

**NEW
MAG!**
...in 2003 to replace
Connections. See inside....

Connections

PROFESSIONAL AUDIO & VISUAL TECHNOLOGY

NOVEMBER 2002 Australia \$4.90 / NZ \$6.50



INSIDE: Digital Mixing Consoles : Report • Hillsong opens

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ISSN 1320-5595



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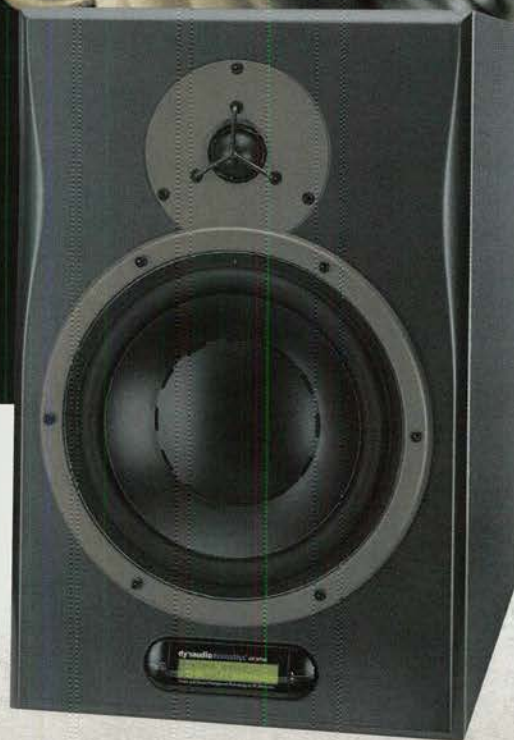
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Tel (03) 9815 2710 Fax (03) 9815 2523
Tel (07) 3831 8444 Fax (07) 3831 8455
Email: professional@ambertech.com.au

Welcome!

Connections hosts industry endorsed technical training for Stage OH&S, Performance Lighting, and Live Sound. For 2003 we offer our acclaimed short courses in all major capital cities, plus we are pleased to offer a pathway to a career in entertainment technology with our new Certificate III courses. *Certificate III is the proposed minimum qualification for a stage technician in the performing arts industries.*

We believe technical training needs to be hands-on, with modern equipment. We seek and obtain feedback from students and industry, to continually improve our course content. Our courses deliver modern, efficient, accelerated training with real learning outcomes!

Course production equipment in 2002 came courtesy of Chameleon Touring, CLS, Lots of Watts, McLean Audio Services, Coda Audio, Bytecraft and TPAC. *Our presenters are highly experienced technicians.*

About Connections Technical Training:

Juliusmedia is the new name behind our training arm, Connections Technical Training. We own Connections Magazine - the entertainment technology trade journal - and ENTECH trade show. For 2003, Connections is reborn as CX magazine.

Courses

Courses are held with the support of leading venues nationwide, including the Victorian Arts Centre, and Parramatta Riverside Theatres.

COHS: Stage occupational health and safety. *One full day.*

CPLX: Connections Professional Performance Lighting Induction. *5 days.*

CPAU: Connections Professional Live Audio Induction. *5 days.*

(Our Induction courses CPLX or CPAU *include* the one day COHS course)

Certificate Three

We now offer a Certificate Three in Lighting, or a Certificate Three in Live Sound. These are drawn from the Entertainment Industry Training Package. This is a nationally recognised qualification.

C3LX: Cert. III in Lighting. *Part time, concludes July '03 & Jan '04.*

C3AU: Cert. III in Live Sound. *Part time, concludes July '03 & Jan '04.*

Certificate III Program

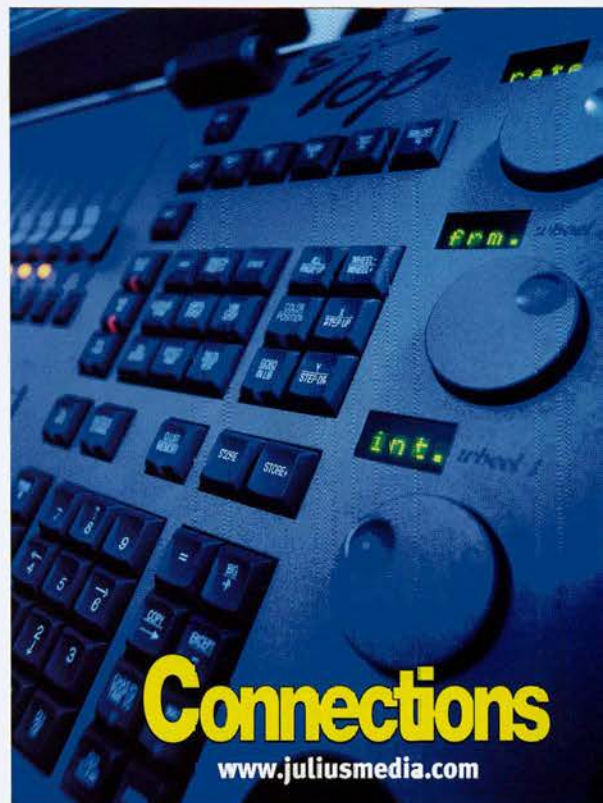
We now offer a Certificate Three in Lighting, or a Certificate Three in Live Sound - drawn from the Entertainment Industry Training Package - a nationally recognised qualification. We deliver accelerated learning. *To achieve a Certificate III, here is what you need to do:*

- **COHS** (Stage occupational health and safety)
- **CPLX** or **CPAU** (Professional Lighting or Live Sound Induction course), in any state. (5 days, incl. COHS)
- **C3** Term one, in Sydney. Course dates: April 22 - 26.
- Course work, site visits, obtain first aid ticket in your state.
- **C3** Term two, in Sydney. Course dates: July 7 - 11.

