply gave up. Indeed, our test was at



Powersoft is an Italian firm, who have managed to squeeze a lot of amplifier into a one rack unit tall chassis. Their four channel unit (a companion to the Digam 7000 we tested) is shown with the lid off (above). We used some of these for a week in Melbourne, the rack (from Deluxe Audio) is shown below.

In the case of this rack, we were able to run four very loud sends of active stage monitors (8 wedges) from a four unit tall rack that weighed around 30kg. Back in my Australian Monitor days, we would have needed double the rack height, it would have weighed almost 75 kg, and delivered about half the wattage!*

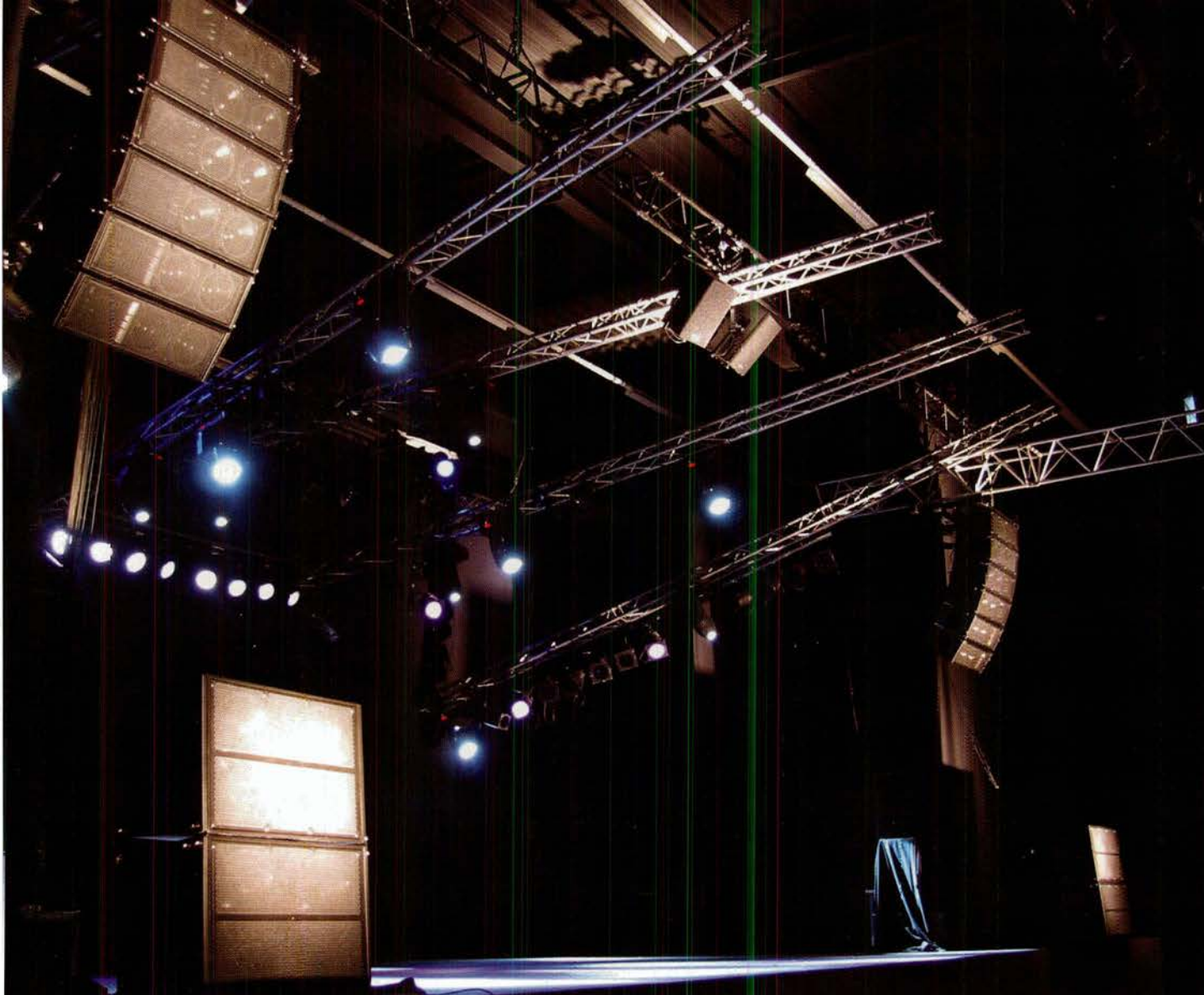
Life has improved somewhat, devices like the dbx Drive Rack (at top of rack) offer 4 in and 8 out, with every kind of processing imaginable.

Powersoft say their power supply allows performance to be maintained even when mains voltage is fluctuating. Lab Gruppen say the same. It is a big issue for any amplifier with a solid state power supply - and one that needs to be carefully tested before big dollars are spent on an amplifier.

Conventionally powered amplifiers will vary output power according to the mains coming into the unit - but usually keep working across a reasonably fluctuating mains. In Australia we have a nominal 240 volt supply which can swing plus or minus 5% in normal circumstances. We know of 'hot spots' in Australia where voltages as low as 225 and as high as 280 have been measured.

**Wattage is not a real word, but we use it!*





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"One thing I learned from Bill Graham is that collectively, our ultimate goal is to please the audience. No matter how big, no matter how small."

John Meyer

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President & CEO



TEST: (VERY) BIG AMPLIFIERS

a reasonably pedestrian 8 ohms, so the thermal efficiency of the amps wasn't given a hiding.

There have been testing regimes way more thorough than ours. For example, Jands Production Services recently spent a lot of time validating amplifiers. They knew what they were looking for, and from reports, certainly could hear critical differences in different amplifiers.

I personally always take total harmonic distortion in amplifiers as a not important factor. If one amp is quoting 0.05% THD, and the other 0.01%, the only time it matters is when the specification for wattage is drawn up. Yes, the greater the THD, the higher you can measure the output. But loudspeakers produce WAY more distortion - so who cares if the amp delivers a little?

FAIR? REASONABLE?

I think our test was real world, we went to a lot of trouble, we kept it scrupulously fair, and invited anyone who was interested to be there. One amp vendor came along - Tony Russo, from TAG - who import QSC. His contributions were valued.

I know I'll draw fire from some quarters over the methods used here, and I'll publish any sensible letters we get on the issue.

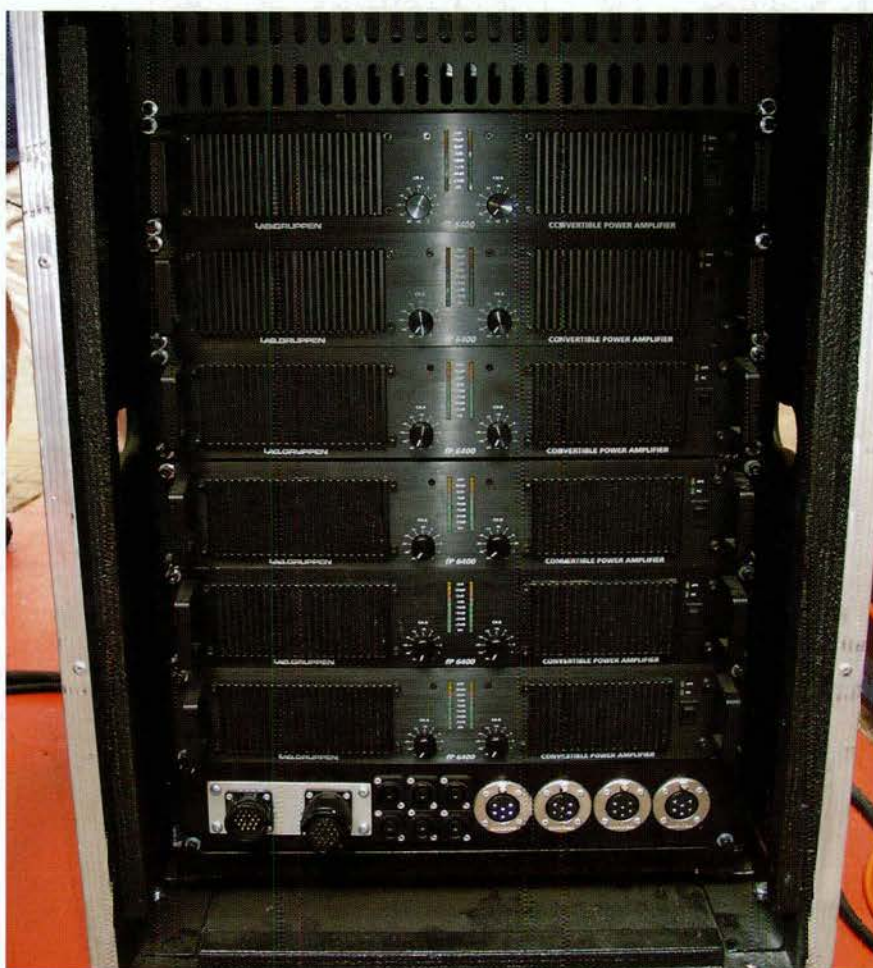
It's worth noting that the amplifier business can be lucrative. That's what drew me in way back when. I reasoned that once a customer buys your amplifier brand, they will keep buying it as they expand. In general terms this is what happens.

At the low end of the market, where everyone is slugging it out at the 600w + 600w for \$1299 price point, there is little money to be made. But if you establish customer loyalty at the top end of the biz, look out!

Some sales here are measured using the million watts benchmark. That's a lot of amplifiers, and a lot of money!

I also know from personal experience that like all highly engineered, ultra specialised industries, there are some Very Serious People (VSP's) in professional audio. Some of them even wear matching blue jackets and prance around practicing rituals!

The big problem is, there is no effective policing body in professional audio, so the few standards we do enjoy are sometimes abused or misused. I see this at the bottom of the market, where expressions of amplifier wattage (sorry, it isn't a real word, but I use it that way) are often very optimistic.



Here's a flock of Lab Gruppen FP 6400 amplifiers in a rack from Norwest Productions. The six amps weigh 60kg, so the whole rack is under 80kg. An easy lift! Norwest recently invested in a lot of these. We used the above rack to power a bunch of Funktion One loudspeakers for almost two weeks - see story elsewhere in this issue!

THE OUTCOME. ...

We established we were hard pressed to actually hear any difference across all these amps, which are top of the range models in most cases.

That aside, the Crest was a let down because of weight, mains draw, and those overbright blue LED's. The QSC was the lowest powered amp, but also the least expensive. Crown have an impressive contender with the CTS 3000 - once a touring version arrives it will be a hit. This group of three amps are all American made.

Now we flip over to Europe where the other trio come from, and find the Camco a little expensive and a little thirsty for mains power. It is well regarded, and popular - and also the most expensive amp tested.

Our winning duo are the Powersoft Digam 7000 and the Lab Gruppen FP 6400. Each of these has a lot of upside. The Powersoft is revolutionary in terms of size and has the best mains power draw ratio. The Lab is very efficient in every dept, and very, very well packaged and featured.

After the test I road trialed both amps at our technical training courses, and can report neither amp missed a beat across a solid week of useage and abuseage.

I'd be loath to choose between them.

More amplifiers:-

We think we got all the Big Power Light Weight contenders. There are squillions of lower powered amplifiers, with prices and web site links, at our Equipment Search. Go to www.juliusmedia.com and hit the 'equipment' button.

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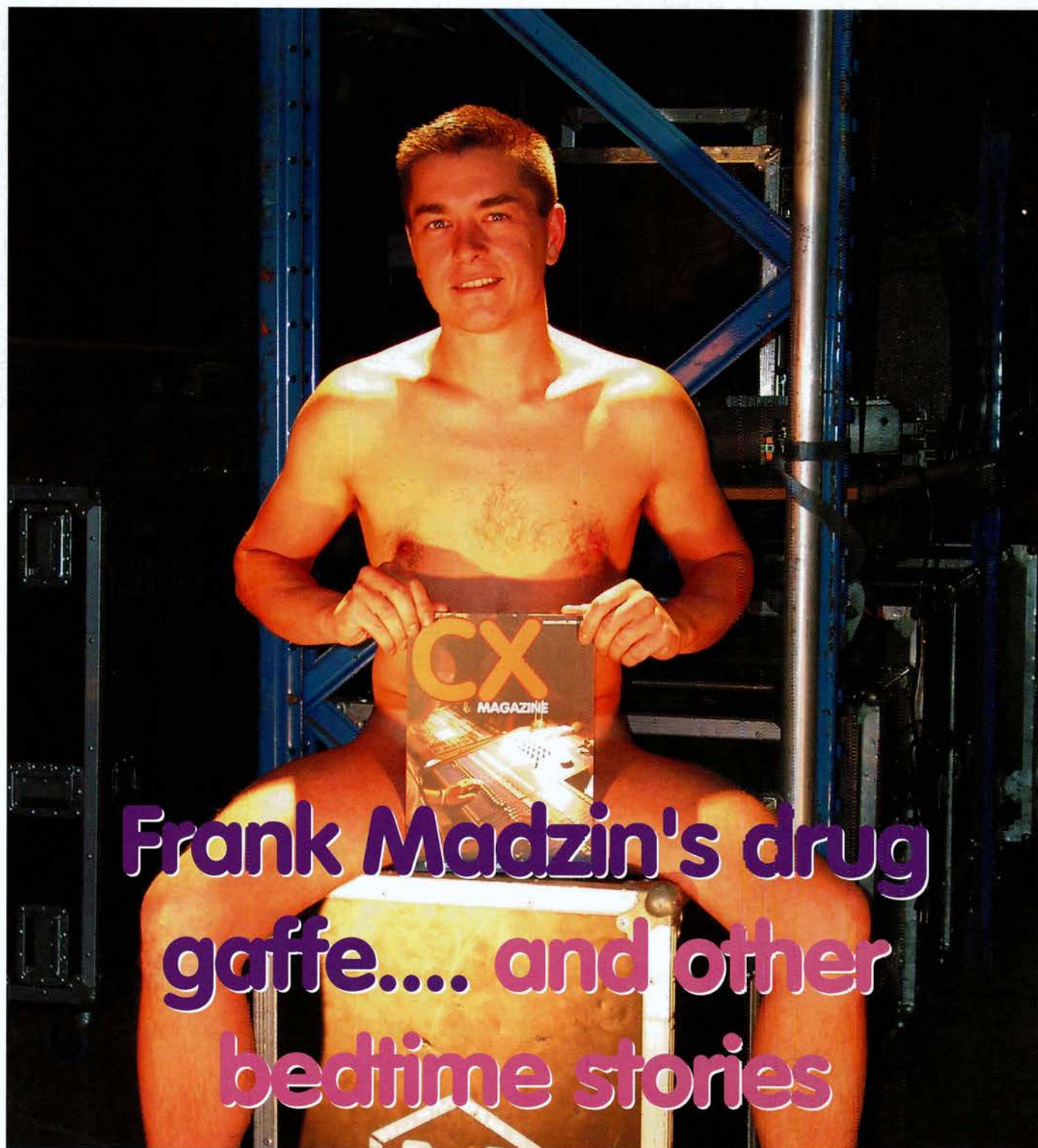
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Frank Madzin's drug gaffe.... and other bedtime stories

Anyone else would have thrown themselves off a cliff, or at least ordered a hit job on the people at Juliusmedia. The headline on the website read: 'Madzin Drug Gaffe', and it wasn't a pretty story. For Frank Madzin, it was a turning point.

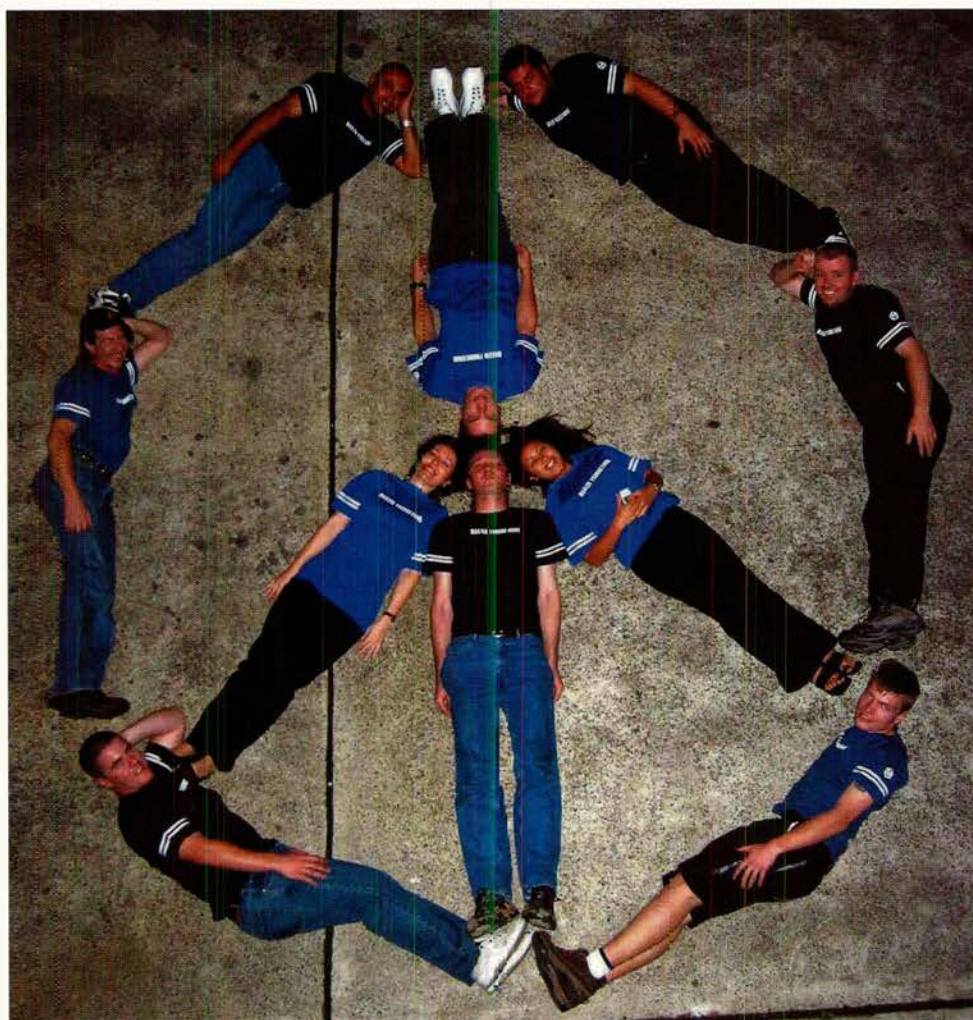
Madzin Productions is an up and coming Sydney production house who do anything a client needs that involves light, sound and vision. They work from an overflowing warehouse in Marrickville, and comprise a dozen or so young, keen and motivated people – headed by young, keen and motivated Frank.

The 'Drug Gaffe' headline was created by the duty editor at the web news portal of this magazine, and reflected an angry letter from a reader of the Madzin Productions newsletter. Madzin's PR sheet reported the success of various shows

Madzin had done recently. Each issue had an informal flavour. This one went too far - it featured a staged picture of office manager Jennifer Trijck – apparently snorting powder off the top of a Tweenies CD. The Tweenies are a kids act, and a client. It was the proverbial drug gaffe - to some, it said 'hey, this is what we do here!'

Following the story breaking on CX web Madzins was in turmoil. People with vested interests were emailing the story around, clients were contacted, and the illusion may have existed that Frank Madzin promoted drug use. Those who knew him were staggered, since he is reluctant to use Aspirin, let alone illicit stuff.

Would the business survive? Many clients were large companies, some clients included famous children acts. The



This is a story about love

association was potentially disastrous.

What happened next was the stuff dreams are made of.

Lots of letters started to roll in at Juliusmedia, letters fully and wholesomely supporting Frank. Letters telling us what a fine guy, what an inspiration, Frank Maczen is. The message was universal – this guy is loved. Read all the letters online.

Worried that one person had too much love, or at least more than me, I went to see Frank in his warehouse on the first cold day of 2003. Past an iron gate and up some stairs are three tiny offices with about six people populating them and virtually bouncing around. The atmosphere is almost fun, even for the luckless Jennifer, who left business college to come and run the administration.

Frank is charming in a natural unaffected way. He loves people, which is obviously the key to the success of the business – which has doubled in size every year since it was created, six years ago.

I'm probing, because this is almost Mary Poppins stuff. You can't be practically perfect and want to work in the sound and lighting business. Frank answers all my questions and manages to convince me he is what he projects himself to be – honest, and sincere, without avarice.

At this stage I asked Frank to remove his clothes, since it was his idea for a nude photo. The temperature was low and the wind blowing hard. A small wrinkle of concern crossed his

features. I told him I really, truly did not want to look at his private parts. He relaxed. I turned my back. He threw off his clothes and assumed the pose. We had a chaperone present.

Afterwards he had a cigarette

In fact, he had quite a few, aided by his pretty girlfriend Natalie. Nat and Frank live in the Italian Forum in Leichhardt, a sprawling complex of apartments with a huge plaza full of restaurants underneath. A grand piano sits where the dining table should go in the compact modern apartment. Frank is also a classical musician.

Jets thunder in towards Mascot, so low overhead you can read the sign, 'insert fuel here'.

Frank started in the biz working for the legendary Michael White at SCS in Sydney, direct from school. "Michael treated me like a son," Frank asserts. At one stage he shared an office with Michael. After some years – in fact: "Four years, three months and eighteen days" – he went solo, with casual gigs at the Sydney Opera House and the Entertainment Centre.

He scrimped and saved and purchased two second hand Bose 802 speakers and a Fostex amp. A gig came up doing a record company showcase, so the entire rig needed to be begged, borrowed, and hired. Thousands of gigs later, Maczen Productions own enough of everything to do their work.

Clients are typically companies, who don't care what the brand or inventory is, they just want someone to do the show.

A STORY ABOUT LOVE

Madzen's work on a simple formula, which is to pay crew a fair rate and keep them happy, then make money from hiring the equipment.

Frank observes on the relationships between crew and company: "If you stand at the back of a room long enough, you see a whole lot of people overworked on a daily rate". He charges clients an hourly labour rate, and pays the crew an hourly rate too – as opposed to a day rate system in the industry that can have crew start at 6am and still be going at midnight – for a flat fee.

"I want the crew to walk away happy", he says. Another insight: Frank thinks about his staff's spouses and partners, 'helpless victims' he calls them, since they need to adjust to the irregularity of the work hours.

Frank Madzin's business is booming, and this is because he has created a service company within the sound and lighting production industry. Customers want solutions, not specifications.

"I just want them to walk away happy!"



Madzin Productions office manager Jennifer Trijo with friend

Loving Frank: what his supporters said:

Frank's commitment to the industry is demonstrated daily with the team he employs and the teaching he does!

Chris Stubbs, Bay Leaf Catering & Event Management

I have been working with Frank Madzin since he first started his business. He is a fantastic young man. His integrity is without question, Frank is an absolutely wonderful professional. He always goes one step further in the serves that he proves. I trust him completely.

Mary Lopez (AM), Producer/Director



How to respond properly to a PR disaster

This is an edited letter from Madzin Productions after the Drug Gaffe story broke:

Until today our newsletter had always been well received. Positive feedback and suggestions for future editions were numerous.

It has been brought to my attention that in our latest edition (February 2003) that we may have seriously offended, with a particular photo that was staged for amusement and its subsequent satire of a disclaimer. It is of a great concern to all of us at Madzin Productions that we may have caused any distress with this article.

Further to this I would like to formally apologise to any of our readers that were offended, embarrassed or even made uncomfortable by what was intended to be a humorous aside.

Whilst this particular edition featured reviews of several children's events, we would like to assure our readership that our mailing list is comprised of our clients and suppliers and is unlikely to be viewed by those underage.

I am both deeply disturbed and troubled by this matter. It is the very antithesis of our monthly publication that any of our readers should feel hurt, uncomfortable or upset. Once again please accept my sincere apologies should this be the case.

Additionally I would like to assure our readers and clients that it was never our intent to promote or condone any form of drug use. Madzin Productions has a strict policy of zero tolerance amongst its staff and management pertaining to drug use which is detailed within its staff manual.

Madzin Productions' publication of a photo depicting coke snorting by one of their staff, and the accompanying copy which implied a 'take it or leave it' attitude, was, for me, a shock to say the least.

The Madzin Productions I know present, and always have presented, a friendly, service oriented collective face - a face that says "how can we help you?" It's a face that says "we care about your feelings", a face that, combined with co-operative attitude throughout the production phase, has proven to me to be empathic.

I feel morally obliged to provide this endorsement of Madzin's clean personality profile.

Errol Jones

More at www.juliusmedia.com

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❑ We just received the first copy of CX Magazine. As I read the (moving light) shootout section that we supplied units for, I was a bit disappointed to see that you have disregarded the Oby 3 quite unfairly. In general for a neutral review the whole article has a lot of editorial views expressed.

In actual fact there is no review for the Oby, apparently there was a problem with the metric thread of the clamp system on the Oby, which makes no sense because I included all of the rigging equipment with the packages. Apparently because it could not be rigged, (could not be bothered to be rigged), it was not eligible for the shootout and thus disqualified. In fact the only photo of the Oby is of it lying on the ground in the background.

My hope was that you would have enough sense to be able to use the unit without one of us there to hold your hand, this was not the case. We saw fit to actually stay away so not to damage the neutral theme that we were told the article was striving for. It is a pity because this was a good chance to compare the Oby to other fixtures especially ones in a similar price range. I am disappointed that someone as experienced as yourself did not get his facts straight before going to print. This review (or lack of review) will hurt sales.

I have spoken to Emmanuel who is currently in Denmark and he has directed me to pass this email along to you to get your response to the situation. Naturally we are not pleased and hope that you can understand why we are so disillusioned with this article.

Darren McLanders, Sales and Support, Show Technology, Sydney

** No need to be rude. The review noted the unit concerned came unpackaged and without means of hanging the device. – Ed.*

❑ It was with great enthusiasm that I opened the first issue of CX which I received at the weekend, and all I can say is congratulations!

The style, design, quality of editorial and editorial content are all excellent.

I was pleased to see a nice balance of lighting, audio and AV aspects which I hope will continue. Connections had tended to contain more audio articles and news in recent times and so a new balance is a welcome thing in my opinion.

Practical items such as the article on

servicing moving lights are a welcome addition. This is proper editorial in my mind which serves our industry well. This is of far more use to readers than cut and pasted press releases from manufacturers. Press releases have their place within a magazine of course, but they need supplementing with solid editorial.

The comparison tests that you have also begun are a great thing to in my mind. Working for a manufacturer I fully realize that sometimes we will do better than others, but it is great feedback for me to see these kind of tests, providing they are done fairly, something which John has done in his first piece. As I am sure you are aware, Sono magazine has a good reputation because of its no holds barred approach to testing equipment. They generally only take single fixtures to test though, and so by taking this a step further with cross manufacturer shoot-outs you are providing something new, unbiased and highly relevant to the buying public.

The review of the Mercedes van is a touch of inspiration. I have never seen ancillary items such as vans be reviewed before, but they have just as much relevance for a large number of companies, as their decision to which inventory to put in their rental stock.

So, congratulations all round. I think that you have found a very high balance and quality of everything that is needed and I think that other industry magazines should take a hard look at what you have produced to see where they themselves could improve.

Congratulations once again, best regards,
Mark Ravenhill, International Product Manager, Martin Professional A/S

❑ I love the new CX. I used to subscribe to the old Connections, but then went to the USA and let it slide (bad girl!). Anyway, I am very excited by how it has evolved.

I am the Entertainment Training Package sound teacher at Box Hill TAFE and I was wondering if you or someone could do an 'idiots guide to... VCA groups' in an upcoming issue. I am trying to teach this stuff to my students, but I can't find any good reference material to help break it down for them, and it is a confusing concept when you are first starting out.

Bronwyn Dunston, Sound Teacher – Entertainment, Box Hill.

** Read the next letter! - Ed*

❑ Congratulations on the 1st issue of CX magazine. There are a couple of statements from the Soundcraft MH4 review (page 87) I feel require correction.

VCA "Trap". You state that assigning a channel to a VCA takes the channel out of the mix. This is incorrect. VCA's are CONTROL busses. They do not directly pass audio. Assigning a channel to a VCA has no effect on the channel routing. The channel MUST remain assigned to the main mix to pass audio.

The VCA bus acts like a remote control over the channel fader. When a channel is assigned to a VCA master the overall channel gain becomes the mathematical addition of the channel fader and the VCA master fader. i.e. if the channel fader = 0dB, and the VCA master = - infinity, the net gain = - infinity. Thus NO AUDIO will pass. Which I suspect is what happened during your tests.

Experienced operators of VCA based consoles get into the habit of setting the VCA master to "0dB" BEFORE assigning channels to the VCA master to avoid abrupt level changes. This is normal.

2. "Stereo Mix killer". You state that when the centre button is selected, and the channel panned to 12 o'clock, audio is cut from the left / right outputs. This is not entirely true. Yes this will happen if the channel has L-C-R panning enabled (LCR button down). However if you run the channel in Stereo mode (LCR button up) the PAN pot has no effect on the centre output.

3. Phantom power LEDs. You state the phantom power buttons lit up anyway (regardless of phantom power status). While I'm pleased you felt this looked gorgeous, it is not normal. Unlike previous designs, the phantom power LEDs on the MH4 directly monitor DC voltage on the mic line, not simply the position of the PP switch. So any DC voltage on the mic line will illuminate these LED's.

Also I must protest re the repeated use of the term "wattage" within your pages. There is no such word as "wattage". The WATT is a unit of measurement for POWER. Just like horsepower. Basically using "wattage" is equivalent to a professional motor racing magazine talking about the "horsepowerage" of race car engines! OK, I feel better now. Rant mode OFF!

Jeff MacKenzie, Audio Systems Engineer, Jands

BREAKTHROUGH IN RIBBON TECHNOLOGY ENABLES RADICAL NEW PA SYSTEM

As we went to print, a new PA technology was demonstrated in Melbourne that has the potential to turn the loudspeaker market upside down. It is a flat loudspeaker system that is very small, and does not have many of the behavioural problems we have grown to accept from cardboard coned transducers and high frequency horns. The MAD A9 Planar Magnetic Surface Array is based upon proprietary, specially designed for Professional use, high sensitivity, high power, full frequency range planar magnetic transducers. It was demonstrated at the Myer Music Bowl ahead of its world wide release. Specifications were still being finalised at presstime. This is our report:

We were presented with a single array of small speakers, 6" wide by 9" high, flown from a truss in the middle of the stage.

A variety of recorded music of assorted genre's was played through the rig at various volumes. It all sounded pretty nice, specially a track by young jazz singer Nora Jones, which sounded superb.

I did my usual "sound check stadium walk thing" zig zagging across the venue, side to side and front to back.

Very quickly, I noticed that this system was very different in its performance to anything else I'd ever heard. There was a complete lack of a phasing sound when I walked side to side and no difference in volume! I walked towards the speaker stack and it did not get any louder! I walked away from the speaker stack and it didn't get any quieter!!

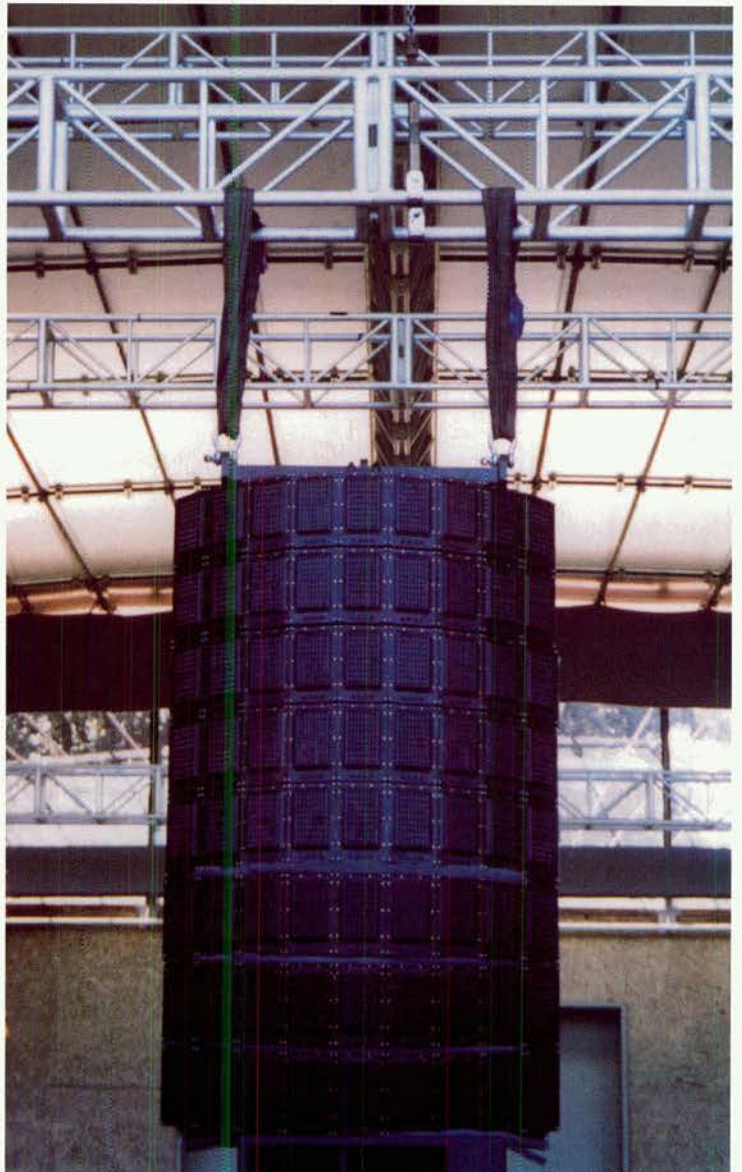
I guess I looked like a mad dog darting about all over the place sitting in various seats and standing up. The sound was the same throughout the venue, at every seat and every aisle.

Wow, I have never experienced this before!

I have attended many gigs since I pushed my way back stage at a Sherbet gig on Frankston football oval when I was 12 years old. I have mixed gigs big and small all over the world since 1979 and have never heard a speaker system like this one!

I walked 200 meters back from the stage and it sounded even better, no doubt aided by the venue's sound shell but still extraordinary. I also noticed that the high frequency part of the sound was not effected by wind as much as traditional horn loaded systems.

Peter Bayfield from The Audio Department pulled out a portable DB meter and it confirmed that my ears still work fine! Uniform sound front to back side to side within +/- 1 Db spl. This system is also loud, the meter read 117DB at on stage with complete sound clarity (until the amps started to limit)!





RADICAL NEW PA SYSTEM

Obviously, this is a significant change in speaker design technology.

The people involved didn't give that much info away, they kept their "cards to their chests".

So, what does this MAD system consist of?

Aluminum housed flat panel "planar magnetic Transducers" (some people may be familiar with HiFi ribbon speakers, which are similar) weighing just 22 kg per row of 9.

Front to back the units are only a couple of centimetres thick.

These transducers use lightweight stretched diaphragms and strong neodymium magnets.

Offering a full range frequency response 20 KHz down to 50 Hz, although they recommend shelving the units at 80Hz and using traditional sub bass units. The speakers require no processor or cross over apart from when you use them with subs.

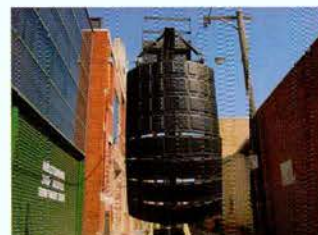
Dipole dispersion throws the sound at rear the same as the front, so an acoustic absorbing blanket is Velcroed to the rear. Dispersion of each speaker is tight- Vertical 10 degrees, Horizontal slightly more than that. Horizontal dispersion of the whole array is 90 degrees.

Vertical dispersion is variable and can be increased up to 80 degrees. The splaying angle between rows can be set from 0 degrees to 10 degrees in 2.5 degree increments.

Custom designed arrays can be assembled in both horizontal and vertical to cover up to 360 degrees!

Efficiency of the array on demonstration is 100 Db @ 1 watt @ 1 meter. Power for the 8 rows shown is quoted at 7200 watts RMS and a massive 72,000 watts peak. Each row of 9 units presents to the amplifier a unique constant resistive load of about 4 ohms, wanting around 900 watts. Any modern amplifier will not have a problem powering this system.

I grabbed a mic and did the 'check 1,2' - as did Richard Bilinski from McLean's Audio.



Without the demo, this story could be dismissed as a hoax. But MAD is the real deal!



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The Dynamics series

combines design with function. Their unique enclosure design has three ergonomic handles for easy carry-ing, will accept a standard 35 mm mounting stand and includes a floor monitor position for added flexibility. Nine rigging points and an optional mounting bracket facilitates use in permanent installations. The self-powered or passive versions lets the user choose the powering option that best suits their needs. The DS-115A incorporates the latest in amplifier technology. A Class "D" amplifier powers the low frequency section and a Class "A/B" powers the highs. Protection circuitry is provided for both amps and the components. A 500 W Class "D" amp gives the SUB-18A sub-woofer system a solid bottom-end. SUB-18A SUB-18F

RADICAL NEW PA SYSTEM



We were both suitably impressed with the systems response and gain before feedback properties.

The US marketing manager of the company Joe Manning gave a talk about the rig while positioned just a meter from the side of the array with not a hint of feedback. This system is still very new with only 1 major installation at the Arco basketball arena in the USA.

There are many new flat panel speakers on the market mostly using "NXT technology" such as the Carlsboro 'light' but nothing with anything near the specs of the MAD system. The Gentlemen from MAD assured me that this rig is completely different from that technology and is a completely new and original design.

This system has so many performance benefits, logistical benefits as well as size and weight advantages, that there is no doubt that the world of PA systems is about to change drastically.

I am very much looking forward to mixing my first big show on this system, it is going to be great to finally mix with the confidence that all the audience are hearing the same mix as the guy twiddling the knobs.

This system is truly MAD and is sure to rattle the foundations of PA manufacturing company's around the world.

Enquiries: The Audio Department,
call +61 3 9415 1868

We tracked down Dragoslav Colich from MAD as the printer wound up the presses with this issue. These are his words.....

HPV Technologies LLC of Costa Mesa, California, markets this product under name MAD (Magnetic Audio Devices).

Planar Magnetic Technology is known for years, but HPV Technologies is the first company who came up with the design of transducers that can meet very tough Pro Market requirements. MAD-1 is the model of the transducer and it is our universal building block to create the Surface Array with the radiation patterns and output that are so startling.

With our array we can go beyond famous 3dB loss with doubling the distance that the Line Array Manufacturers are so proud of. We can design the array that can project the sound far away without almost any loss. Depending on dispersion angles required, MAD Array can radiate sound with loss of 1 dB per doubling the distance up to 6 dB per doubling the distance. This means we can achieve almost parallel beam of sound or have full 360 deg radiation angles in both horizontal and vertical plane.

One of the useful articles where you can find details of how planar magnetic transducer works is:

<http://www.bgcorp.com/Downloads/wp4.pdf>

Radia speaker line is another Planar Magnetic Loudspeaker Line manufactured by Bohlende and Graebener Company. Their products have the same basic principle of work and I just point you there to read about the technology. That article is few years old. B&G products are very different and can't match the MAD transducers performance.

Our official launch of the products will be at Infocom show in Orlando Florida. We had few big sales already. The biggest installation with our technology is in Arco Arena, Sacramento. We had also numerous very successful demonstrations for very well known people in Pro Audio Industry and everybody was pretty much speechless. Some people think that this technology is paradigm shift.

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LD Hugh Taranto

SILVERCHAIR:

By Julius Grafton

Silverchair approached Rolling Stones levels of interest and enthusiasm on their Australian Tour across autumn. The five week run was designed for theatre and stadium, and featured an Australian pragmatism that a forty year old band like the Strolling Bones could never achieve.

The parallels – guitar rock band; theatre AND stadium shows; fans who are welded on. The differences? About 150 people less on tour with the 'Chair. No physiotherapist, no personal chefs, no valets.

Production values were similar, and in proportion too.

Where the 'Stones toured the largest LED video wall currently in use on the planet, the 'Chair toured the new Barco LED wall from Technical Direction Co – Australia's largest and best new wall.

The Rolling Stones had a new line array PA – the 'Chair had a modern NEXO Alpha PA system.

Patrick Woodroffe's lighting design for the 'Stones had everything that moved, all controlled from a Hog II. Hugh Taranto's design for Silverchair had more than enough in the way of fixtures – controlled from a Whole Hog III.

What I'm getting at, is that Production Values need to fit the scale of the show, and the Rolling Stones 14 truck tour is not that far removed from Silverchair's two truck loads. The people who matter – the audience – were well satisfied in both cases.

I caught the tour at the Pallais Theatre and then two days later at the Vodafone Arena. The light and vision production was essentially the same in both venues, with less





A show with two stage settings - and mega bright LED panels

live at last

speaker boxes used for the 20CC Pallais than for the 6000 seat Arena.

"It scales up nicely", said the polite Hugh Taranto, veteran of many Silverchair tours. His lighting design was clever, because there was nothing flown in the grid that needed focusing, so no one needed to climb up there. That made a huge time saver, since the house worklights didn't need to go out, and the safety issues of not having climbing crew are obvious.

"We can go up there (there is a ladder) and we have the rescue gear. But if we need to change something we usually lower the grid."

I have arrived at the Arena at 5pm, and Hugh is sitting arranging his cues. The load in was at 0800, so good time has been made.

The stage set is loosely based on the Diaorma

album cover, so rainbow colours and weird set pieces are used. Three LED video walls are flown at the rear quarter of the stage, hung intentionally crooked. Huge fake picture frames make them look kind of grunge-retro. Each wall is 5 panels wide and 3 tall, so they each measure about 4.5 x 2.5 metres.

Hugh operates the Whole Hog III, a wingboard, and three Catalysts - with 3 Mac G4 and 2 laptops. His FOH setup is complex, and hubbed together via an Ethernet switch. It is impressive to watch him work all this, alone while calling two followspots.

For the first half of the show, the three Silverchair members are joined by two guest keyboard players who are set on stage left, above and behind the backline. Coloured panels



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LIVE



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Barco LED panels from the rear

are over each backline speaker. Six 'zip rings' which are a circle of ten MR 16 lamps, are hung around the backline, giving Hugh another element to go with six Zip strips – sitting vertically around the stage, and gelled in rainbow hues.

The band take to the stage with pungent incense burning, plumes of smoke rising, and do a set of new material than builds to a break.

Hugh has imagery generated from 3 Catalyst systems (with 3 Mac G4's) feeding the three screens. The images combine moving black and white clips from band videos, and a smorgasboard of patterns generated on Catalyst. As the sole lighting operator, Hugh has control over outputting the images through the Hog III – making the show very harmonized.

"For the first half, the screens are set to 1000 nits. Then I

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turn them up (to 2000) for the second half. I'm using them more like lights than they are. They come in and flash, in colours, and are a big bright light." Bright they are!

The band wanted a quieter set with a different look for the first half. Behind the three oversized picture framed LED walls is a red drape. Lights play out a lot of looks, and two followspots very subtly fill out.

The second half is achieved after the crew reset the stage behind a curtain. The rear red drape is gone, revealing three pods of 24 Par

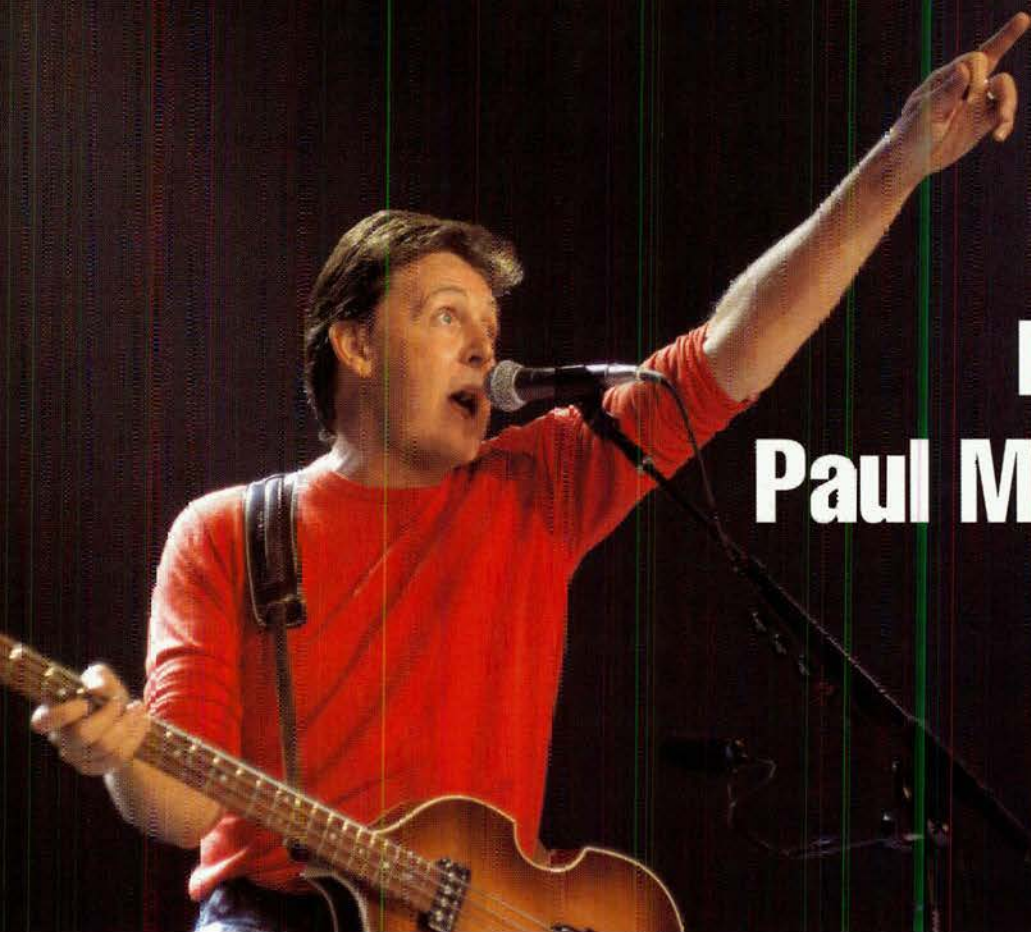
64's, using 240v lamps so they can be chased in many combinations. Each is gelled.