At the conclusion of training you will be assessed by a Registered Training Organisation for the issue of a Nationally Recognised Qualification: a Certificate III in Lighting, or a Certificate III in Live Sound.

Already skilled? Talk to us about RCC or RPL assessments.

Call Julius Grafton on 1-800-635-514.



Australia Wide
First half, 2003

Technical Training

Professional Live Audio Induction

5 DAYS. Sydney, Melbourne, Brisbane, Perth. Cost: \$650. REF: **CPAU**

Who should do this course? You do, or wish to, work in any performance environment. These include theatre (corporate and traditional), events, presentation, concert, club, live music and touring. Perhaps you are serious about volunteer work for your school or House of Worship. You want a good basic working knowledge of live audio techniques and equipment, and the methods utilised. *You demand experienced, professional instructors.*

Join us for a practical, hands on training course, using modern equipment.

We include several breakout sessions for beginners, allowing revision and assistance with any concepts that appear too complex. Audio training can appear daunting!

Experienced participants, beginners and people of all ages can benefit from this course. We put our new experience to work and mix a live performance at the end of the course. Go to www.juliusmedia.com for a list of course modules.

This course also includes one full day of Stage Occupational Health and Safety training (COHS). This course forms PART of our Certificate III in Live Sound. You can articulate up to a Certificate III course later!

Professional Performance Lighting Induction

5 DAYS. Sydney, Melbourne, Brisbane, Perth. Cost: \$650. REF: **CPLX**

Who should do this course? You do, or wish to, work in any professional performance environment. These include theatre (corporate and traditional), events, presentation, concert, club, live music and touring. Perhaps you are serious about volunteer work for your school or House of Worship. You want a good basic working knowledge of performance lighting, equipment, and the methods utilised. *You demand experienced, professional instructors.*

Join us for a practical, hands on training course, using modern equipment.

Experienced participants, beginners and people of all ages can benefit from this course. Go to www.juliusmedia.com for a complete list of course modules. *We put your experience to work, and light a performance at the end of the course!*

This course also includes one full day of Stage Occupational Health and Safety training. This course forms PART of our Certificate III in Lighting. You can articulate up to a Certificate III course later!

Dates, course costs

* Denotes school holidays. Prices inc. GST, AUS

COHS: One full day, 9am - 5pm. Cost \$150
Usually runs on Monday, except Sat. Feb 15

Sydney *Jan 13, Feb. 15. *April 13. *July 14.

Melbourne *Jan 5, April 7.

Brisbane *Jan 20. *June 30.

Perth *April 28.

CPLX: Five full days, 9am - 5pm. Cost \$650
Usually runs Monday to Friday unless noted.

Sydney *Jan 13 - 17. *April 13 - 17.

*July 14 - 18

Part time: Saturdays 9am - 5pm:

Feb 15, 22, Mar 1, 8, 15

Melbourne *(Sun) Jan 5 - (Thurs) Jan 9.

April 7 - 11

Brisbane *Jan 20 - 24. *June 30 - July 4.

Perth *April 28 - May 2.

CPAU: Five full days, 9am - 5pm. Cost \$650
Usually runs Monday - Friday unless noted.

Sydney *Jan 13 - 17. *April 13 - 17.

*July 14 - 18

Part time: Sat Feb 15 all day,

then Monday nights 6.30 -

9.30, Feb 17, 24, Mar 3, 10, 17

and 24. Plus all day Sat March

15th.

Melbourne *(Sun) Jan 5 - (Thurs) Jan 9.

April 7 - 11

Brisbane *Jan 20 - 24. *June 30 - July 4.

Perth *April 28 - May 2.

CERTIFICATE III PROGRAM: Full program cost is \$2,900 including CPAU or CPLX. Cheaper with advanced entry, or with RCC or RPL assessments.

• Do CPAU or CPLX, in any state, then attend:

Sydney *April 22 - 26, plus: *July 7 - 11.

Deposit of \$316 secures your Cert. III program space.

Stage OH&S course

REF: **COHS**. Cost: \$150.

One full day. *With statement of attainment on completion. "Everyone working on stage should do this course".*

See www.juliusmedia.com for testimonials!

This course is offered as a stand alone course. It is also part of our CPLX, CPAU and Certificate III - you can articulate upwards with this qualification!

Sydney Jan 13, Feb. 15, April 13, July 14.

Melbourne Sunday Jan 5, Monday April 7.

Brisbane Mondays: Jan 20, June 30.