A directive from the band is that the second half is not full of technology looks, so the moving lights are generally restricted to reset when dark, not moving while on. 'It's a traditional rock show – not the 'different world' theme of the first half', says Hugh.

At the sound desk the two halves of the show are simply delineated by volume. The show grows louder as the night goes on. By the second half it is pumping fat, or phat as we



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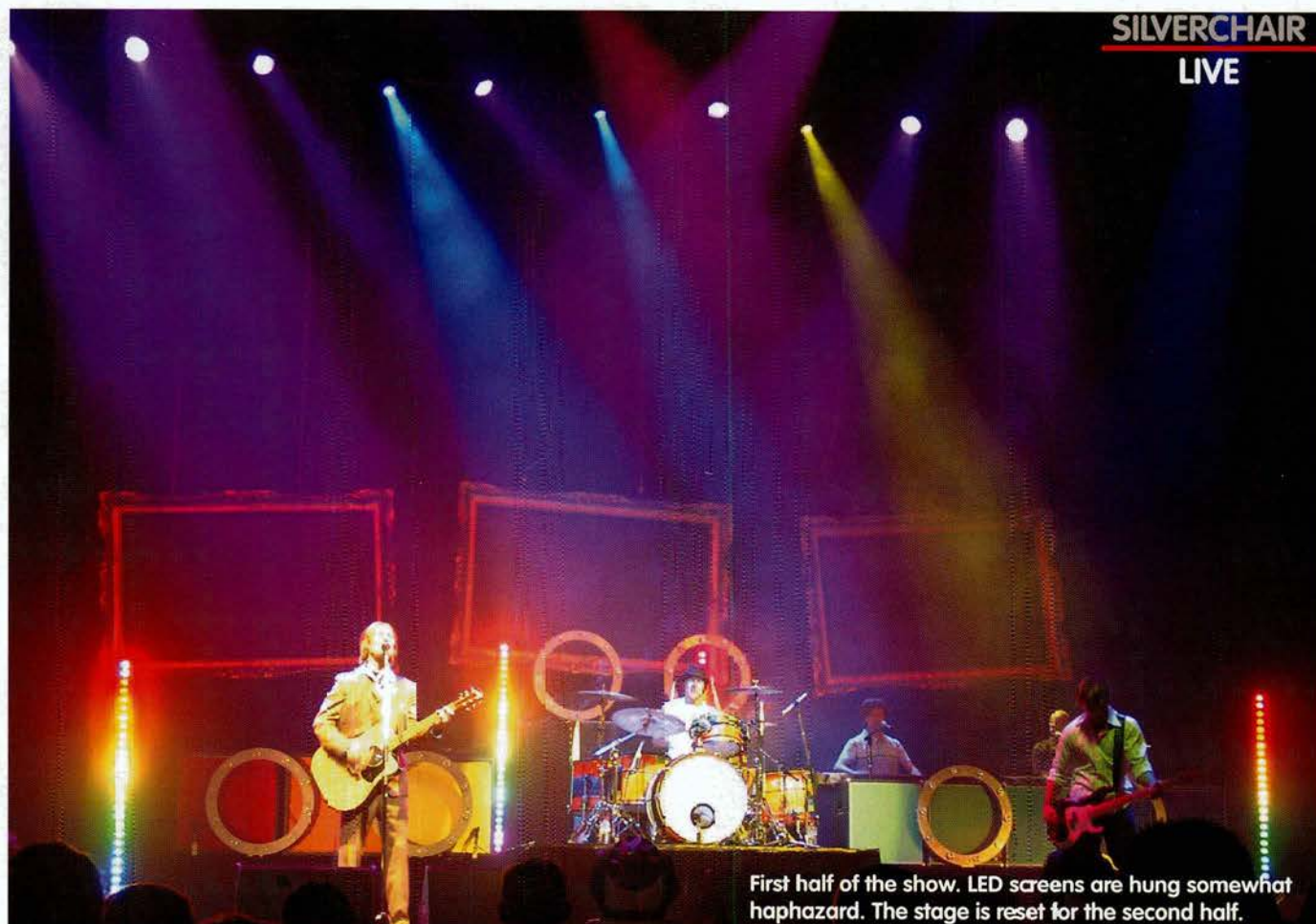
dbx is proud to join with Sir Paul McCartney and Heather Mills McCartney in supporting Adopt-A-Minefield, a worldwide organization helping individuals and families return to their lands and reclaim their lives. Learn more at www.landmines.org

When you're in front of hundreds of thousands of screaming fans you need to sound your best. That's why everything Sir Paul and his entire band hear onstage is processed by DriveRack, the complete equalization and loudspeaker controller from dbx. Paul's monitor engineer John Roden, tells us why: *"I wouldn't use anything but DriveRack... it's more transparent than anything else..."* That might also explain why DriveRack is being used on the latest incubus and Rolling Stones tours. You might not be playing in front of as many people night after night, but that doesn't mean you don't deserve the great sound of DriveRack.

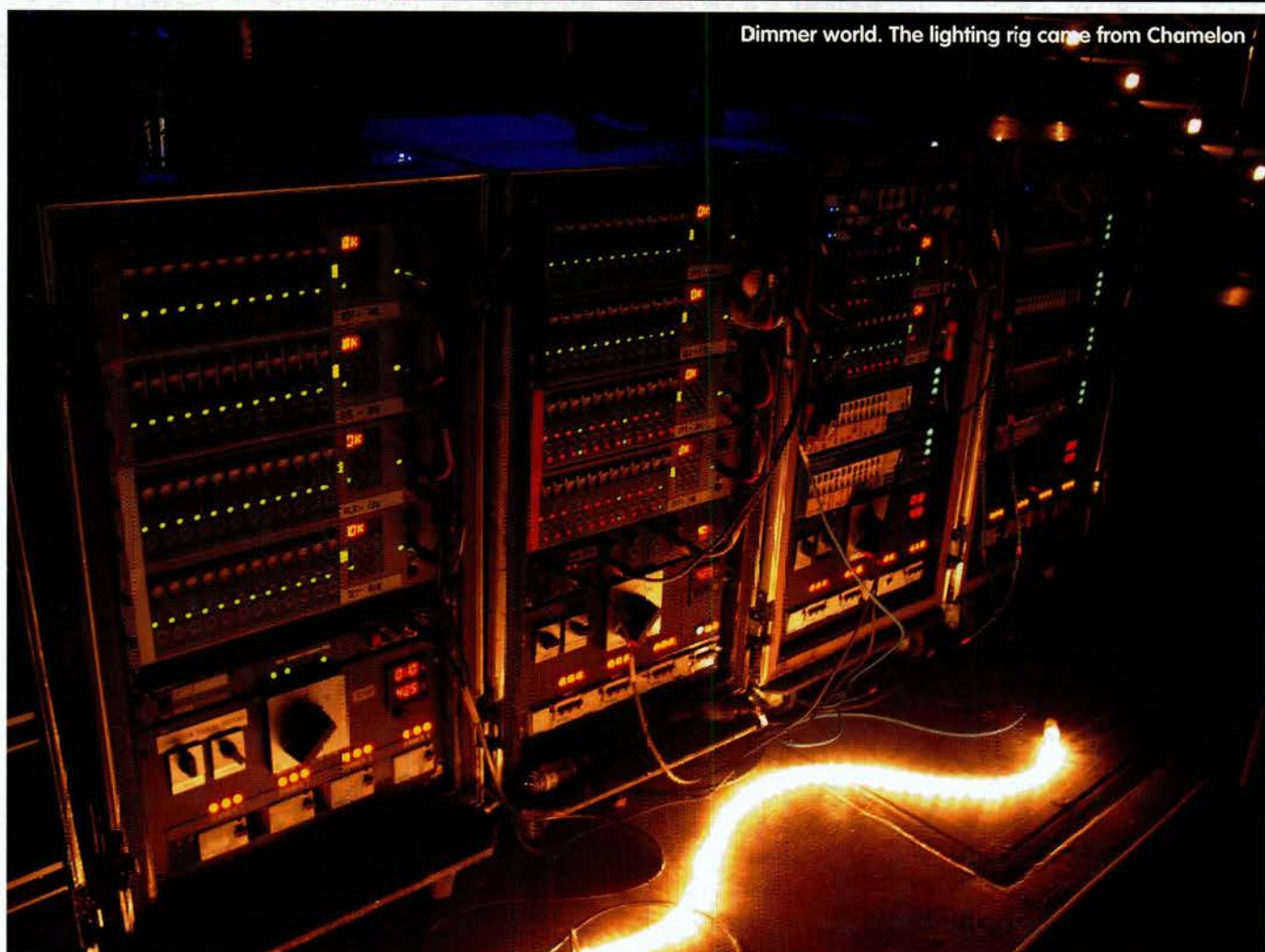
The DriveRack PA has all of the processing you need to get the most out of your PA. The DriveRack PA integrates Graphic EQ, Advanced Feedback Suppression, Compression, Sub-Harmonic Synthesis, Crossover, Parametric EQ and Output Limiters into a single box. And, the DriveRack PA makes all of these functions easy to use with Auto-EQ and a comprehensive set-up Wizard. So head over to your dbx dealer today and find out what DriveRack can do for your PA.

dbx®

PROFESSIONAL PRODUCTS



First half of the show. LED screens are hung somewhat haphazard. The stage is reset for the second half.



Dimmer world. The lighting rig came from Chamelon

BANG FOR BUCK

V-PLUS SERIES AMPLIFIERS

When I spoke with John Brown at American Audio I told him I wasn't going to be easy with his amp...he said great! I then explained "it be ruthless and subject it to extremely demanding conditions and he said excellent! After all that I put it on the test bench... John said even better! Obviously John is very confident of the machines capabilities, the same kind of confidence usually reserved for those using big Crest & Crown touring amps costing several thousand dollars each... so I decided to really put it to a torture test. I'm a little sick & twisted, what can I say?...

...now understand the confidence John Brown (American Audio Sales Manager) has in his amplifiers... he made a believer out of me and I don't impress easy! I had several people approach me during a recent convention and ask if my recent article at ProDJ.com, "Best Bang For The Buck" amplifier shootout was indeed accurate. That shootout found the American Audio V-4000plus clearly the winner against the XXXXXX and XXXXXX in a three-way shootout, and they're both excellent amplifiers. I'm not a paid reviewer. I do this for the love of audio and to help others achieve great sound. I don't play that pay to play thing that many magazines play. I can only repeat what I told them.

The American Audio V-4000plus is the real deal! It offers incredible bang for the buck and should be considered by anyone looking for good solid amplifiers period... I highly recommend this unit! "We're so scared to print the brands and models it beat, call us and we'll tell you, but we warn you that you probably won't believe us."

Written by: Bob Dietrich Acoustic Dreams
ProDJ.com Technical-Equipment/Gear Moderator



All Models Feature:
• DC output overload & short circuit protection
• On & Off protection
• Turn-On Thump protection
• 2 limiters (V2000Plus - V5000Plus)

Power Output:	@8Ω	@4Ω	@2Ω	@4Ω Bridged	Exclusive Features	RRP
V1000PLUS	170W RMS	245W RMS	315W RMS	500W RMS	Front panel reset	\$699
V2000PLUS	280W RMS	450W RMS	650W RMS	280W RMS	2 limiters, 2 HP filters	\$999
V3000PLUS	440W RMS	360W RMS	960W RMS	930W RMS	Sub-Woofer, Cross Over	\$1299
V4000PLUS	600W RMS	1010W RMS	1400W RMS	1500W RMS	Sub-Woofer, Speaker Plugs	\$1899
V5000PLUS	800W RMS	1300W RMS	1900W RMS	2000W RMS	Sub-Woofer, Speaker Plugs	\$2299

APX-Power Pro-Professional Powered Speaker

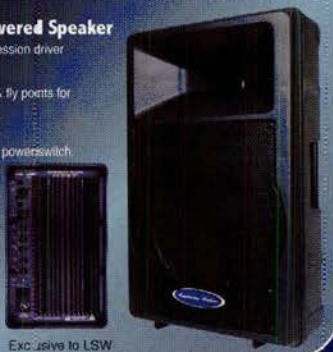
- 15" 2-way speaker with diecast woofer and 1" compression driver
- XLR line & parallel inputs
- Built-in 300W "H" Class design bi-ampifier system
- Rugged lightweight plastic cabinet with stand socket & fly ports for hanging
- 1/4" stereo microphone input with mic volume control
- Line input control, treble & bass adjustment knobs
- Master volume control, low cut switch (cuts bass) and powerswitch
- Frequency response (±3db): 60Hz-15 kHz
- Frequency response (-10db): 45Hz-18 kHz
- Impedance: 8 Ohm
- Sensitivity: 96 dB/W/1m
- Connecting jack: XLR

RRP: \$1899 pair

APX-152-Professional Speaker

Also available as Non-Powered Professional Speaker

RRP: \$999 pair



Exclusive to LSW

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NOVA - COLOUR CHANGER

LAMP: HSD250
COLOURS: 9 colours plus white & Rainbow
GOBOS: 7 interchangeable plus clear
SHUTTER/STROBE: Shutter for blackout and strobe
MIRROR MOVEMENT: Pan 1°/Tilt 80°
BEAM ANGLE: 13.6°
DMX: 5 Channels. Automatic mode with Master/Slave operation and 3 sound activation
MOTORS: 8 Stepper motors
HOUSING: Composite plastic

RRP \$699



PILOT 250

LAMP: HSD250
COLOURS: 9 colours plus white & Rainbow
GOBOS: Wheel 1 - 7 interchangeable, indexable rotating gobos plus clear
WHEEL: 2 - 7 fixed gobos plus clear
PRISM: 3 facet variable speed
FOCUS: DMX Controllable
SHUTTER/STROBE: 2 Blade Shutter for dimming, blackout and strobe
Electronic lamp dimming
HEAD MOVEMENT: Pan 540°/Tilt 265°
BEAM ANGLES: 14°, 18°, 28°
DMX12: 13 Channels plus 2 for Hi Res. Pan and Tilt
MOTORS: 12 Stepper motors
HOUSING: Metal and composite plastic

RRP \$2499

MOON 2

RRP \$1299



DESIGN 150/2500

LAMP: HSD150 / MSI 2500
COLOURS: Cyan, Yellow, Magenta colour mixing
SHUTTER/STROBE: Shutter for blackout and dimming
DMX: 5 Channels. Automatic mode with Master/Slave operation
STEP MOTORS: 4 / 2

150 RRP \$1499

2500 RRP \$4999



Low Lying Fog Machine

RRP: \$1499⁰⁰

HZ-400

RRP: \$2399⁰⁰

B-100 Bubble Machine

RRP: \$199⁰⁰

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- ECO II advanced thermal control system with remote temperature control
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- Z-2 multi-function LCD remote control included
- Options: Z-3 wireless remote, Z-X universal DMX remote
- Output: 40,000 cuft / min
- Tank capacity: 5 litres

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- Meets European safety standards
- Serviceable lamp base
- A clutch that works

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- Lamp: HM 575W discharge lamp
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- Zoom 1 + 16 meters
- Extruded aluminium

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Par 64 Waterlight

- Projector for external use for Par 64 Lamp
- High protection degree against water
- IP 65 for lamp PAR 64 230V max 1000W GX16D
- IP 65 for lamp PAR 64 low tension, screws terminal cap
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- Spot theatre anthalo or fresnel lens ø 120mm
- GY9.5 ceramic lampsocket for 300/500W lamp
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call it in soundland.

This tour marks the first time that Melbourne sound engineer Bruce Johnston has mixed the band. The former 'Chair engineer took a gig in the USA, and the band had been looking to use Bruce for a while.

Bruce also owns a sound compact – JAS – which means he was naturally keen to tender to supply equipment for the tour. He won. "I would use whatever they wanted to use, bar one kind of system that I have on my contract". Bruce wouldn't say which is the brand of system he dislikes, or why.

Bidding for the tour was intense, but Bruce's system choice of Nexo won the contract. Owning it means the contract wasn't awarded by Bruce in any case, the decision went back to management with recommendations from Barry Holloway, the crew boss.

60 Alpha boxes made up the rig, 24 M3 (mid/high); 24 B1 (low) and 12 S2 subs were flown and floor stacked to cover the audience. These were powered by just 2 amp racks per side – each rack loaded with four Camco Vortex 6 ultra-high powered amplifiers. Each rack produced 24,000 watts for a system total of 96,000 watts.

For the first time, Bruce used all Nexo on one

tour, as the monitor system was also Nexo branded. Rod Matheson generated 4 in ear, and eight equalized sends of stage monitors from a Midas XL 250 console. 14 Nexo PS15 wedges were used, along with 2 Alpha E full range boxes on each side of stage as sidefills.

2nd half of the show (top). Below, here's the Mac, PC and Catalyst network at one VERY busy lighting control world. Hugh Taranto did the whole gig - controlling lights AND vision!



iDR

DSP WITH A DIFFERENCE

DSP audio systems have been around long enough for installers to know what they like and what they don't. Well, we've been listening. Welcome to **iDR** - the next generation of **ALLEN&HEATH** DSP, with less of the things that drive you crazy and more of the things that help you get the job done fast, well and within budget.

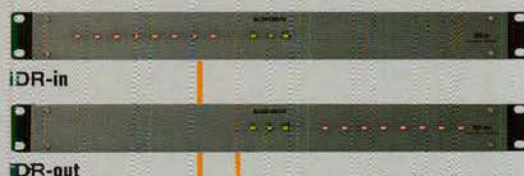
iDR System Manager software



PL Designer software

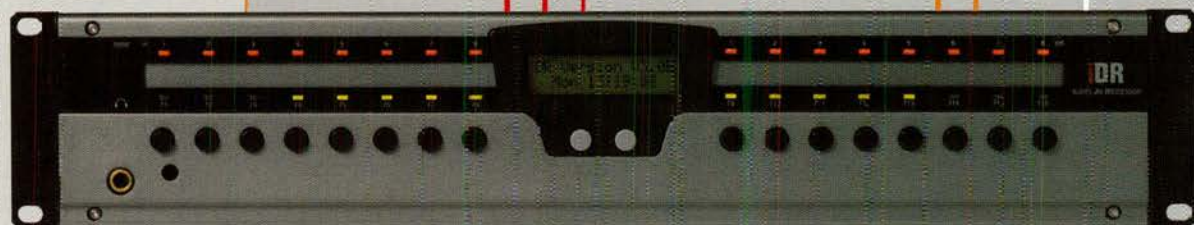
Modem
RS232
Network

Audio Expanders



Audio Monitor

iDR-8



iDR-switch

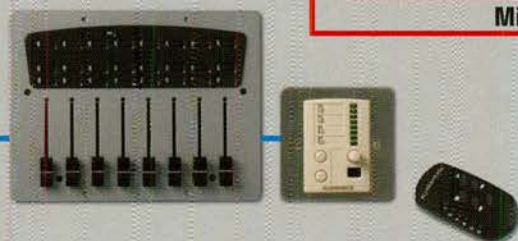
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Intelligent Remote Controllers



Taking the Drag (and Drop) out of DSP

No more running out of processing power, no more picking and choosing where you want those signal processing resources – and no more nasty surprises when you find that the system you designed won't work without an extra bit of hardware you hadn't budgeted for! **iDR** is an immensely powerful fixed path system, so all the signal processing is available to all inputs and outputs all the time. This makes the **iDR** System Manager software interface much more like an analogue mixer, which many people find far more intuitive than CAD based systems.

Affordable Expandability

Nobody we know likes paying a fortune just because they need a few more ins or outs. The heart of an **iDR** system is the **iDR-8** audio mix processor. It has 8 balanced XLR inputs and 3 balanced XLR outputs (1 in, 10 out including the monitor busses), but enough processing muscle for 16 ins and 16 outs. Adding extra inputs or outputs is just a case of hooking up the 8 input **iDR-in** and / or the 8 output **iDR-out** expanders. These are connected to the main unit over up to 250m of CAT5 cable and because they don't need built in processors (the **iDR-8** does all the processing work), we're able to offer these expanders at a very affordable price. Need more than 16 ins or outs? **iDR-8** units can be daisy-chained for larger systems with the possibility of chained monitoring to allow listening to any point in the signal path through the system.

Integrated Solutions

However your customer prefers to control their system, **iDR** has the answers. Our **PL-Anet** network lets you use our range of intelligent wall plates, including an infra-red receiver plate with handheld remote and the remarkable **PL-6** fader panel for hands-on live mixing within an **iDR** system. When you need to interface with contact closure wall plates (including our own **PL-2**) or logic control devices such as curtains, lights and other external equipment, just add up to 3 **iDR-switch** 24 in 16 out switch-controllers to the system. What if the customer wants networked control via their computers? No problem – our **PL** Designer software lets you create custom 'virtual wall plates' to run on client PCs. We even provide a SysNet port to interface with 3rd party controllers and MIDI for working with sound and show control systems.

We're behind you all the way

We want you to know that we take great pride in our Technical Support. When you install **iDR** you can feel safe in the knowledge that if you need answers, you'll get fast responses from friendly people with an intimate understanding of our products.

See how **iDR** can work for you – call or email us now and request our **iDR** pack, complete with free **iDR** System Manager software for you to evaluate (or use to start planning your next installation).

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ALLEN&HEATH



TECHNICAL AUDIO GROUP



A sub sat under the two drum wedges.

Out at front of house, the mixing console was an ageing but still good PM 4000 which is the top of the line desk in the JAS inventory. "I'm buying a Midas XL4, because when everyone is busy they are hard to get", Bruce explained, adding that it can cost \$2,500 a week to cross hire one.

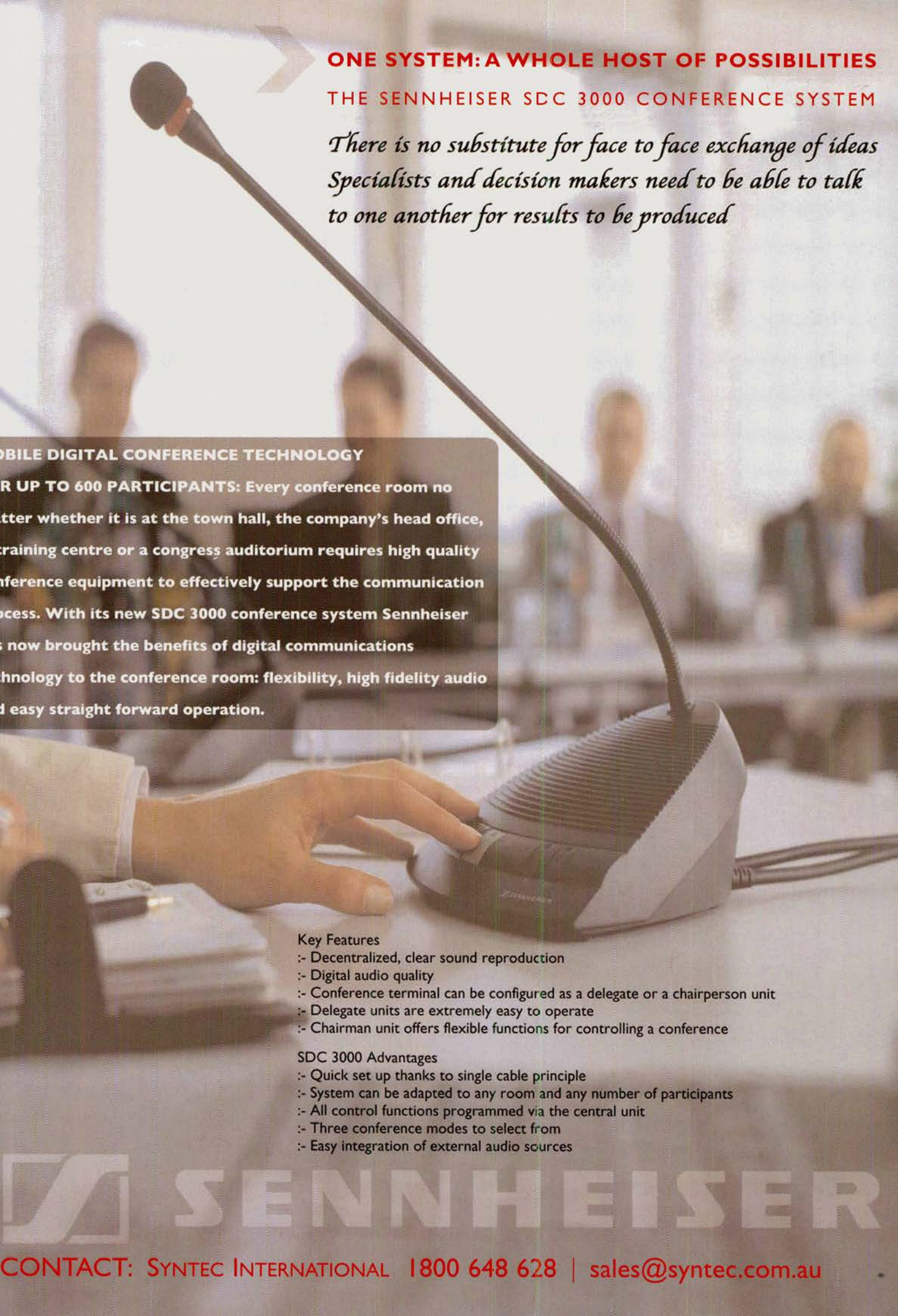
Some changes arose with the Silverchair sound when Bruce started the tour with the band. Previously the band used almost all triggered drums, with as few as eight open microphones on stage. "The band's drum kit was all electronic except the snare and overheads", said Bruce. "We changed that! It's more melodic now, the samples just didn't cut it. There's more light and shade in the kit (sound)."

"We cut a hole in the front of the kick (for a mic) and re-skinned the kit. We put a note on the song list for Ben (Drummer) to retune the snare after the third number.

The samples are still sent to the desk from the drum tech area, so there are a massive 16 drum channels. Only the snare is still mainly sampled, "the kit is 90% live now", asserted Bruce. The almost vintage but still popular Yamaha SPX 990 features as a snare reverb, Bruce says he just can't escape the 1980's.

Sound engineer Bruce Johnston





ONE SYSTEM: A WHOLE HOST OF POSSIBILITIES

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Specialists and decision makers need to be able to talk
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MOBILE DIGITAL CONFERENCE TECHNOLOGY

FOR UP TO 600 PARTICIPANTS: Every conference room no matter whether it is at the town hall, the company's head office, training centre or a congress auditorium requires high quality conference equipment to effectively support the communication process. With its new SDC 3000 conference system Sennheiser has now brought the benefits of digital communications technology to the conference room: flexibility, high fidelity audio and easy straight forward operation.

Key Features

- Decentralized, clear sound reproduction
- Digital audio quality
- Conference terminal can be configured as a delegate or a chairperson unit
- Delegate units are extremely easy to operate
- Chairman unit offers flexible functions for controlling a conference

SDC 3000 Advantages

- Quick set up thanks to single cable principle
- System can be adapted to any room and any number of participants
- All control functions programmed via the central unit
- Three conference modes to select from
- Easy integration of external audio sources



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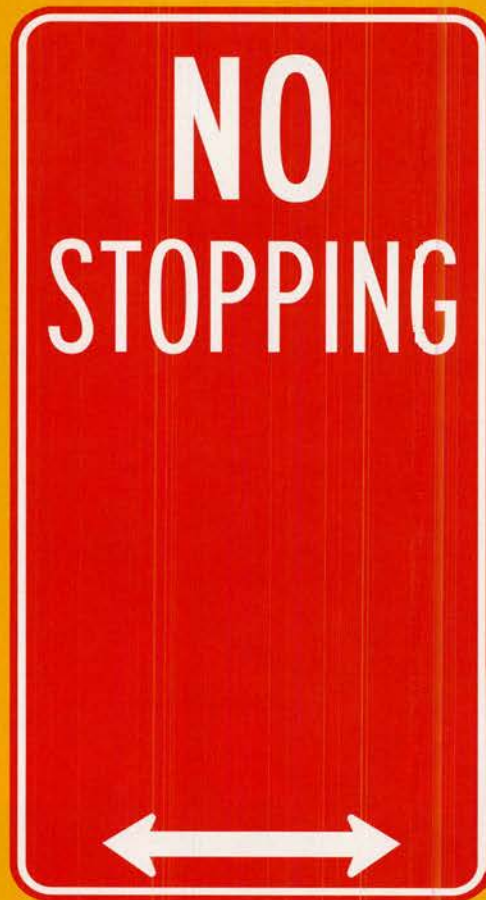
2nd half : the rock show

With four guitar inputs, bass, and two keyboard players – one of whom has a Leslie (rotating) speaker box, the rest of the desk inputs are filled.

“He (Daniel Johns) is a soft singer, so I ride his gain. I got an Avalon tube preamp for his channel and noticed the difference from the PM4k input preamp straight away. There is shit for days, like ride (cymbal) and guitar that will come through the vocal mic.” Bruce is referring to stage spill. This band has an enormous live rock guitar sound. Truly phat, creamy and about 420 horsepower.

During the final part of the show, when the three core musicians are alone on stage, Silverchair are possibly the tightest hard rock band on the planet.





9am
Tuesday
June 3rd

9pm
Wednesday
June 4th

At Lots of Watts there'll be 'No Stopping' for 36 hours.

Yes, it's that time again when Lots of Watts holds their huge 36-hour June Sale. From 9am Tuesday June 3rd, right through to 9pm Wednesday June 4th, come and grab a bargain on ex-demo stock, ex-hire equipment, and traded equipment. And while they're in the spirit of things, they'll even have some new stock on sale!

The Lots of Watts 36-hour June Sale. From 9am June 3rd to 9pm June 4th.

The company everyone else uses

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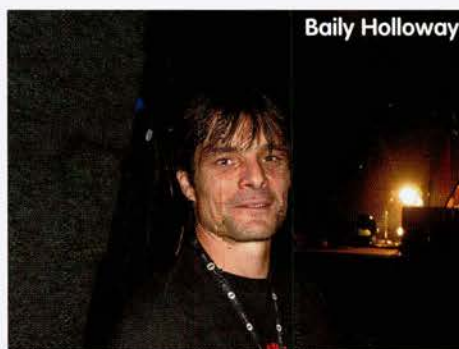
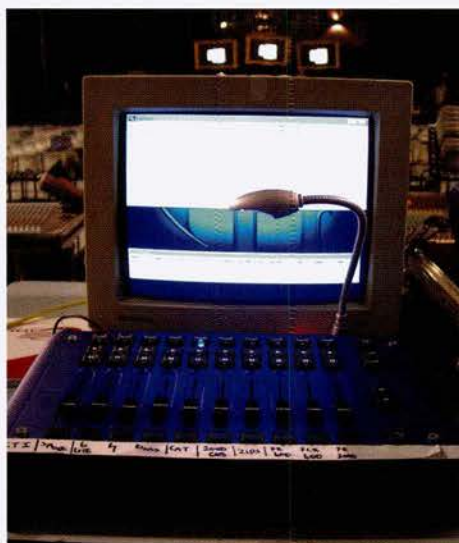
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**Lots
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Pty Ltd



Lighting equipment for the tour came from Chameleon Touring Systems in Sydney. It was made up of 15 Martin Mac 2000, 25 Mac 600 and 8 Mac 500's – placed on the floor behind the band.

8 Atomic strobes, and 4 x 2000 watt fresnels on stands made up the rest of the rig.



Bailey Holloway

Gobo's projecting over the Pars are the only apparent use of moving lights in the second half. Hog wingboard (left).

Silverchair on the road

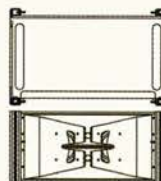
John Watson	Manager
Melissa Chenery	Tour Manager
Bailey Holloway	crew boss, guitar guru
Bruce Johnston	FOH engineer
Hugh Taranto	LD
Casey Hilliard	Bass & Key- board Tech
Rod Matheson	Monitors
Ben Lyons	Drum and Piano tech
Paul Gould	Audio Rigger
Brent Grey	Audio rigger
Mark Crawley	Mons. rigger
Graham Walker	Lighting rigger
Pat Clark	Lighting rigger
Adam Mather	Video Tech
Eric Morgan	
Steve Brown	
Russell Austen	Transport drivers

Introducing

SLAM

KF730 SMALL LINE ARRAY MODULE

LOUDER *than anything this small.*
SMALLER *than anything this loud.*



axial sensitivity: (dB SPL, 1 Watt @ 1 m)
MF/HF: 104; LF: 99

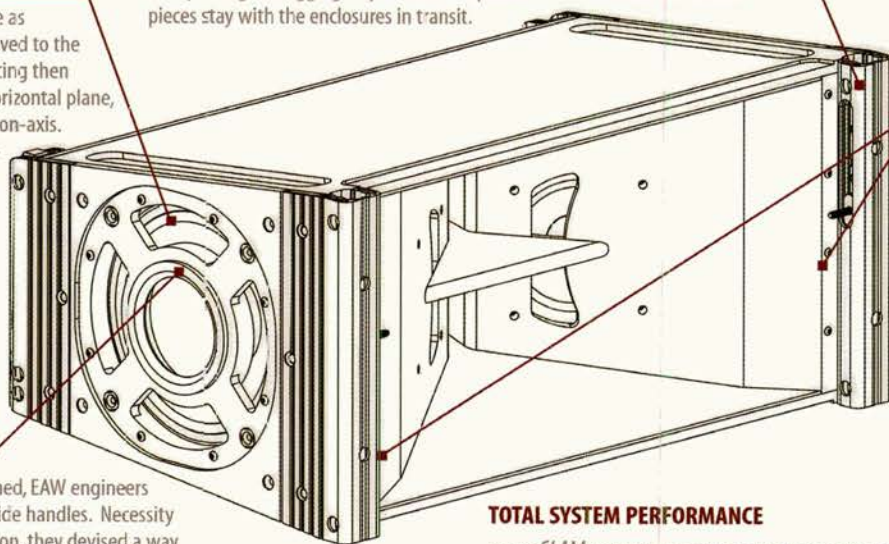
height: 13 in / 330 mm
width: 28.5 in / 724 mm
depth: 17.6 in / 447 mm

EXTRUDED ALUMINUM RIGGING SYSTEM

In addition to being extraordinarily light, the super-high-strength 6061-T6 aluminum fly bar and rigging system can suspend up to 18 modules at a 10:1 safety rating. All rigging stays within the perimeter of the enclosure and all pieces stay with the enclosures in transit.

ZERO FRONTAL AREA LOW FREQUENCY SECTION

To keep the horn mouth as large as possible, the LF drivers were moved to the sides of the system. Proper spacing then creates an off-axis null in the horizontal plane, putting more acoustical energy on-axis. The look is different, but performance is significantly better.



BIG HORNS HAVE NEVER BEEN THIS SMALL

The mid- and high-frequency sections share a horn mouth that fills the entire face of the enclosure. Keeping the horn big lets the KF730 provide unmatched horizontal coverage consistency – an issue only addressed by a horn-loaded design. While line array effects may improve control in the vertical plane it has no effect in the horizontal, where most line arrays suffer significantly.

INGENIOUS HANDLES

After the system was designed, EAW engineers had no place left to locate side handles. Necessity being the mother of invention, they devised a way to fit them into the woofer cavity.

TOTAL SYSTEM PERFORMANCE

EAW's **SLAM** delivers concert-level output with the unmistakable smoothness and transient response that are the hallmarks of an EAW loudspeaker system. Frequency response remains consistent up to and beyond the nominal pattern edge. And our unique *Divergence Shading* technique maintains consistent SPLs at varying throw distances from 10 to 200 feet.

EAW's new **KF730 SLAM** sets new standards for line array size and performance, packing more punch than many "full size" systems. It's a true KF Series horn-loaded, three-way design squeezed into a package smaller than most two-way and all three-way compact systems on the market.

Visit www.eaw.com/products/KF730 for more information.

KF730 LINE ARRAY

THE LINE IS DRAWN



Funktion One loudspeaker system

With a lot of attention lavished on the growing constellation of line array loudspeaker systems, it was indeed interesting when Norwest Productions announced a major purchase of a Funktion One system. Since then the system has had good reports. Julius Grafton took one out for almost two weeks.....

Norwest Productions are Sydney headquartered, with a branch in Brisbane. The firm specialises in live sound production, and is most famous for its terrific work at the 2000 Olympics. CEO Chris Kennedy told me that he needed a variety of inventory to fit the variety of work the company does.

Enter the Funktion One Resolution 5 system, of which Norwest own enough to do virtually any arena show.

Funktion One was created when the founders of Turbosound left that company in the early 1990's. Tony Andrews and John Newsham then set about designing the next generation sound system, applying what they had learned with Turbo - and the Floodlight / Flashlight system in particular.

The philosophy at F1 is to make a 'people friendly' product, in every sense - meaning better sounding, and easy to set up.



Cabinet rigging is all captive - no extra bits are needed. A pair of sprung flying tabs on the bottom of every box (above) connect to the toggle pins on the top of each box (below).



This is the biscuit (below), which sticks out the bottom of each box to determine cabinet separation angle. It is captive within the box, and offers a variety of angles.



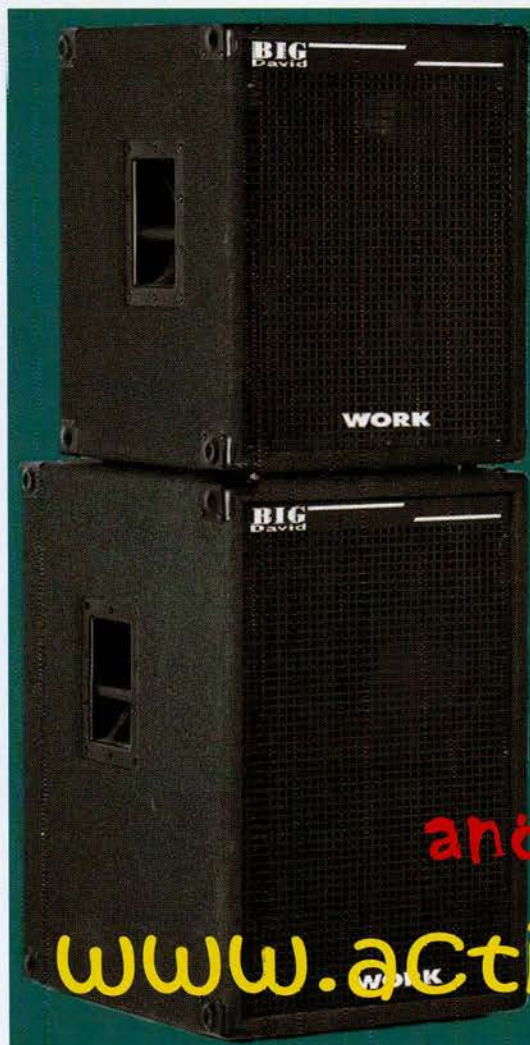
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The Resolution 5 is a funky looking trapezoidal box painted a somewhat lurid violet colour. It is a three way enclosure, loaded with a 12" low, an 8" mid, and two 1" exit throat high frequency compression drivers.

It weighs just 49kg - which is an outstanding place to start! Our system of four Resolution Five cabinets, and four F-218 'w bins' was extremely easy to unload and handle.

The Resolution 5 comes with a wheeled dolly that sits over the front of the box, protecting the unique waveguide which is painted a kind of silver colour. In terms of vibe, aesthetic, and sex appeal - you decide. We think it looks very fly, or at least 'sick, bro!' F1 do offer a grille cloth if you want to be subtle and cover up the gizzards.

The 218 sub is a big W bin kind of thing that has wheels permanently fixed to the back. They just roll in, then you tip the thing into

This has to be one of the best labelled speaker boxes on the planet. Almost EVERYTHING you need to know is shown here!



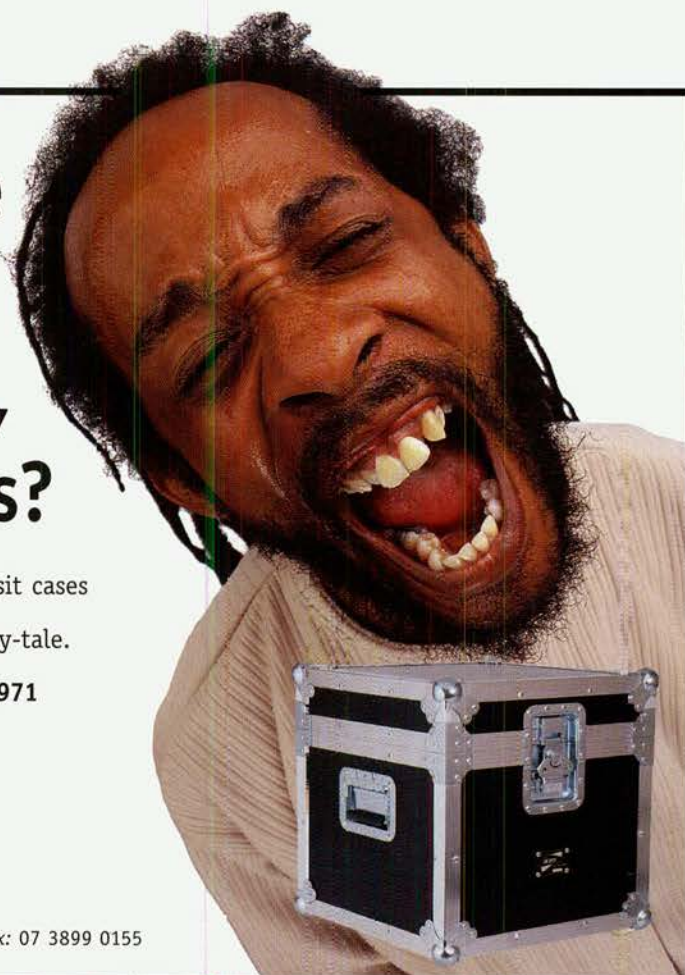
Do you still believe in the Tooth Fairy, Bogeyman, Bunyip, and fragile stickers?

Me neither! That's why I use Sicuro. Protective transit cases built to perform in the real world—and that's no fairy-tale.

For further information contact us on (07) 3899 2971



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position. It can sit on end, or down flat. It is not designed to be flown in the air.

F1 do offer a flying sub, it is called the Resolution 18", and it has the same external dimensions as the Resolution 5 top box.

The Resolution Five comes with it's box to box rigging hardware captive. There are two toggle pins at the top of each box, and two spring flying tabs recessed into the bottom.

Under a clear plastic flap (left) is a 2m extension cable, wired in parallel with the six pin EP-6 speaker connector alongside. Having the cable captive with the box saves a lot of bother with short 'jumper' speaker cables.

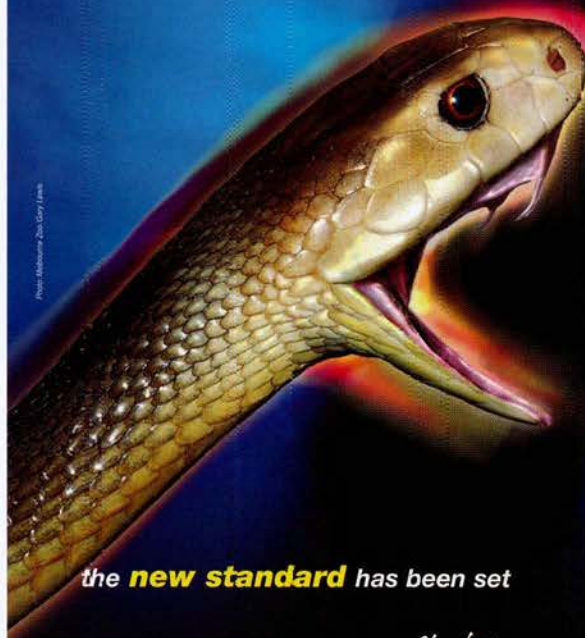
It is customary to run boxes like these in paralleled pairs. More

Amphenol

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One of Australia's **DEADLIEST** snakes with an **AWESOME** grip.

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www.amphenol.com.au

US Patent No.s 5,305,547 and 5,439,388



on this later!

Stacking the boxes was a breeze, even for our first time students. Two people can easily get a 49kg box up onto a pair of subs. The wheeled dolly can be unhooked at ground level.

Once we had the two stacks in position, we looked at the 'biscomatic' auto spacing device. With the metal

biscuit parked (retracted) the box is aimed straight ahead. Because the Resolution 5 has a very tight dispersion pattern of just 25 degrees vertical and 20 degrees horizontal, it is crucial that it be pointed where you want the sound to go.



It's worth jumping in here to mention that F1 also offer a companion Resolution 4 cabinet that gives a wider (50 degrees) and higher (25 degrees) dispersion.

Resolution 5's pattern is so tight that the two boxes per side we used needed to be exactly positioned for acceptable coverage in our two test venues within the Parramatta Riverside Theatre complex.

The captive metal biscuit lets the box be tilted, or if in a flown array, it sets the angle between a vertical pair of boxes.

Setting the biscomatic gizmo needs a degree of caution, it is hard to manoeuvre, and potentially can cut a soft, fleshy, pudgy, beer soaked journalistic finger. My fingers were fine, I hasten to add. But seriously, with use and without regular WD40 assistance this box feature can bite.

This system assembles and flies very quickly too, with around 25% less boxes than a Turbo Flashlight or similar kind of system, and considerably less weight, to do the same job.

Cable runs are standard formula stuff, the Res. 5 is a three way active box, so it needs a six core speaker cable, fitted with an EP 6 connector. Each two boxes, linked together, presents a 4 ohm load (600w) for the low mid, an 8 ohm load for high-mids (400w) and 16 ohms again for the highs (200w).

These are genuine RMS loudspeaker wattages (we use this word as a derivative of watts, even though it is not a real word) which are not tainted by marketing hyperbole or brochure insanity. Funktion One make efficient use of the horn loading in the speaker cabinet to maximise the performance of their chosen components - and say that the speaker



Norwest have selected the XTA Audio Core DP 226 speaker management system as control processors for their Funktion One system. One unit is used for left, and another for stereo right. The DP 226 takes full range input from front of house, and acts as a crossover - feeding low, low mid, high mid, and high signals to Norwest's new Lab Gruppen amplifiers.

CROSSOVER SETTINGS

RES 5 with F218. Small System

Part	Delay	Pol	Start	Slope	Type	End	Slope	Type	Gain*
F218	0	+	24.8	24dB	But	114	24dB	LR	+8
12"	1.500	+	114	24dB	LR	445	24dB	LR	+5
8"	5.151	+	437	24dB	LR	5k77	24dB	LR	-3
1"	5.562	-	5k55	24dB	LR	22k	24dB	LR	-3

RES 5 with F218. Large System

F218	0	+	24.8	24dB	But	100	24dB	LR	+3
12"	1.500	+	114	24dB	LR	445	24dB	LR	+1
8"	5.151	+	437	24dB	LR	7k55	24dB	LR	0
1"	5.517	-	5k55	24dB	LR	22k	24dB	LR	-1

* Gain is Relative Gain Settings (in dB)

WHAT THIS ALL MEANS....

Here is an example:

The 218 is the dual 18" loaded subwoofer 'w bin'. Its drivers (the 2 x 18" ones) will get signal from 24.8Hz (the 'start' setting) up to 114Hz (the 'end' setting). The 'start' crossover point is better known as the high-pass point, because that's what is happening. Frequencies higher than 24.8Hz are being allowed, those under are being rolled out at the rate of 24dB per octave - this is the 'slope'. The 'type' of crossover filter is (in this case) a Butterworth filter. At the other end of the subwoofer's performance, a low-pass filter (I called it 'end' on the table above) is rolling off everything above 114Hz, again at a rate of 24dB per octave (the 'slope') - and this time using a Linkwitz 'type' of filter. Because low frequency is less efficient, we want more gain than with the higher frequencies, so the 'Gain' setting is +8dB (or +5dB if it is a large system).

'Pol' means polarity, or 'phase' Funktion One specify their high frequency section should be out of phase with all the lower frequency components. This presumably helps smooth out the crucial transition from high-mid to high frequencies.



cabinet is designed around the components. Which seems like a sensible approach!

What is not common is the way Funktion One optimise the sound of the system. Looking at the Formula 5 (and Formula 4) you would expect the 12" mid-low speaker to operate in the 200 to 800Hz range. Instead, F1 work it from 114 to 445hz - a narrow but important slice of the frequency bandwidth.

The hi-mid 8" speaker then runs from 437Hz to 5k77Hz (or 5,770Hz for those with a 'k' uncertainty). This little loudspeaker is handling all the vocal information.

Up top and the high frequency components (two in the Resolution 5, one in the Resolution 4) are virtually idling, from 5k55 (5,550Hz) to rollout, somewhere over what we can hear. The high frequency drivers, smaller than some, are also run out of phase with the rest of the components.

A more traditional crossover regime would have the 8" speaker working 800 to 1k5, then the high frequency drivers slogging it out. 4" high frequency drivers would be needed to handle high sound pressure levels at these frequencies.

Notice there are some subtle overlaps in the crossover frequencies.

F1 have moved the crossover point out of the

vocal range, where many PA systems have a crossover point at 1k2 or 1k5Hz - slap dab in the crucial range.

Putting all the vocals 'on cardboard', which means through the 8" speaker mounted on the waveguide, means the system is bound to sound different.

So how does it sound?

Running the system hard (above) with band, The A-Team.

The F-218 subwoofer is loaded with 2 x 18" woofers, each rated at 450 watts. All the info you'd ever need is on the back panel - an excellent example of good thinking!



We ran it up in the newly covered courtyard at the Riverside Theatres. The theatre has now got an all weather outdoor venue suitable for up to 500 people, thanks to some clever design work with a 'tent' styled roof.

Norwest Productions overpower this system with Lab Gruppen fp6400 amplifiers, driving huge watts. No matter, more is better in PA!

We encountered a sound that was inherently pleasing, with no discernable peaks or troughs. Visiting engineer Tony Moffatt demonstrated a 'short cut' method of auditioning a PA to our students - boosting each band on the 31 band EQ to hear any abnormalities while playing a familiar CD.

With a standard reference mic (SM-58) we did the test one-two and generally talked to the system. It needed virtually no equalisation - indeed, F1 specify no EQ curves or tweaks be programmed within your loudspeaker management unit. They just require small time offset delays for the Resolution boxes, to bring the internal components into line with the 18" drivers in the subs.

We took the system inside for a baand gig, and were totally happy with it. There was enough power in every dept, and the overall sound was very pleasing. I tried to blow it up with some hideously loud CD tracks one evening, but failed.

The verdict? A very nice system!



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To you it's a GREAT MIX.

To the EPA, it's just Noise Pollution, baby!

CX went to see Santana at Centennial Park in Sydney. (There is a report in the BUMPOUT pages at the back of this issue). We were impressed with the small army of noise monitoring kill-joys looking after the interests of the very wealthy property owners around the neighbourhood who presumably all need to go to bed before 11 with hot milk. John Grimshaw asked the Noise Police how they do their thankless job.... 'Turn it DOWN, longhair. I'm from the Police'!

How does the EPA deal with outdoor gigs?

The Santana concert was staged with the NSW Environment Protection Authority (EPA) carefully monitoring the "noise pollution" in surrounding suburbs. We posed a few questions to the EPA about how they make sure a show is conforming to requirements, and what they can do if a show breaks the law...

What are the standards? Measure what dB and how weighted, where?

Noise levels for the various premises are different due to site specific factors. For Santana type concerts at Centennial Park, the EPA has set an A-weighted maximum sound pressure level of 65dB(A) and a C-weighted (low frequency) maximum sound pressure level of 85dB(C). The levels are to be monitored within one metre of the boundary of any residential premises or sensitive receivers.

Does the EPA routinely monitor most larger outdoor gigs?

Under the Protection of the Environment Operations (General) Regulation, the EPA is the appropriate regulatory authority for outdoor entertainment activities carried on at any of the following premises:

- the Trust lands within the meaning of the Royal Botanic Gardens and Domain Trust Act 1980
- the Trust lands within the meaning of the Centennial Park and Moore Park Trust Act 1983,
- the Darling Harbour area within the meaning of the Sydney Harbour Foreshore Authority Regulation 1999,
- the trust land within the meaning of Parramatta Stadium Trust Act 1988,
- the trust lands within the meaning of Sydney Cricket and Sports Ground Act 1978
- Homebush Bay within the meaning of the Homebush Bay Operations Act 1999, and
- the Opera House premises within the meaning of the Opera House Trust By-law 1998.

Outdoor entertainment activities means any of the following activities (but only if the activity is carried on outdoors and sound amplification equipment is used as part of the activity) concerts, festivals, cinematic and theatrical events, and sporting events. This includes any rehearsals & sound checks.

The EPA is not the appropriate regulatory authority for outdoor entertainment activities involving less than 200 persons. The EPA currently has a legal Prevention Notice in place for Centennial Park and the SCG/SFS (there is a draft Notice currently being finalised for

Royal Botanic Gardens). In these Notices, the EPA requires monitoring be undertaken by an accredited acoustical consultant (see below for definition) and interim and final compliance reports to be submitted to the EPA.

The EPA does not routinely undertake its own monitoring, but does so periodically to independently verify compliance, or when there have been consistent complaints about a venue.

Does the EPA recommend any consultants for people planning outdoor gigs?

The EPA does not recommend specific consultants for outdoor concerts. The Legal Notice we have in place for Centennial Park (and for the SCG/SFS) requires that an "accredited acoustical consultant" undertake noise monitoring.

An "accredited acoustical consultant" is defined in the Notice as an acoustical consultant who is a member of one or more of the following organisations: The Association of Australian Acoustical Consultants; The Australian Acoustical Society; or the Institution of Engineers Australia.

What are the options for EPA staff for dealing with shows that DO deliver excessive audio levels?

In relation to Centennial Park Trust, the Legal Notice states the Trust retains ultimate control for sound levels. This means that if the EPA receives a significant number of complaints that could mean noise level exceedences or through its own monitoring becomes aware of noise level exceedences, it can contact the designated Trust representatives to take steps to ensure compliance with the Notice. Practically, this would mean have the sound turned down at the desk. It is unlikely we would direct a concert to cease.

If a case is proven, the party responsible for ensuring noise limits are not breached can face on-the-spot fines of \$1500.

Also, a breach of prevention notice causing very serious / excessive noise pollution, can result in fines up to \$250,000 (for a corporation) through the Land and Environment Court.

How did the Santana concert perform regarding restricting levels to acceptable limits?

We received a small number of complaints about noise from the Santana concerts and sound checks. Our independent monitoring suggested there were a number of brief exceedences of the noise limit at the Santana concert. We're investigating these exceedences and have required the Centennial Park Trust to submit full details of what happened.

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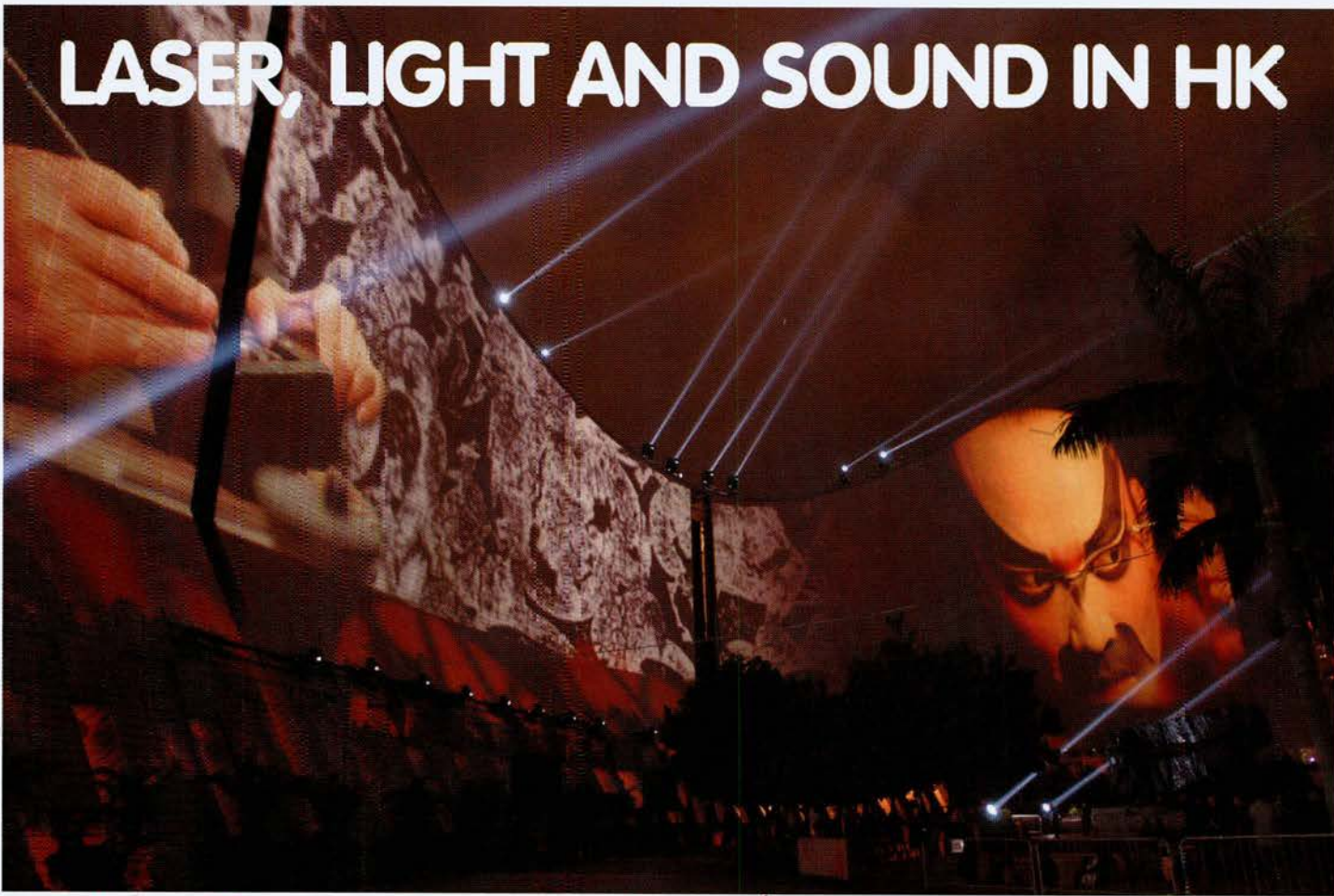
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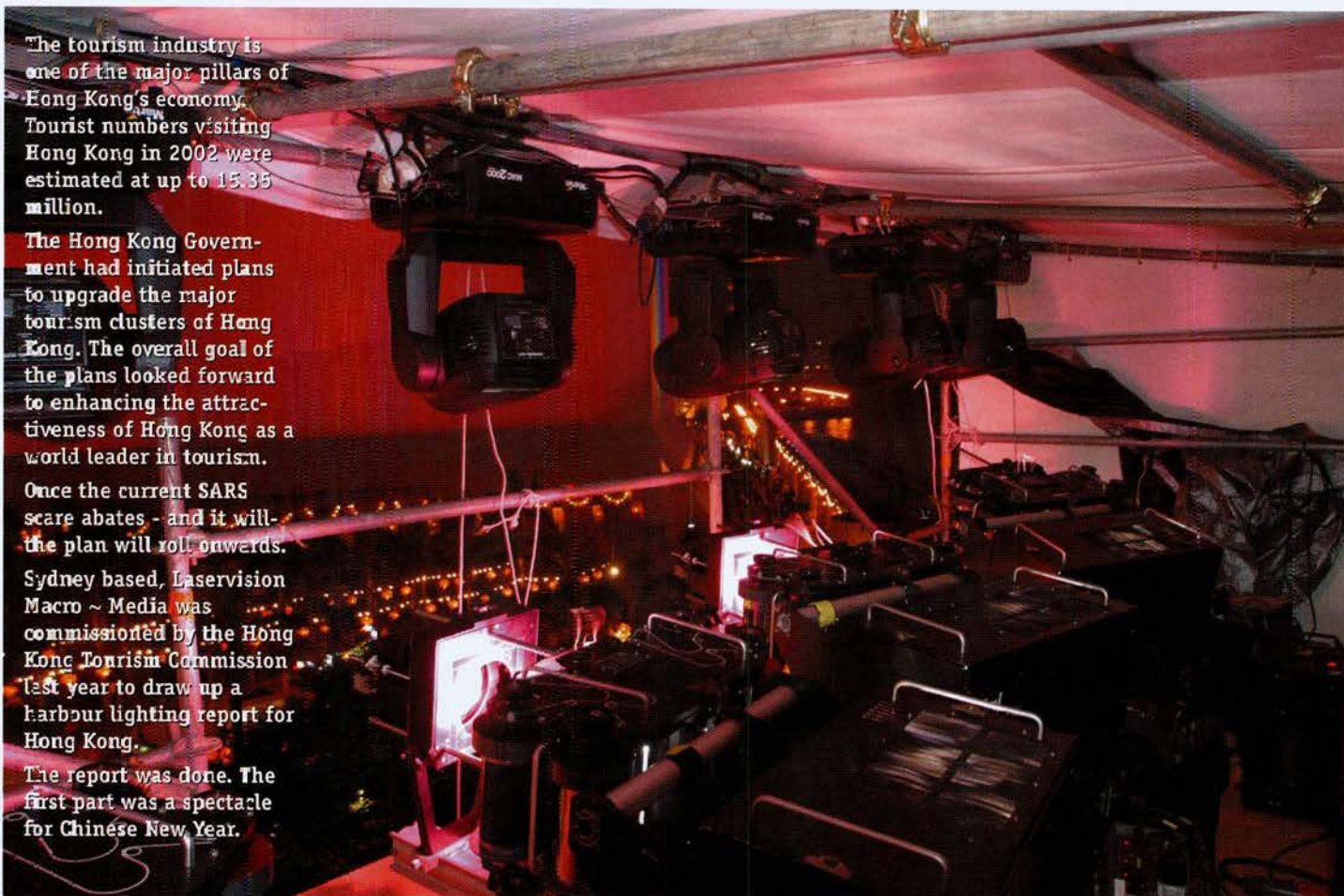
The tourism industry is one of the major pillars of Hong Kong's economy. Tourist numbers visiting Hong Kong in 2002 were estimated at up to 15.35 million.

The Hong Kong Government had initiated plans to upgrade the major tourism clusters of Hong Kong. The overall goal of the plans looked forward to enhancing the attractiveness of Hong Kong as a world leader in tourism.

Once the current SARS scare abates - and it will - the plan will roll onwards.

Sydney based, Laservision Macro ~ Media was commissioned by the Hong Kong Tourism Commission last year to draw up a harbour lighting report for Hong Kong.

The report was done. The first part was a spectacle for Chinese New Year.



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As a result of the report, the Hong Kong Tourism Commission promptly decided to showcase some of the lighting techniques to be employed under Laservision's plan during the Chinese New Year holidays. 'China Light and Power' agreed to offer sponsorship to ensure the trial became a reality.

Due to the approaching date of the holiday, the time allowed for the Laservision production was only about three weeks, that time frame included the production of an original sound score.

Laservision crafted a show with a run time of 14 minutes.

Incorporating scenic projection, intelligent lighting, and laser animation all synchronised to the original sound. The equipment utilised for the show had 16 search lights, 60 data flashes, 30 Mac 2000's, 10 martin exterior 600's, 1 Laservision laser system, Laservision's Sinodial Series show control system, 7 Figo projectors and a Meyer sound system.

Shows were run nightly at intervals with up to 5000 people viewing the show at any one time.

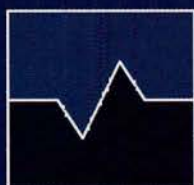
The visual mediums were projected onto the 120 by 60 metre wide external face of the Hong Kong cultural

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HONKERS BEFORE IT ALL WENT BONKERS

centre. The setting up of the show required the largest crane Laservision could find in Hong Kong. The 160 tonne crane enabled the crew to position, and later dismantle the equipment on and off roofs of the building towering 60 metres from the ground.

The Cultural Centre was ideal for such purposes in terms of location and accessibility.

Cultural Centre Crew List:

Simon McCartney (Executive producer), **Dave Roberts** (Original Sound Score), **Peter Milne** (Technical Director), **John Rayment** (Lighting Director), **Lloyd Weir** (Laser Artist and Media integrator), **Ian Macintosh** (Creative coordinator for the Audio Visual), **Matt King** (Lighting Programmer), **Charles Graeme** (Search light technician) and **Gen Williams** (PG technician).



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Location sound recording in a war zone

'Or how I stopped worrying and learned to love sound recording'

By Guntis 'Tequila' Sics

I nearly fell off my stool when I heard there was going to be another war, though it could have been the Tequila. Great, I thought, some of the best sounding military hardware all congregated in one place and I was over the hill. That's right. Chicken, gutless, scared. 'Course that could have been the Tequila talking.

There's nothing like a war zone for an interesting sound recording experience. There are the obvious challenges, like not getting shot or blown to smithereens, knowing which side you should be on and where to get a cold beer, but in audio terms a war is probably harder for a sound recordist than for a soldier. And I don't make that claim lightly or without a helluva lotta booze in my stomach. See, I'm starting to sound like John Wayne already.

I must have been dribbling or staring into space because suddenly a Middy of Lite materialised at my side. I had no respect for that drink.

'I couldn't help noticing you were thinking about the war.' He said.

Well, nobody likes a smart arse as I know from bitter experience, so I cut him some slack.

'It's a wonder,' I began, 'that people ever know what they're supposed to be doing in a war given the high level of ambient background noise.'

He nodded.

'Think about it,' I said, 'Tanks, jeeps, planes, guns, rockets, missiles. Not exactly the quietest objects ever created are they? Very hard work recording an interview under those conditions, that's for sure.'

A crowd had begun to gather, as on other nights when the muse had me firmly in it's grasp.

A Gin and Tonic called out from the back, 'What's the loudest piece of military hardware you've ever recorded?'

He slipped the coaster back into his pocket.

'Funny you should ask just that question,' I replied, 'because I was only reminiscing the other day about filming in Beirut with one or other of the People's Liberation Fronts that used to operate round there some time ago. We decided to get some footage of one of their training exercises up in the hills and of course that involved firing the odd round of live ammunition.'

'Wow' said everybody.

'Choosing the right microphone was, quite frankly, a difficult decision.'

I frowned and took a belt of Tequila. The expectation was thick in the air.

'Should one go with the accepted wisdom in regards to SPL and dynamic mics, thereby sacrificing audibility of human and background sounds but guaranteeing excellent dynamics for the percussive sound itself?'

'Hmmm..' said the crowd.

'or could one take a chance with a condenser and by careful positioning of said microphone avoid distorting the diaphragm and the preamp but pick up some ambience including atmosphere, dialogue and quite possibly reverberation of missiles hitting objects?'

People are the same the world over. It always boils down to the same few questions. The meaning of life, the universe and the dynamic/condenser dilemma. I felt as if the whole room was looking at me so I took another belt of Tequila to try and make that feeling go away. It didn't work.

The tension was broken by a very incisive question. 'What happened next?'

I smiled a wry smile and continued.

'Everything was going swimmingly. No problems with the small arms, the rifles, even the AK47 assault weapons. Sure they were loud, but I managed to position the condenser mic in just the right place, the sweet spot where the discharge sounds perfect, not too compressed and not too distorted'

'Isn't it in fact the distortion that gives the gunfire its distinctive sound and if you were to record it clean and tidy it would just be a little bang?' said an extremely attractive Bourbon and Coke working her way through the dense crowd. 'And let's face it,' she continued, 'A little bang is pretty much useless in a war zone, isn't it?'

A bead of sweat trickled down my cheek and I felt suddenly as though I was in a movie and the thought occurred to me that some sound designer would probably create a sound for that trickle - but I digress.

I had to agree with her.

'Actually, the sound of real gunfire in a war is a little disappointing compared to the Hollywood version. Lots of little pops mostly, interspersed with quite a bit of shouting and moaning. Great sounding gunfire is a combination of recording the distortion and a fair bit of sound design otherwise known as poetic licence. It's a case of art not so much imitating life as clubbing it into submission.'

I was panting by now for some unknown reason and I sensed a look of disgust flash across Bourbon and Coke's face for an instant. Luckily a half drunk Pint of Lager saved my bacon.

'Never mind all that, get on with the story!' he almost barfed.

'Oh yes. As I was saying, everything was going swimmingly until they wheeled out the Rocket propelled Grenade Launcher, which looks like a camouflaged didgeridoo with a bomb stuck in one end. My sixth sense told me that this was going to be loud.

'It's a two man operation,' I continued, 'one guy puts it on his shoulder and aims it, the other guy loads the missile into the far end. As we started filming I manouvered myself cleverly to one side, away from the direct line of fire. If there's one thing I've learned, it was not to stand in front of firearms.'

The crowd was in the palm of my hand.

A sound trolley tale - the search for.

By Greg Kean

My motoring column in the first edition of CX was so popular (read: no one complained) that Julius asked me to fill another page for this edition. So while I was wondering whether I should start with a small van and work my way up to a semi, I thought of those whose equipment needs to be transported when they arrive at the gig.

One such person is Stuart Waller who is a sound recordist trading as Clean Cut Sound.

He is about to start a season on McClouds Daughters, so I thought I would review his trolley.

Stuart has worked on Water Rats, Young Lions, Always Greener, Moulin Rouge as well as various pilots and short films. At Lots of Watts we built a trolley for Stuart a few years ago when he was about to start a run on Water Rats. He wanted a ready to go solution straight out of the van.

"Some recordists carry all their gear in Pelican Cases (high quality, strong, lightweight plastic cases that float!) and set up each morning. It can be a pain when you have to move around during the day. Sometimes you might need to move around four times in one scene."

The Old Trolley. 140kg +



'Beirut was like a shining jewel below and the hot middle eastern sun beat down upon us mercilessly.' Oh Lordy!

I continued.

'Suddenly as I glanced around me I realised that every brave fighter (and their dogs) had taken up positions several hundred metres away and were all standing around with fingers firmly wedged in ears and looks of horror on their faces. Swivelling around I clocked the guys doing the firing and noticed that they had the demeanour of the 'about to be executed by firing squad'.'

I repressed a little sob as the memories came flooding back.

'It was like a John Woo movie,

Cut to...

My trigger finger reaching for the headphone monitor level.

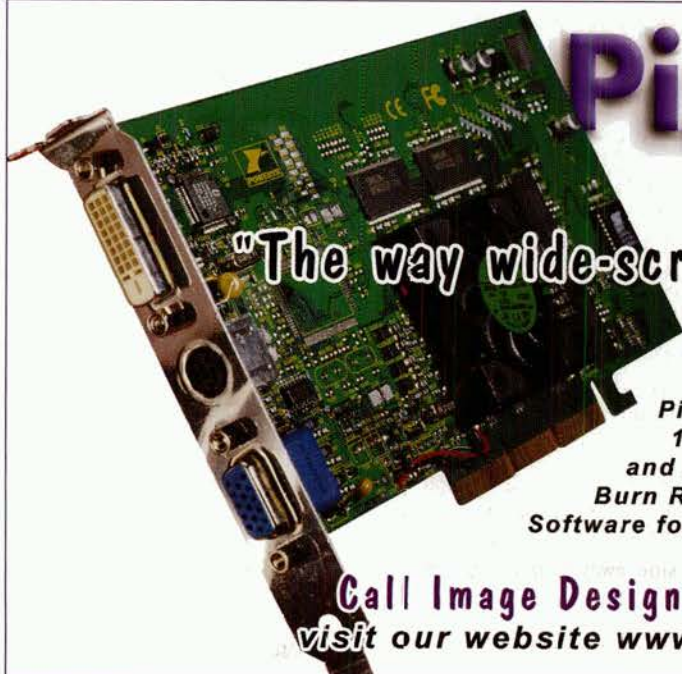
Cut to...

The other guy's finger on the RPG trigger..

Cut to...

My fingers start to turn..

Cut to...



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Trolley

The resulting trolley was bigger than Ben Hurr. "You could wheel it out of the van take off the lids, plug in a mic and turn it on. Problem was it was way too heavy" says Stuart. But it was easy to move around with the least amount of unplugging and re setting up. The trolley had a shelf for his mixer, this shelf had a smaller shelf which slid out for writing notes.

Also fitted were five radio mic systems, a DAT recorder, 12v battery and an inverter to supply the mixer and a Sennheiser in ear monitoring system so others could also hear what is being recorded.. The trolley was constructed of plywood and Penn hardware and was completely enclosed offering protection from all weather conditions. It had a lid front and back with an input/output panel for boom mics and aerials mounted on the rear. But it was heavy.

"We were shooting some scenes at Flemington Markets and I put it on one of the large scales out there, it weighed 148kgs. Fine if you are pushing it around but if you have to carry it upstairs....."

With work commencing on McClouds Daughters as this edition of CX hits the streets Stuart thought it time for a new trolley.

After a bit of searching he decided on a RastOrder trolley made locally and available through John Barrys at Artarmon NSW.

The trolley comes as a kind of a kit. The unit is assembled using the included colour instructions with pictures and words for those who use instructions. When assembled it is basically a frame that looks pretty sporty, if that is how you describe a trolley.

The wheels are from a wheel-chair so they are easily detached. The whole trolley is very easy to disassemble and send on a plane. Once again the trolley is loaded with his equipment so at set up all that is required is plugging in the aerials, plug in boom mics and turn it on!

No lids this time for an even quicker set up. It is much lighter but doesn't have the dust and weather protection of his first trolley or the transport protection. It does have a broly mount for shade or rain and Stuart also carries a quick set up fete stall

type structure for extra weather protection. The new trolley is possibly not quite as robust as the old but as it is not carrying excessive weight that probably won't matter. With the batteries removed it is an easy two people lift.

Stuart records onto a Fostex DAT but his signal chain from mixer to DAT is not digital yet although this is about to change with the addition of a MY8AE card in the Yamaha O1V. The Fostex DAT allows him to monitor the input and listen via a 3rd head to what is actually recorded onto the tape. "I can also go mobile with the unit. It only takes a minute to remove the unit and plug mics straight in. Very handy if I have to record inside a vehicle."

Stuart's story is a good example of customising your rig to suit your own unique circumstances. Although inevitably there is always someone doing a similar job its nice to have your gear set up the way you like to work. But it is rare that you get it right first go and even rarer that your solution will be off the shelf.

If possible you should try to make a mock up just to make sure your ideas are going to work. Before each trolley was built, Stuart spent time with other professionals sharing ideas and concepts. He has already made some mods to his new trolley and is planning some more before filming starts.

"Problems are always the same though" he says: "time and money". Amen to that!



War Zone

His finger slowly squeezes the trigger.

For a few weeks afterwards I knew how Beethoven must have felt and I even tinkled on the piano late one night in the Summerland Hotel, downtown Beirut after a couple of sherbets (smuggled in from Sidon), but I never came up with anything worth playing in public, though history may beg to differ.

One thing I did learn though was to steer clear of warzones. It's a mug's game. You can't hear what anyone's saying half the time because of all the hardware around the place and there's every chance you'll be killed by either side and that's bound to make someone cry.

Location recording is difficult enough without dealing with the dynamic range of your average war.

But you know what really burns me up? Not the fact that I was deaf for the next three weeks, or that I got hit crossing the road every other day and not even that I couldn't listen to that fantastic, soothing Arabic music for a while. But that I was beaten to the draw.

Me, the Billy the Kid of the sound recording fraternity, fastest cross fader in the west, able to predict every modulation in the blink of an eye. I was beaten to the trigger by some punk Palestinian kid on a lousy RPG who fired before I could turn the level down.

The physical pain was bad enough, but humility is a much harder pill to swallow.

I reached for another tequila as the crowd slowly dispersed.

FOR SALE: 1 x sennheiser 416 mic, slightly melted one end, otherwise fine. Best offers.

Next issue: When the glamour gets too much, or how not to lose your cool around movie stars.



Frankfurt 2003

Where's Russell Crowe when you need him?
Gladiator action on the EV stand

The wurst is yet to come

Duncan Fry reports back from the world's largest sound, light and musical equipment tradeshow

Something happens to one person on every airline flight, everywhere in the world, and when we flew into Frankfurt airport this year for the annual Frankfurt MusicMesse show, it happened to me. No, I didn't get a full body cavity search, although it was at the height of the Iraq pre war jitters, and I expected to see security like you wouldn't believe.

But I was wrong. Any extra security must have been extremely low key, because Col and I zoomed through immigration, and then it happened. This flight, it was my turn to be the lucky one, because as we approached the luggage carousel, the first two bags to tumble off were mine and Col's! Oh joy. Of course the other thing that happens every flight is that some poor bastard's bags come off last, and I've been that poor bastard on more than one occasion, so I felt I'd earned my moment in the sun.

Thirty seconds later, we were in a taxi on the way to the hotel. In all my years of travelling I'd never spent less time arriving at an airport. The downside of all this speed was that when we arrived at the hotel it wasn't open, so we had to spend half an hour

shivering outside in the pre-dawn!

We bought a shopping jeep from the local supermarket, and loaded it up with eighteen 2 litre bottles of mineral water and as much beer as we could fit in, then wrestled it onto the train into the show, along with another bag loaded with choice examples of Australian plonk. Nothing cheers up a distributor faster than a glass or two of Chateau Outback.

We were just about to buy a weekly train ticket when the fine print on the show passes suddenly made sense to me.

"Stop," I yelled, "I think the show passes are train tickets as well!" Col's handful of Euros disappeared back into his pocket like a rat up a drainpipe. The ticket seller begrudgingly confirmed it, thereby saving us about 50 Euros each. (\$75)

As our train sped towards the show, Col held out a handful of small vouchers with the supermarket's name on them.

"Look at these" said Col, holding them. "They gave me these at the checkout. If you're so good at German, what do you reckon they are?"

Tradeshow outlook not so rosy

While it has taken SARS to cause cancellation of a couple of tradeshows in Asia, the outlook for the medium is not brilliant.

I am biased. I run a tradeshow. My show is ENTECH, and it is very successful. Which is why I have downsized it twice in the last ten years.

The first time was in 1997, when I announced the show would no longer run each year in its then current form. The show went biennial from 1998 - which strengthened its position.

The second downsize was recently. The last ENTECH, in 2002, was the largest ever show for us and the industry. I wanted the next show, in 2004, to be smaller. Apparently, I had



I didn't want lose face by telling him that the info about the show pass being a train ticket was printed in English, so I said "Must be discount vouchers. Let's use them when we get some more drinks tomorrow"

We set up for the show, had a quick look around our hall, and then did some sightseeing before getting an early night to be ready for the first day of the show.

The show layout had changed quite drastically this year. Instead of all the pro audio halls being relatively close together, for some reason known only to themselves the organisers had put half of the pro audio exhibitors in two halls way over on the other side of the exhibition centre, and the other half in our hall. To go from our hall to the other two took a good twelve to fifteen minutes – and that was before the show had started! Once the corridors were full of lost punters, the trip was an easy 20 minutes, and a round trip there

and back 45 minutes. Consequently it wasn't a trip I made very often. Who can spare that much time away from your own stand? And if you were a visitor with several appointments each day, backwards and forwards between all three halls, then most of your time would be spent walking, not buying!

Towards the back of each hall was a couple of aisles that instantly became known as Chinatown. Chock full of

Chinese OEM manufacturers with names like Golden Sunshine Super Honest Manufacturing Company of Guanzhou. Actually I made that one up. The real names were worse!

Every year I like to see what entertainment is on the Dynacord/EV stand, and this year the theme was Gladiators. People battled to knock each other over with foam filled vinyl Gladiator speaker boxes while the Emperor adjudicated, assisted by a team of dusky maidens. It was popular, but whether it sold more product is something that only EV knows!

Just down the aisle from us was the inevitable karaoke stand, where a succession of people who couldn't sing, sang songs they didn't know to people who didn't want to hear. From my vantage point on the ARX stand I could see the words to the songs as they scrolled by on the karaoke monitor, and it wasn't a good thing. Song lyrics can be meaningless dross at the best of times; when seen on their own with every "Oh...ah...ugh...get

lost my marbles.

The next ENTECH is downsized about 22%, and will be a lot easier to navigate. It'll be a new concept, a better show.

So why reduce the size of a show that is a success?

Because the exhibitor and the visitor need smaller, less frequent shows. Worldwide.

It's no secret the trade show business is currently quite profitable. But it IS a secret that the trade show industry is actually shrinking. The people in that industry totally hate talking it down.

I'm throwing down the gauntlet to trade show owners - talk properly to your stakeholders, learn from what you hear, adapt your shows.

It won't happen, though.

Trade show owners are usually either commercial trade show proprietors, who will run a show into the ground until it is not profitable, or trade associations who can't solicit honest dialogue - because they don't want to hear it, and because their members won't risk bad politics with straight talk.

Some shows that I think are in for some adjustments are:-

- SMPTE in Australia. Too big, too samey, catering to a shrinking broadcast market. Unlikely to see the need for change until it is too late.
- AES in Europe. Totally overtaken by the Frankfurt show. Can't really survive.
- PALA in Singapore - sadly in trouble with SARS this year, but really needs to be biennial.

I'm not saying I have it all sorted, either. But I am keen to keep running a sustainable, useful, successful, relevant, industry backed trade show and convention. To do that, you have to move with the times. And perhaps take a little less profit.

- Julius Grafton



It's karaoke time, and this time with a girl who could really sing. Now there's a change!

down...ur...yeah" written down they plumb the very depths of vapidty. And what song do these words come from - "Baby, every time I love you I'm afraid I'll tear your head from your shoulders?" No kidding, those actual words scrolled by on the screen. Perhaps they had lost (or maybe gained) a little in translation!

Another innovation which added to the confusion this year was that half the show finished on the Saturday, and the other half finished on the Sunday. It was designed to spread the load-out schedule so everyone's truck didn't arrive at the same time, but left a lot of bewildered show-goers roaming around looking lost.

However, although the organisers had made some concession to reality by starting the show at 10 am instead of 9, it now finished at 7 o'clock instead of 6 pm. This left no time for socialising on the stand. As every exhibitor knows, the bulk of deals are not done during the actual show time, but during happy hour over a glass of vino tinto on the stand afterwards. It also left no time to get to the hotel and wash off the sweat of honest toil and the heady aroma of second hand Gauloises before going out with clients for dinner. Although officially designated a non-smoking show, this was honoured more in the breach than the observance.

The next day we needed some more drinks, so we organised a pre-show raid on the supermarket. "Don't forget our discount vouchers," I reminded Col. We loaded up the trolley with more beer and water, and then gave the

vouchers to the checkout frau. She stared at them, rummaged through the bottles, and rattled off a mouthful of rapid-fire questions in fluent Frankfurtese. We gazed at her blankly, as the people in the queue behind us laughed and gave us what I assumed was helpful advice. Sadly it was in German, so we'll never know! We thrust a handful of Euro notes at the lady, who rolled her eyes upwards and muttered to herself, and gave us the change. We started to wheel our shopping jeep out of the store when she yelled at us again, came running over and shoved another handful of the vouchers into our hands.

"What the f**k are these things?" we asked each other

Once at the show, we tracked down an old friend who was German.

"Bodo, what are these pieces of paper?" we asked, and told him the story. After he had stopped laughing, he explained. "These are for recycling. If you bring back the empty bottles with these vouchers proving you bought them at that store, they will credit you with the money off your next purchases!"

Someone has discovered that Thomas Edison's gramophone patent has lapsed. All we need is a wind up CD player to go with this! Col Park is the model.



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Bruce Springsteen and the tour he probably regrets

Despite the best of intentions, the greatest musical integrity, top band, undeniably professional crew and superb production equipment, Bruce Springsteen's tour of Australia was a flop. The first show was OK - Mario La Marca spoke to the Lighting Crew in Melbourne.....

After a personal absence of about six years from Australian venues, Bruce Springsteen returned for a series of shows. First stop for his E-Street Band was Melbourne's Telstra Dome. The entire band has not toured here since 1985, when they played a less than adequate venue in the soon to be redeveloped (we hear) Melbourne Showgrounds. The "Boss" was obviously pleased with the look of this new venue, expressing his approval of the place prior to soundcheck ("nice place").

This tour visited only the Eastern seaboard capitals, one-night-only stands in Melbourne and Sydney with the Brisbane show rescheduled from one night at ANZ Stadium to two nights at the Entertainment Centre. This change was due to the need to freight a portion of the staging on to Auckland for a show two days later. Following the NZ date (one night only again), the band move back to North America to continue the world tour.

Trying to speak to the lighting crew proved to be a telephonic nightmare, with only the good connections of CX's editor (no pun intended here) to thank for the interview taking place. When I finally spoke to Lighting Director Todd Ricci, a laid-back Californian with more than 20 years in the business, and Wholehog operator Brad Bruehler whose been with the tour some time now but is relatively new on the Wholehog, both were happy to talk about their experiences on the tour, which had kicked off in the US in May, 2002. Prior to Melbourne, the guys had been in Rochester, NY and, following the Australian and NZ legs, the entourage were off to Canada, Europe and then back to the US.

Ricci has worked for many years with Jeff Ravitz, the tour's lighting designer, and seems to have enjoyed the tour to date. With cues prepared for about 170 songs, and an act whose cue list is available only about a half-hour before the curtain comes up, he's become well versed with the Springsteen show, an act he had not previously toured

with. "Basically, it's all about the music" was his take, with the basic brief to light the show 'elegantly'. Ricci noted that Springsteen was very open-minded about the lighting and quite willing to take on-board ideas that the guys developed as the tour progressed. "Not too radical", however, with any major new concepts being referred back to Ravitz for consultation. He seemed quite empathetic with what the songwriter was trying to say, and mentioned that his favourite look came in the song "World's Apart", a quite "dark" tale in which Ricci felt that the lighting let the audience "feel" the song, with strong colours and "great spot cues".

Given the serious efforts by many major acts to create large scale video and lighting productions (Rolling Stones in the first edition of CX, Kiss with Melbourne Symphony), it was almost refreshing to see an act whose production was, in some ways, taken back to basics. The contrast was VERY noticeable.

In recent interviews, LD Ravitz, who has

When a generator failed during the second number at the Sydney Cricket Ground, the show stopped. After it had failed four times, a lot of people walked out.

In between the first and fourth power failures, many people were unhappy with the sound.

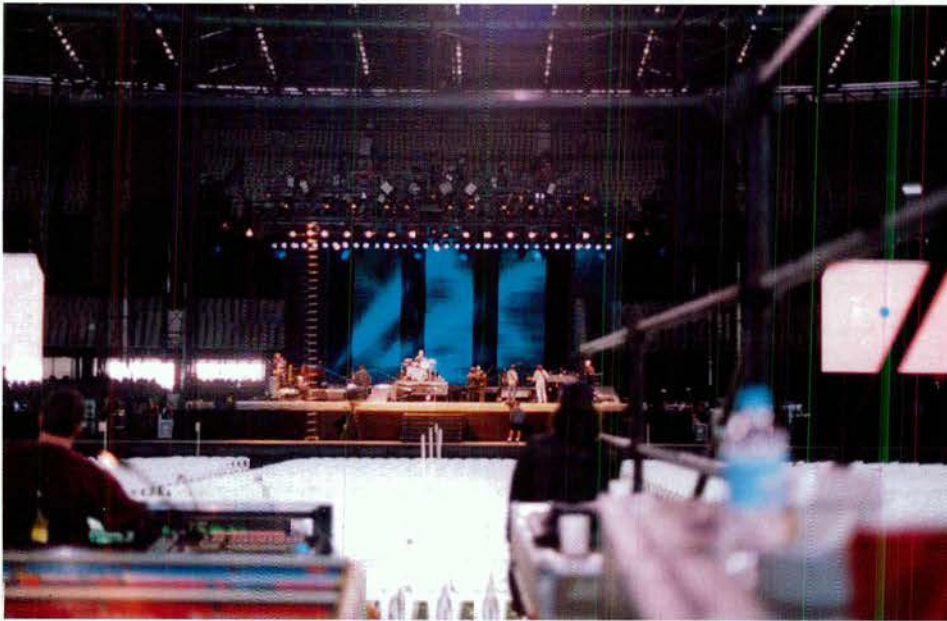
"I have to confess that this hasn't been an objective review" wrote Bernard Zuel in the Sydney Morning Herald after totally slamming the sound.

"There's a degree of contempt in any decision to stage an outdoor concert," Zuel starts. He went on to demolish the sound engineer.

"No matter how it's dressed up, the bottom line is the bottom line came first, not the fans, not the music. You simply can't have the best sound, the best sightlines or the best atmosphere in an outdoor stadium or racetrack. But you certainly can make the most money in the shortest possible time."



A SHAME, REALLY



worked on all Springsteen's tours for the past 15 years (with and without E-Street Band), said that he worked from the assumption that the fans weren't really there for the light show. Ricci pointed out that whilst the band had no made no special requests of the LX crew, one Springsteen requirement was that "he likes to see the audience". This was borne out by the amount of audience lighting rigged for the show and the frequency with which it was used. Two of the three encores played by the band were with the audience 9 lights on!

Eavitz, who early on handed over the reins for the tour, has stated that he wanted to achieve an "industrial" look for the show and has succeeded in this, to some degree, by making the lighting, whilst not an overt part of the production, certainly not a hidden item. Certainly the staging and set added to this feel without in any way dominating the stage. Blacks draped straight across the back of the stage with three coils of chain link fencing wire dropped down in front of the curtains provided the backdrop for this industrial look. From the bleachers, however, the look was not effective and the wire weave too small to be clearly made out.

The stage itself was a series of stepped

platforms with the drums and 2 keyboards players all up on risers and 3 sets of steps leading down towards the crowd. A long runway across the front allowed Springsteen and his band to parade across the crowd within hands reach, something they did often and seemed to relish. Lighting on this section of the stage was limited, though, with much of the work being done by the followspot operators.

LD Ricci pointed out that the cantilever effect of the truss on the Telstra Dome roof (two-piece retractable) was such that the crew were limited in how far the FOH lighting could be placed. Unfortunately, this impacted on parts of the concert, and, in a one off show, there was probably little that the crew could do other than putting in more followspot cues.

The box truss setup was really quite straightforward, consisting of three main truss pieces over the stage (up, down and mid-stage) with additional lengths either side to form a rectangular arrangement. No fancy rings or angles to be seen. The crew utilised aluminium Morpheus Flip-Box Truss, an interesting product which allows for up to 12 moving yokes to be pre-hung and to travel within the truss Ricci proffered that the truss provided

He continued the theme: "It matters less then that people 500 metres or more from the stage can only see tiny figures and must spend their time watching the action on screens; that they may have disconcerting echo bouncing off the stands; that they have to hope that winds don't blow the sound away before it gets to them."

"Normally the person blamed for this situation is the promoter. But in many cases, as I suspect it is with Bruce Springsteen's tour, the promoter is had over a barrel by the artist's management who demand so much money that the only chance to make a profit or avoid a loss is to bung on one big outdoor concert."

Albert Leccese from Audio Analysts accompanied the tour as supplier of the sound system. He obtained some extra boxes and amplifiers from Jands, but brought most of the equipment into Australia with the tour shipment.

"I don't know where this guy was, but I walked the SCG several times both during setup and 3 times during the show, as well as the Jands system engineer and we both agreed that it sounded great pretty much throughout the seating area on the floor and in the stands."

Zuel continued his attack:

"What can't be forgiven, though, was the woefully inadequate sound provided for the bulk of the audience who



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distinct benefits for a tour of this nature. He particularly commented that it was very well designed and engineered, with simple features such as carrying compartments for assembly bolts making for quick and easy setups. Aside from the protection which the truss offered the moving lights, drop down wheels mounted in the truss further simplified loading. Additionally, noted Ricci, it is "very user-friendly to climb on."

Lighting for the tour (see listing) is most noticeable for what isn't there, rather than what is. Very few of the more common moving yokes usually found in Australia nowadays are in the rig, no Varilite, no High End, just Morpheus, a company who have often supplied much of Springsteen's lighting, and only 10 Martin MAC 2000s flying the populist flag. Movement is not a major consideration in the design either, being limited, largely, to repositioning, rather than using beams for effect. The fact that NO smoke machine of any kind is used on the tour (Boss's orders - pun intended) sums up the role that beam movement played in the show. Bruehler noted that most of the cues involving movement played the lights across the curtains.

The 95 Morpheus FaderBeams (automated incandescent wash lights) on the rig made up the bulk of the lighting and Ricci was very pleased with their performance and output. Seldom seen except on tours here, the Faderbeams use an FEL 1000 watt lamp. The fixture utilises a variable angle reflector, and the same 3 scroll fading dichroic color system found on the CMY ColorFader colour changers. It probably won't upset too many people to suggest that the Faderbeams are not the most attractive example of luminaire housing design. Certainly, they are not in the league of the European manufacturers in the good looks department. Ricci, however, didn't strike me as too concerned by this.

The XLF ColorFaders are a CMY scroller, probably not too different to many other scrollers on the market. They were well-represented on the rig, and, in the version found on the 9 Light fixtures which regularly lit the crowd, they appeared to perform consistently well.

The 14 additional 1200w Briteburst fixtures are high output units and they produced some very powerful primary-colour washes. Similar in design to the FaderBeams, with scrolling color changers incorporated, the punch provided by the lamps was able easily to cut through the surrounding fixtures.

Martin MAC2000s rounded off the automated lighting inventory, though in much lesser numbers than the Morpheus products.

Ricci was very pleased to have these luminaires on-board for the tour, having used them on previous shows and he found them a good addition to the rig

With the conflict in Iraq being only hours old when the concert kicked off, the first two songs were almost predictable. The show opened with a powerful single spot straight down on Springsteen playing an acoustic version of "Born in the USA" and then burst into colour as the band kicked in with a cover of the Edwin Starr hit "War". Strong colour wash crossfades were the predominant feature and there was seldom a moment when the whole band wasn't bathed in light. With about 10 nine-light fixtures at the top of the FOH truss (4 with colour faders), the crowd too were often well lit.

◆ *Footnote: the tour lost \$1.7 million for promotor Kevin Jacobsen - who was quoted as saying attempts to negotiate with the artist's management were futile. You have to wonder what Bruce Springsteen thinks about all this.*

Lighting Crew:

Lighting Designer: Jeff Ravitz. Lighting Director: Todd Ricci. WholeHog Operator: Brad Bruehler.

Lighting Equipment:

95 x Morpheus Faderbeams. 14 x Morpheus Britebursts. 12 x Morpheus PC Spots. 10 x Martin MAC2K. 14 x 9 Lights (4 of c/w Morpheus XLF Colorfaders). 24 x Par 64 c/w Morpheus XLF Colorfaders. 4 x Profile Spots. 9 x Lycian Truss Spots. 20 x 10' Morpheus Flipbox Truss. 4 x 10' Morpheus Mini-Flipbox Truss. 1 x Avolites Diamond II. 2 x Wholehog II (one as backup)

weren't in the high ticket-price seats near the stage. At the back of the ground it was thin, wafty and inconsistent, draining the songs of a lot of their power, physical and emotional."

Albert countered: "I don't know what this guy was listening to or where he was, but his opinion does not jive with what myself or others at the show experienced."

"Yes, the wind would washout the upper highs a couple of times, but it sounded large and full, with very clear vocals and drums. Bruce's voice was distinct and up, and the bass guitar and kick sounded full with a lot of whumpf."

But we had many reports from the audience, and it isn't pretty. Trevor Connell's comments were atypical:

"I was at the Springsteen concert. My response to Albert Leccese - he's full of shit, as was the sound."

And diehard fan Zibbee Stoner: "We left brokenhearted after the 4th powercut, not being able to tolerate the bad sound."

The chatter on the Springsteen fan website reached a roar - people were really annoyed. But there was no response from The Boss.

Read more at www.juliusmedia.com



Yamaha PM1D console at FOH

Marissa Jenson is a clinical psychologist, and HR head within an arts complex. Send your dilemma or request to: mail@juliusmedia.com. Marissa regrets personal correspondence cannot be entered into.

Boy made of steel

My son thinks he is indestructible. He has a lot of drive, and got himself a job working for a production company - initially on floor prep. Now he is working on some shows, and I worry about him. What is the industry culture really like? Will he be exposed to drugs?

-Gary.

Gary,

I think that you have a right to be concerned about your son because as a father it is your role to be aware of the dangers for your children. Our kids are only with us for a short time and our influence is limited after they are grown.

Yes there are some bad elements in this industry, and like anywhere there is always the risk of drugs - but these days the prevalence of drugs has been reduced somewhat. Mainly because as a society we are more aware of the dangers and it isn't widely accepted as being "cool".

You cannot stop your son from being exposed to the seedier side of life but you can equip him with the necessary tools to deal with things when they come up.

Encouraging the belief that you think he will make sensible decisions rather than being anxious, is a more positive approach when dealing with Teens. Trust that you have done your job.

Keep the lines of communication open with your son, let him know that you are interested in his life.

Having someone that cares, knows, and trusts him is the best antidote to be able to refuse drugs.

Man and woman

My partner works all hours in this industry - which I understood from the start. But sometimes he comes home ultra late from a gig, reeking of cigarette smoke and beer, and wants to wake me for quick sex.

If I appear unwilling, he says that I don't love him or understand how hard he works. I do, but I feel used when this happens and I think it is causing problems underneath.

It means I resent him for being selfish. I do want to be with him but not at these times. Please give me a perspective from what you know.

- Julie

Well Julie,

I understand how you feel as the atmosphere (smells, sights, feelings) around us greatly influences how we women feel about sex.

As women we want to feel treasured, appreciated and deserving of consideration. When there is no thought in preparing for sex we can feel taken for granted.

Consider that from his point of view he feels loved when connecting sexually with you - just as you do when he buys you flowers, chocolates or expresses love verbally.

I think that you need to set aside time when you are both free and awake to enjoy your time together in a relaxed way.

Ask him to take the time every couple of weekends (or whenever you decide) to do something you enjoy doing together that makes you happy, outside of sex. Also plan a fun muck around sex playtime that only requires a nice dinner, wine and lazy talk to create the right environment. That way you will feel happier to have "quickies" every so often.

It is a bargaining tactic that works, as you have both had a say!

You need to tell your partner that you DO want to have sex with him but need the freedom to say no sometimes - without offending him.

Plus it would help if he had a quick shower and gargle!

Sex is all about feeling free to be yourself and knowing that you are wanted. Feeling free to "love" your partner anytime is an exhilarating thought for any man and feeling adored by a man, (for a woman) is intoxication enough for any wild night.

Just remember that we are all different and even in this time pressed world it is worth it to take time for each other.

It takes two to tango!

Marissa's note to Virgo:

'Virgo', please reply, or email me again at mail@juliusmedia.com and I will give you my private email address. I am concerned about you, and need you to know that the situation you face is not the end of the world. I can't reply here because it may identify you. Please get in touch with me again. I really do care about you.

Where ARE the women onstage?

My question goes to HR and career development for women. When I look around the entertainment biz, I see few women in technical roles. More are stage managers, or production assistants. Why? Do you have perspective on this?

- Penny

Yes Penny,

I talk to women about this, and have been involved in education seminars where young women at school are exploring their career options.

There are a couple of factors involved, but mainly it comes down to a perception that women are not as physically strong as men.

The people at Juliusmedia tell me they do a manual handling session in their stage OH&S course. People lift weights until they find what they are comfortable with.

The average is 25kg - well short of what many men in the technical side of the industry expect. Some are surprised.

There is a growing awareness that every person has a different physiological structure. Some can lift more than others. Some can sleep less than others. All are different.

Being able to lift lower weights is never an obstruction to working on stage. Energy and attitude are more important.

Every bump in features different sized and weighted equipment, and observing a bumpin you see different people doing different roles. Some direct the objects coming in, some carry the loose lighter objects. Do not overdo it!

The sooner we all de-identify - throw out - gender issues in the workplace, the better for all!

Come on girls, be brave. We can do anything we choose to do. Recognise your assets!



YOU WANT IT - FAST!

Spiced CX chicken breast warm road salad

We get home late and tired - but we hanker to cock. Or we should! This one comes fresh from the CX kitchen, and is very more-ish.

COMPONENTS:

1 x small chicken breast per person. Costs about \$3.50. (Tip: some slacko outlets do not quite bone these, so there may be a sliver of stuff You Do Not Want still there. Grrrr!)

Bunch lettuce leaves, rinsed, dried. (Supermarkets do a nice job of packing these with some other salad bits in a bag full of carbon dioxide so they keep a few days. Quick and easy, but costs around \$4.00 against \$2 for a large lettuce.

Cherry tomatoes. Seasonal, about \$2.50/punnet. Tasty little suckers, but substitute Roma or ordinary tomatoes if unavailable.

Dry mixed herbs. Butter.

Salač dressing - recommend Paul Newman's own Balsamic Vinaigrette. About \$3 at most large supermarkets.

Sweet Chilli Sauce - bottle thereof. About \$2

Wine or beer. Everyone should cook with wine or beer - although this recipe does not require it, the chef probably will.

PROCEDURE:

Open wine or beer first. Pour into glass and put in handy place. Test regularly.

Spread out chicken breast on board, cut into chunks, check all stray fat and bone fragments removed. Put a teaspoon of butter into a hard bottomed pan ONLY on moderate (50%) heat, sprinkle pinch of mixed herbs into butter.

Fry chicken - gently - and add a little salt and freshly cracked pepper. Brown each side, you need a little sizzle at all times, but only a little!

While this is going on, clean up anything that touched the raw chicken, and wash hands properly. Contact with raw chicken will make you sick. You need clean hands for the rest:

Toss the salad in a little vinaigrette, lay on plate ready for the cook.

After both sides of the chicken have cooked at least 2 minutes, splodge some Sweet Chilli Sauce into the pan and mix the chicken with it. Just heat it.

Test the chicken, by cutting a piece while still bubbling away in the pan. Unlike red meat, chicken should never be served pink inside.

Plonk the chicken onto the salad, call for the loved one/s, grab more wine, and enjoy!

Techie Food

Times have changed since the early days of touring. Those McDonalds arches were a new novelty then, in the era before mobile phones, fax machines, emails and car air-conditioners! More predictable was the hamburger shop - we just had to grin and bear it. I remember feeling generally deficient in my wellbeing after a run of meals such as those.

Our resident OH&S advisor points out we need to adapt our personal needs to our work. If you need food, eat!

If we are lucky enough to be on a film shoot, or working a major concert, there will be catering available. It can be terrific!

Some modern feeding trends have emerged, and the news is we are eating better than ever, because we are more aware of what is good for us.

If you decide to transport food from home, remember it can go off unless kept either cold, or kept heated.

Some precautions:

Treat ALL takeaway food as if it has been pre frozen. Chances are it may have been, so it will not keep all that long in the fridge. And it sure can't be frozen, then thawed, without great risk.

Things like cooked meat should not be kept more than 48 hours in the fridge.

Pasta, soup and stews that you have made yourself, packaged salads from the deli, and deli processed meats are only good for three days.

If you have any doubt at all, chuck it out - or feed it to the dog!



Go Tarago: go \$pend

Toyota's Tarago has been the mainstay of touring shows for the past twenty years, yet it is only in its third generation. It's been the thing we rent to move up to eight people, but more commonly five people with bags. A Tarago is way, way, way more comfortable than a station waggon.

The new 'spaceship' model has been around for almost three years now, and replaces the classic 'egg' Tarago that did duty for around ten years between 1990 and 2000. Toyota rolled out detail changes every three years or so, but the metal never changed. Till now.

Changes with the new model are total, most of all: the spaceship now has front wheel drive with a conventionally mounted engine. The egg had a revolutionary underfloor engine and rear wheel drive, with some components reached under the short bonnet. Hard to fix.

The new people mover has a sliding door on each side, whereas the previous had a slider just on the kerbside.

Spaceship is way ahead of egg in terms of refinement, ride, interior noise and engine power, but it is the engine which is the first shortcoming of the new people mover. A 2.4 litre petrol four is used, and it actually does the job quite well. The trouble is, it sounds like a four, and needs a big boot in the guts to do things at the kind of pace we need.

Toyota's problem with Tarago is that they seem to have suspended reality in terms of price, because the thing costs well over 50 grand - indeed, more like 60 on the road. This doesn't make any kind of sense when you consider it is priced like a BMW 318, which is an entry level luxury car that comes with a 4 cylinder motor.

Over the road at auto alley is the Kia Carnival, a 7 seat people mover with a 2.5 litre six cylinder engine and a 40 grand price tag on the road. Like Tarago, it comes standard with dual zone air conditioning.

The Kia is more on par with the Egg in terms of refinement and handling. It is clearly not anywhere level with the new Tarago. And the engine in the Kia offers less low end torque than the Toyota. But Kia's engine sounds like a 6, because it is one, and gets the job done.

Inside the spaceship Tarago, it is all very comfortable, quiet and roomy. The CD player in the GLX model is a damn fine thing, with six speakers. But the model chosen by rental fleets only gets a cassette player. Purr-eaze!

The GLX also boasts ABS, cruise control, and a passenger side airbag, things you don't get in the Kia Carnival.

The standard four speed auto works well, it has a lockout 'overdrive' that has no apparent purpose other than to increase engine noise and RPM. Performance is OK.

Tarago's biggest problem is the seating, which is terrific in which to sit, but dreadfully inflexible in every other way. Problem one is the middle seating row requires great strength to slide - and it must be slid forwards to enable access to the rear, third, row. I'm not kidding - it is sumo wrestler stuff. If you're parked on a hill, watch out!

Problem two in pew land is the third row is not the split fold up pair like in the egg, the third row in the spaceship is going nowhere except on the floor. You can fold up the lower squab and slide it way forward for more luggage space, but you just can't remove it. Neither seat row in the Tarago can be removed. Mr. Kia Korea lets you quickly pull out either of the two middle seats, making it far easier to carry extra stuff.

Another concession to cost is that the spaceship has no temperature control on the rear air-conditioner, like the egg did. The six people up back can select fan speed, but need to endure whatever the front couple deem a suitable temperature. Fights!

I've done 50,000k in the spaceship now, and think it is a finely engineered specimen. The Kia feels crude by comparison, but without the benchmark of the Tarago, the Kia would be a better choice. It is also selling a storm, despite seating one less person (7). •



That middle row is real hard to move. The back row folds up for more luggage or gear space. Driving position (below) is really good, dash looks strange but works very well. Tarago comes in auto only.



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Show Projection for LD's

If ever there was a NOW trend, it is towards vision projection at concerts and in theatre. We complain now if a large show or concert doesn't provide vision (memo to Cliff Richard: read the last issue of CX) and we see Lighting Designers everywhere taking great interest in expanding their medium. This issue we look at professional projection solutions, how BRIGHT they REALLY are, and how we can now include them in our lighting inventory! John Grimshaw writes.....

The key question to start with is 'How bright is bright enough?'. To work this out you will need to know a couple of things about the way many manufacturers talk about ANSI Lumens.

The original idea for ANSI Lumens was to provide a way the projectors could be compared. Light output (in Lux) was measured in a particular way, and then multiplied by the screen area (in square meters). In lighting, we want to make sure the image is bright enough to be seen despite the other lighting effects running at the same time.

A Selecon Pacific set to around 18 degrees, with an 8CCw GKV bubble and projecting a circle of white light over a distance of 5m has a Lux measurement of around 4300lux.

A Martin Mac250+ over the same distance, (white output, sharp image and with no effects) measures about 2200lux.

To get a projector to create a 1000lux at a screen that is only 2m x 1.5m would mean the projector would need to be rated at around 3500 ANSI Lumens (the calculation was $1000 \times 2 \times 1.5$).

3500 ANSI Lumens would be considered a bright projector for smaller applications. The top of the range 12,000 ANSI Lumen

projector on the same size small screen would be around 3500lux – the 18deg Pacific at 5m would be brighter.

So, you can see that projectors are not even close to achieving the light output that lighting designers are used to when dealing with standard lanterns. However, with some careful lighting design and planning, a projector with as little as 1000lux on the image can be enough to make the effect worthwhile pursuing.

Things to consider...

The surface you project onto has a HUGE influence on the apparent brightness of the image. A proper projection screen will give you an even brightness across the surface of the image. Try projecting on a glossy or semi-gloss white wall and you will see hot-spots and an image that appears to be dimmer on the edges.

Some screens are designed to increase the apparent brightness of a projector. This is called "Gain" – a screen with a gain of 1 is less bright than one with a gain of 1.5. However you typically sacrifice viewing angle for higher gain.

There are also new screen products available

Kylie images (top) produced by Birk TV which are being used by the Rambert Dance Company in their upcoming work at Sadler's Wells (UK)



that would allow you to get away with significantly reduced ANSI lumen projectors. Amber Technology (www.ambertech.com.au +61 2 9452 8600) has a "pe-spex-like" product called Reversa which comes in numerous fixed sizes the largest being 142" diagonal (which roughly translates to 2.88m x 2.16m). The image that results from this rear-projection surface has to be seen to be believed – very impressive. They also have special "H" section strips that allow a 'seamless' connection of multiple panels.

Other surfaces worth investigating are made by Stewart Filmscreens in the US. They make a huge range of surface materials that can significantly impact on the quality of the image. Visual Fidelity Pty Ltd is the Australian importer (www.visualfidelity.com).

Spill and reflected light from the rest of your set and lighting design will also hit the screen. There is nothing you can do to stop light getting to the screen when you bring up the stage lights, but you can minimise it by getting the set design as dark as possible so that reflected light is kept to a minimum.

Also think about the angles that lights hit the stage – if the stage were a mirror, would the reflected image hit the screen? Regardless of the surface material used on the stage, some light will be bounced straight onto the screen, so getting these angles right could help you image quality significantly.

The choice and position of the projector is a major factor. Below is a guide to some of the major manufacturers and their under 6000

John Farnham's farewell tour featured extensive use of projection – and utilised Catalyst as the interface between lighting director and vision.

Projector	ANSI Lumens	Imaging by	Image Panel	Native Resolution	Weight	Physical Features
Barco iQ G400	4200	LCD	1.3" x3	1366x1024	12.9kg	Very high quality design specs and intelligent operation
Barco RLM 65	5000	DLP	1.3" x3	1024x768	25kg	High Contrast black imaging chip
Christie Vivid Blue	2500/5300	LCD	1.3" x3	1280x1024	20kg	Dual Lamp model, Power Lens Shift
Sanyo PLC-XW46	4100	LCD	1.3" x3	1024x768	8.4kg	Compact, low noise, motorised lens shift
Sony VPL-FX51	5100	LCD	1.3" x3	1024x768	10.5	Power Focus/Zoom and Picture Shift Functions, Silent Fan Noise, Ethernet



Barco RLM 65

Specifications continue.....



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Dataton Watchout *projection software of the year '03**

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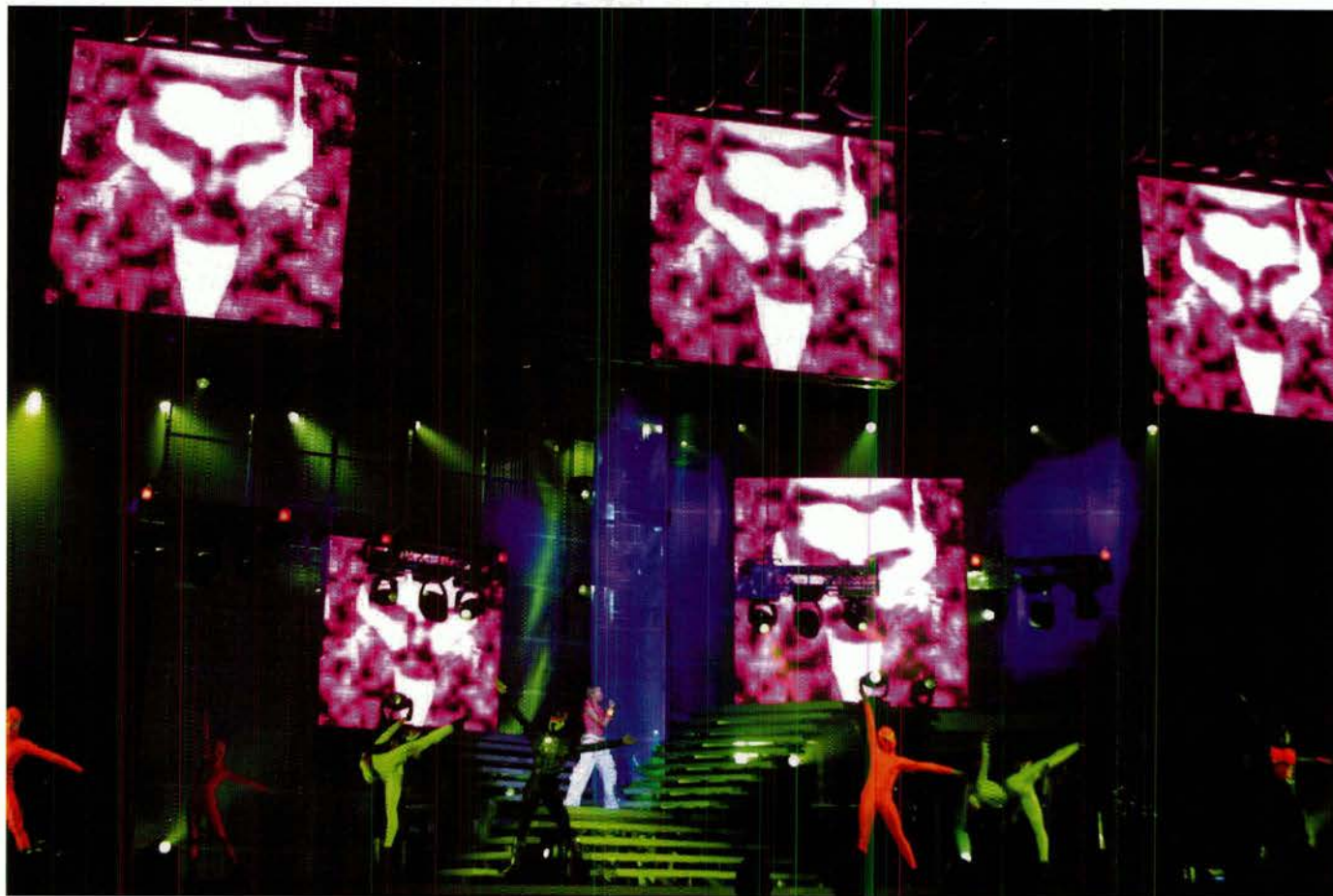
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ANSI Lumen projectors currently available. If you want to hire a projector, talk to AV companies about what projectors they have available – but BEWARE...

In reviewing projectors for Connections, this writer has discovered that the vast majority of manufacturers over-rate the specified ANSI Lumen output when compared to actual light the project puts out. The over-rating usually sits around 140% of the ANSI Lumen number on the publicity blurb, but that number can be anywhere from 120% to more than 200% over what you would measure in the real world. The best thing to do would be:

- Decide how big you want the screen
- Get the projector you want to use and set it up to project an image that size
- Measure the lux at the screen (with a white image from the projector)

If the image is 1000lux or better, it will look very good. Under 1000lux and more of your effects are likely to be a bit washed out and hard to see – unless you turn off all the other lights!

The other thing you need to think about is how far the projector needs to be from the screen to get the image size you want. The lens forms a significant cost component of

the projector, so you may find your options for lenses limited to the stock standard one that came with the projector. Some hire companies have a stock of lenses to choose from, and if you are buying one you may be able to specify a different lens to the standard one if that suits your purpose.

When you look at the lens specs, it will define its "Focal Length" with something that look like "F=2.7-3.2" (ignore the specification that has a lower case "f", and looks like f=35-42mm as this is something else).

According to the Navitar website (www.navitar.com) – they make Buhl lenses – you can use the following calculation to identify the (rough) Focal Length you need for their lenses:

$$\text{Lens Focal Length} = \frac{\text{Projection Distance} \times \text{LCD Size (inside the projector)}}{\text{Screen Size (you have to use inches for ALL measurements)}}$$

If your screen is 4m from your projector, the image you want is 1.8m (diagonal) and the projector you are using has a large 1.3" LCD panel creating the image, with the numbers are converted to

Big, bold, bright LED walls (see on the last Kylie tour (above). There is more than one way to get those graphics out of your computer onto the screen!

Sanyo PLC-XP46



inches, the calculation looks like:
Lens Focal Length = 157.4" x 1.3", divided by
70.8" equals Lens Focal Length = 2.89

The lens mentioned above was "F=2.7-3.2".
Because it has a range (2.7 to 3.2), that
makes this lens a zoom lens (you can scale the
image a little by adjusting the lens). The
answer we had in the calculation was 2.89,
and this lies between 2.7 and 3.2 so this lens
should be able to do the job.

Projectors Quick Comparison

Complied below is a collection of projectors
selected from those currently available on the
market. These projectors are all specified at
4000 - 6000 ANSI Lumens. As you can see
there is a range in the prices of these units,
with the prices continuing on a downward
trend. The cheapest also happens to be the
unit we sourced in order to write this article
and test a few projection ideas. The most
expensive unit – the Barco RLM G5 looks
very similar in the spec, but there are some
significant differences if you are looking
seriously at venue/live production projection.

The Sanyo PLC-XP46 was a quite robust unit,
with a measured ANSI Lumen output of 3400
ANSI Lumens (impressively close to spec
compared to some other manufacturers!). The
unit has a 1024x768 native resolution, which
is created by three 1.3" LCD panels (one each
for Red, Green and Blue). This projector
performed very well, and was able to produce
high quality and reliable images for the
applications as used in this article. This is a
very cost effective unit for those medium
sized jobs where the mega projectors would be
out of the price range.

This unit was supplied with an added extra
Ethernet control interface which allowed us
to remote control the unit very easily. With
multiple input types at the projector (2x
RGBHV, DVI, Composite Video and Compo-
nent Video), it was possible to select the
input remotely – a great facility if you are
running a backup video source to the
projector in case the main source fails, or
using the projector as the vision switcher.

On the other hand, the top of the range
Barco RLM, which was recently launched by
Barco Australia as part of their roadshow in
April, bring a great number of the features of
the biggest (and busiest) production projec-



tors – the ELM – down to an affordable level
for small to medium sized productions. This
unit is optically a VERY impressive machine
with a number of "road friendly" features
such as a sealed optical unit – ie no dust or
moisture. If you read the article on moving
light maintenance last issue, then you would
know how important this feature alone is.

It has multiple inputs - as does any projector,
but the difference here is that the projector
will seemly cross to different inputs without
that annoying wait for the projector to
identify the signal type and then set itself up
to show the image. There are MANY other
features that made it into this latest offering
from Barco – which certainly justifies the
price.

So ultimately the choice comes down to the
user – how much budget do you need to get
the image you want. With projectors, it is
most important that you test a unit in the
actual working environment and see for
yourself. •



Sony VPL-FX51



Barco G400

Projector	Optical Features	Other Features	Price
Barco iQ G400	Dual Lamp, precision optics, excellent image quality	Seamless switching, advanced picture-in-picture many more features	\$ 38,000
Barco RLM G5	2 x 250 W UHP, Sealed optics for smokey/disty environments	Seamless switching, advanced picture-in-picture many more features	\$ 42,000
Christie Vivid Elite	700:1 Contrast ratio, SXGA 1280x1024 to UXGA and HDTV	Built for large format projection	\$ 46,588
Sanyo PLC-XP46	powered zoom/focus	Networking options for remote control via ethernet	\$ 14,999
Sony VPL-FX51	1.3 times zoom lens, F1.7 to 2.0, f36.6 to 47.8mm, 300W UHP lamp	Supports Remote Desktop (Windows XP), Digital Keystone Adjustment	\$ 25,000

Projection from your PC! How?

Getting imagery out of a computer and into a video projector is the new buzz for lighting professionals everywhere. John Grimshaw finds it can be done more ways than one.....

Most of us working in the world of lighting would have heard of High End's Catalyst. Some may have even been fortunate enough to have seen one in operation at a show or at ENTECH. A small handful of others may have even played with one. But what if you do not have the mega-bucks to hire/buy one for your own show, what are you options for using projection as part of your lighting show?

The two big things that make Catalyst desirable are that it can let a normal lighting desk control a moving mirror that can be placed in front of a projector AND it can let a lighting control desk control the imagery sent to a video projector.

To achieve these functions requires all of the CPU ability of the Apple Macintosh G4 that lies at the heart of the system. The fact that it puts some of the tools of video in the hands of the lighting operator makes the Catalyst system very unique, with many lighting designers around the world wanting

to make use of one, or two... or three!

Like any computer system, there are limitations -there are limitations to the video file types that can be executed by Catalyst, they are not designed to be synced to each other or to a separate time-coded source. However, when it comes to moving the image about via a mirror, Catalyst is the best option available.

For many applications, the ability to move the image is not really all that important - Farnham, Silverchair, Taxiride tours all used Catalyst purely for image control. If it is pure video processing that you want at the lighting desk, then question becomes, "Can I set up a system that is as easy to operate as the Catalyst, and is reliable and inexpensive?"

After some investigation, CX has discovered that, not only is the answer "yes", but it is a lot simpler than you might think.

In order to solve the question, some basic parameters of a system needed were set to

Mac G4's lined up to drive vision (via Catalyst) on the John Farnham arena tour



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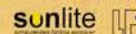
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Playback Options

There are a number of ways to create "vision" and send it to a projector, with the obvious sources being a VCR, DVD or live cameras.

However, as we want a high quality image (1024x768), that means we either need high definition VCRs, or a computer. As we want to be able to control the vision and effects 'on demand', we will investigate the options behind using a standard computer as the video source.

The first question you will need to answer is what software will be used to playback the video. If using the Windows operating system, the built-in option of Windows Media Player, should not be discounted. It is free, and will readily play almost any format of vision you care to throw at it. Other free/shareware media players include WinAmp, Musicmatch Jukebox and RealPlayer.

For the purposes of this article, we have chosen WinAmp, because it also comes with a staggering amount of downloadable visual effects that really make this option an amazing alternative to Catalyst.

If you organise with the FOH sound operator to get a mono send from the desk, you can put this audio through your computer, and get WinAmp to create visualisations live and 'in time' with the music being played onstage. During testing, we found that the best effect came from simple audio sources – say the drum kit only, or the vocals only rather than the full mix. Some examples are below!

Vision Patching

In order to maintain complete control of the output of your projectors, it becomes important to run some kind of method for dimming the output of the projector – either "fade to black" the vision sent to the projector or by mechanically dimming the output of

the projector itself.

There are a number of options for "fading the vision" sent to the projector. If you are planning on fading the signal by doing this, then you might as well add the ability to cross-fade between multiple computers, as this costs no extra.

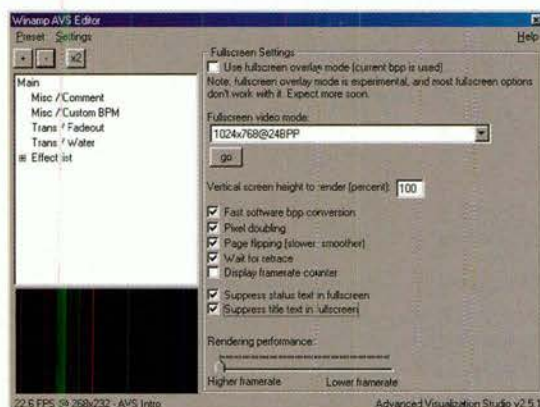
If you want to work in the low-resolution world of video, then get yourself computers with video cards that can also spit out standard video. There are plenty of RGBHV to PAL converters out there, but a new video card is likely to be cheaper. Once the image is a video signal, there are a number of relatively cheap options from Sony, Panasonic, Videonics etc that will let you cross-fade the image.

Keeping the image in the higher resolution that a computer spits out (RGBHV) means that you need a device that can fade between these images. The Folsom Presentation Pro can do this with up to seven RGBHV sources, and has a number of transitions (or fades) built-in.

Mechanical Dimming

As a lighting person, don't forget that a projector is simply a complex profile light, so there is no reason why you cannot set up a simple mechanical douser and attach that to the front of your projector. On the next page is a drawing of a simple setup that could be easily implemented at very little cost.

Whatever set-up you plan to use, be sure to provide the ability to easily fade to black so that if the worst happens and a computer fails, you can take the image off the screen. This is often overlooked in performances!



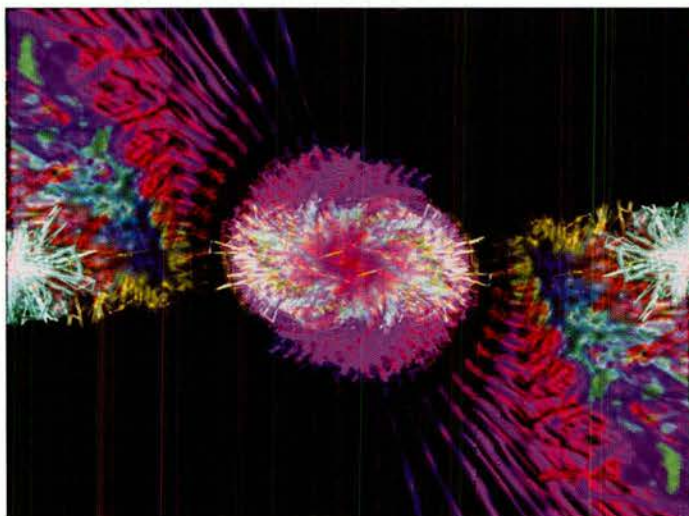
full screen setting

Using WinAmp in Live Production...

The faster your computer processor the better, because if you make your visualisations full-screen, then the processor has to do some serious crunching to make the pretty images.

Go to www.winamp.com, and download the latest version of Winamp. At the time of writing this article, the new version 3.0 was released, and was only 3MB in size (self-extracting file called "winamp3_0-full.exe"). For the purposes of this article, we also downloaded some additional visualization options – "Whacko_AVS_VI.exe" and "Hybrids_720.exe" – there were MANY more.

To get WinAmp to look at your line input on the soundcard (and create effects based on this audio source), open the program and type CTRL-L (to bring up the location window), and then input



Easy Control

Now it is time to think about the fact that you want to be sitting at the lighting desk while all of this new gadgetry is doing its thing. With good set-up, the only external controls you would need to set-up would be a keyboard for each computer supplying vision and the device that is controlling the fades.

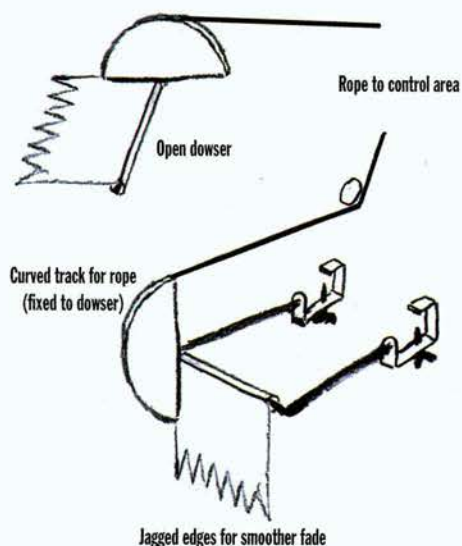
If you are a little handy in the world of electronics, you can easily put a little bit of control of these computers back into your lighting desk. If you could send keystrokes to a computer by activating DMX channels – say all ten numbers, the enter key and the space bar – then you could call up any slide or any visualisation effect. It would not be too hard to modify an existing keyboard and set-up a twelve-way contact closure that actually does the same thing as pressing the keyboard buttons. Then get some kind of DMX to analogue converter to drive the contact closures.

There is also a way to build a four or fifteen “switch” box that you can plug into a serial port of a computer. When you download WinAmp, look for a plug-in called “COM-port WinAmp Control”, and that will give you the wiring details. This can actually be used to control any software, and not just WinAmp. Again, these switches could be controlled by an external DMX controlled contact closure device.

A company like Enttec (www.enttec.com) will build you the DMX interface. We asked Enttec what something like this would cost, and the reply was somewhere about \$1000 for the first one.

Bullet-Proof

A system like this is only as stable as the computers you run it on. In any application



like this, it would be ideal to use a stripped back system with nothing but the bare minimum of other software.

So, what does it cost?

Because this computer system would be a special build, it would not be available to hire. So the cost of the system would depend on what options you would want to include in your system, and what components you may already have. Assuming you want to purchase everything (excluding the projector) and use all-new parts, here is a rough rundown of the cost of a couple of systems:

One computer system:

- Celeron 2GHZ with WindowsXP, Microsoft Office XP (Professional) and 15" Flat Screen - \$2200 (priced from Dell Computers)
- Software (WinAmp) - FREE
- Mechanical Dimming – FREE (you make it!)

Two computer system:

- 2x New Computers (as above) \$2200ea
- Folsom Presentation Pro Vision Switcher - \$11,990 (RRP inc GST)
- Enttec DMX/Keyboard interface (two needed) - \$1200 (approx)
- Roadcase - \$1500 (approx)

TOTAL \$19,090 (plus wiring and build time)

The projector would be the most expensive item to purchase, but luckily these are as readily available to hire as Martin Mac 500's.

About the Folsom Presentation Pro

This is seriously smart technology that has many different applications. It is a seven input vision switcher, and those inputs can be anything from full computer RGB HV signals down to simple composite video. The simple push-button operation gives the user a small number of dissolve/wipe options. It also has audio mixing functions for each input and a couple of additional inputs.

It also has a “non-volatile” frame store function, where a logo or image could be captured from any source and used on demand by the user. Even if power is lost to the unit, the logo remains in memory for when power is restored (great for putting something quickly on the screen while you re-boot!). That is quite a bit of function packed into the small 1RU device – which is why it costs \$11,990 RRP (inc GST).

When we spoke to Technical Direction Company – the company that imports Folsom – about the unit, they told us that there has already been a number of lighting people taking an interest in this product to use WITH catalyst. • (TDC: call +61 2 9669 6255)

the location “linein:///”. According to Nullsoft – the writers of Winamp, if this does not work, you can also try “linerec:///”.

The test machine used (Pentium III 600MHz laptop) managed to installed this software and start showing visualizations synced to the audio “line in” immediately with no other modification to the system.

You should wander through the setup of the program to suit how you want to use it. There are a couple of checkboxes worth selecting inside AVS (Advanced Visualization Studio). Find the settings for “Fullscreen” and select the two checkboxes “Suppress status text in fullscreen” and “Suppress title text in fullscreen”. It is also worth setting up “Hotkeys” so you can instantly load the visualisation you want.

To do this, all you have to do is run the effect you want in fullscreen, hold the CTRL key down and hit the button (any button) that you want to use to recall that effect. If you then go into the “Hotkeys” setup, you can also select if you want to control the transitions between effects, or simply let the computer wander through the various effects.

Because the processor in the laptop was not really up to the task of full size 1024x768 visualisations, the “Fullscreen” set up parameters also allowed the full-size setting to be adjusted down to a level that this processor could handle smoothly. Use the “Display Framerate Counter” option to work out what setting you need to achieve a frame rate better than 20fps.

However, if you want to mix still images and video, WinAmp makes this a little difficult. The solution is software like PowerPoint. This will allow you to display text, pictures and even playback video on demand. Learn the shortcuts for how to jump to a specific slide and to start the slide show, or to playback video.

In PowerPoint, if you know your “Slide” numbers (or have printed out the “Outline View” to create a cue sheet), you can jump to any picture or Video Playback with the presentation running by typing that slide number and hitting ENTER.

So, with WinAmp and PowerPoint (and a little time setting it all up), an operator has the ability to select any effect by simply typing a number.

BUMPOUT



The Santana concert tour that passed through Australia in March was a very well executed outdoor event with great lights and high quality sound.

Randy Piotrowski (right), FOH Engineer for the gig was running a Clair Brothers i4 line array system (supplied by Jands) for the PA, which sounded great throughout the seated areas set up in Centennial Park, Sydney. CX managed to listen to portions of the concert in each of the reserved seating areas "A" to "D", and while the audio was far more punchy the closer to the stage, even the "D Reserve" areas had a pretty good mix – with plenty of bottom end.

(continued over)

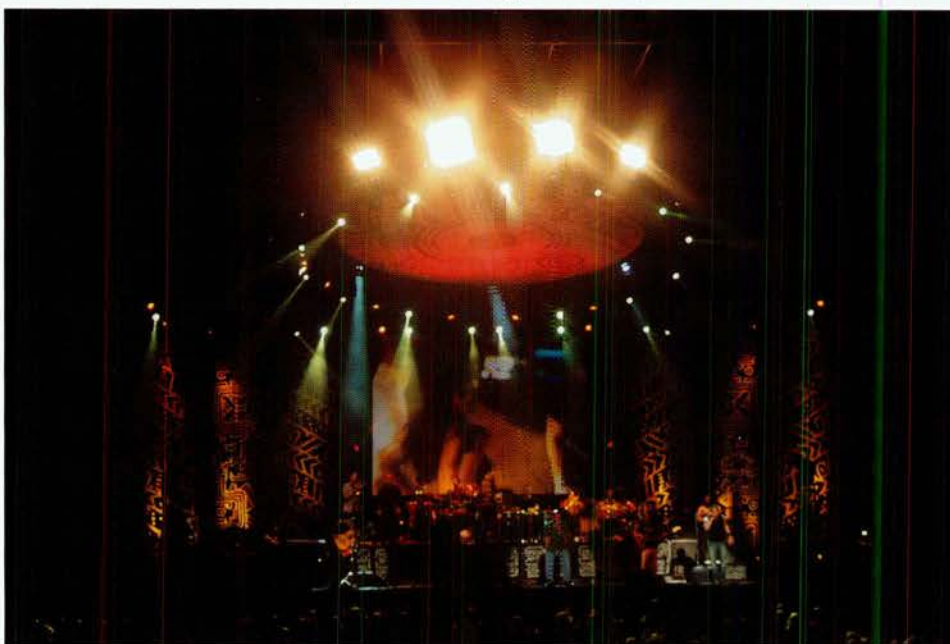


Three founders of Little River Bard appear (left) as Birtles, Shrock, Goble - with a hot bard and a series of showcase gigs around the region recently. Sound engineer Ern Rose pulls one of the best live sounds around. 'He's very good', he suggests, referring to Luke (above, right) a system engineer for Norwest.

Footnote to the Rolling Stones Tour.. asked what he thought about Paul McCartney cancelling his tour of Australia, allegedly for security reasons, Keith Richards was in top form. "I just say to Osama and the boys, go right ahead - vaprise me, baby!"

Spare a thought for the production team from Speaking in Tongues. The HIT Productions tour of the play that inspired the film Lantana is girding its way around Australia as we print. 16 weeks and 34 venues - spread across WA, Vic, SA and NSW. It's two venues a week. The show has one simple set, no front curtain, and the terrific cast of four are onstage the whole time.

The technical crew are Adam Cartwright and Sean McKinty, touring a lighting design by Rachel Burke. Logistics coordinator is Tony Lapplough, and the tour is administered by Christine Harris. Other crew include the stage manager Liz Mundell, and costume queen Janice Chalmers.



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BUMPOUT

Two Midas XL4s drove the plethora of inputs to the speakers, with Randy saying that there was "a lot from percussion". An understatement - the percussion riser ran nearly the full width of the stage with numerous kits and other instruments used by a number of musicians surrounded by a small forest of mic stands. Randy called this part of the stage a "32 foot long riser of noise."

Kathy Beer is the touring Lighting Director and was driving the Icon lighting console that ran the show. Kathy told CX that this was her favourite console, particularly for this kind of show where not only would the set list change from show to show, the songs themselves could be played quite differently if the musicians on stage got a bit carried away - which apparently they often did. Kathy modifies the show "on the fly", having to feel her way through each performance. Lighting and LX staff were supplied by Bytecraft, about which Kathy said, "The guys are great. They are on top of everything, everytime."

Vision for the tour before it came to Australia consisted of LED screens, but local supplier Big Picture managed to talk the tour into using video projection, providing a much clearer picture. Two Barco ELM's provided the image on the main screen (12k Lumen DLP projectors, stacked and aligned to provide the same image on the 20 x 15 screen. Images on the side screens and the delay position screen (behind the FOH mix position) were projected using the Barco G5 workhorses. All were feed SDI video with a composite backup. Vision was mixed from six cameras, three of which with operators for the show. This was called by the highly experienced touring Vision Mixer, Mick Anger. • John Grimshaw



Here's a shot from Westlife's current "Unbreakable" world tour (below). "Unbreakable" show producers Will Baker and Alan Macdonald created the show - Westlife's most adventurous and rock 'n' roll styled to date. It is split into five distinct sections, all based on different concepts of 'heroes' from Lichtenstein to Las Vegas, from pop heroes to action superheroes. Video plays an integral role in three of the five sections. For the other two, the five on-stage LED screens plus the two side projection screens are used for the IMAC, directed by Gary Tepper - evoking a spellbinding, wide-screen backdrop to the show.

- Sydrey Entertainment Centre celebrated its 20th birthday recently - with quite a party. John Paul Young and the Allstar Band featured (above), with three original members (at right) JPY, Warren 'Pig' Morgan, and Ronny Peel.
- The party was well attended, and very well run. Here's a run down on what constitutes a successful event like this. ...
- Arrive down red carpet to very nice finger food. EG: duck wrapped in filo.
 - Obtain drink from continually circulating wait-staff.
 - Admire entry feature, lighting, and room settings.
 - Admire suitable selection of invitees. After all, you are there!
 - Presentation segment features video, good audio, set and lighting - all by Madzin Productions. Keeps all entertained and delivers message.
 - Door prize raffle awarded by hostess and party organiser Natalie Cutcliffe.
 - Entirely appropriate band (see above), good lights, setting, and audio.
 - Free parking!
 - A gift on departure!



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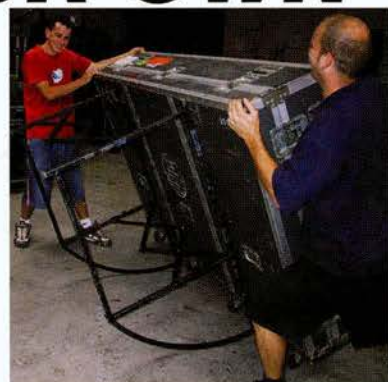
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