Perth Monday April 28.

◆ **MORE INFO, COURSE BOOKINGS:** call 1-800-635-514, or go to www.juliusmedia.com

Now there is more time to party



OSRAM now offers a 700 hour long life ELC

This low voltage MR-16 Tungsten Halogen lamp, used for fiber-optic and entertainment applications, has an average rated life of 700 hours - that's 14 times the life of standard ELC lamps achieved with Xenon Gas Fill Technology. The Osram ELC-7/X employs a dichroic coated glass reflector for best color stability over its lifetime.

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Connections

The Asia/Pacific Professional Audio and Visual Technology Monthly

NOVEMBER 2002

Hillsong opens largest new Church

New production facilities set new quality benchmark for sound, light, vision

With a current congregation of over 14,000 people, Sydney's Hillsong Church is considered to be Australia's largest church, and its consistent growth over the years has created the need for a bigger building to house the large crowds of churchgoers to its Baulkham Hills site every weekend.

Senior Pastor Brian Houston said, "Our new building is simply a way to meet a need. The rapid growth of our church over the past 19 years has given us the enviable problem of having to accommodate the number of people attending church services."

Purposely designed to meet modern convention centre standards, the new church complex is a marked contrast to the architecture of traditional cathedrals, combining 21st century design and functional facilities.

Besides the 3,500 seat auditorium, it includes a large youth meeting hall, college lecture theatres, Sunday school rooms and play areas, as well as a children's day care centre. The Hillsong Convention Centre is fitted with state-of-the-art sound, lighting and media equipment, making it one of the most technologically advanced buildings of its kind in Australia.

The building project commenced 18 months ago, yet has been part of the on-going vision of the church. Brian and Bobbie Houston started holding church services in the Baulkham Hills High School Hall in 1983 with an initial congregation of 45 and hired local venues for a period of 14 years.

In the words of the architect Ridley Smith (of NBR&S & partners), the new Hillsong Church Convention Centre is one of the most significant buildings for the Christian Church in Australia since the construction of St Mary's Cathedral.

The new facility boasts a \$4 million sound and lighting package, installed by Sydney

company, Lots of Watts.

Auditorium sound is based on EAW loudspeaker systems, with a KF760 line array forming the main left-right stereo component of the system. A complex delay ring of



Pastor Brian Houston welcomes Prime Minister Howard and Mrs. Howard to the opening of the new Church in Sydney

19 MQ boxes distributes sound to the upper levels, while 20 MK 8196 boxes deliver to the upper seats in the semi-circular venue

Hillsong Production Manager David Watson arrived at the original design specification for sound and lighting in consultation with others on his team, and senior pastor Brian Houston. The specification was put to tender with a variety of firms vying for the work, submitting various adaptations of the design.

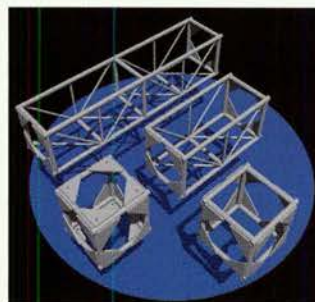
Lots Of Watts won the contract, having had EAW improve on the design, and with a Texas based consultant, Craig Janssen from Acoustic Dimensions, on board to assist. Acoustic Dimensions are prominent in the design of sound for houses of worship in the USA. "We were on site within weeks, roughing in cables", said Carey Leghorn, Lots Of Watts' installation director.

"One of our strengths is we can fabricate brackets and steelwork overnight" says Greg Kean, CEO of Lots. The firm was kept on its toes through the contract, which culminated in the October opening of the Church by

> please turn the page

INSIDE

RIGGING EQUIPMENT
Market Report. See page 40



DIGITAL MIXING CONSOLES
Market Report.
See page 48



ON THE ROAD with HOT SHOE SHUFFLE

See page 30



Hillsong (continued)

Australia's prime minister John Howard.

Three Yamaha PM1D digital consoles were supplied, one each for FOH, monitors and broadcast. Two Soundcraft MH 4 40 channel consoles were also supplied, one to upgrade the existing Church (which is retained) and one for the new youth hall, which also has a new Soundcraft SM20 monitor console. The youth hall gained an EAW MK system, with one MK2194 cleverly installed on a delay line just in front of the mix position - so the volunteer engineer will think the system is louder than it really is!

Hillsong lighting designer Ian Anderson worked up a new lighting spec in conjunction with David Watson, and a Grand MA console, a Maxxim console, and almost 500 dimmer channels went into the new building. Selecon Arena fresnels and PCs, Pacific profiles, ETC Pars and Parnels, and Selecon Cyc lights all were installed alongside 12 Mac 2000, 8 Vari-Lite VL2402 and 8 VL 1000 TS.

Crown amplifiers drive the site, with 51 CTS and MA series amps, all with PIP cards onboard for instructions from the extensive Media Matrix system that provides all audio distribution through Cobranet.

Along with new stage monitors, in ear systems, microphones, outboard and ancillary systems, the new auditorium is a state of the art showcase for sound and light.

• www.lotsofwatts.com.au

FOOTNOTE: Hillsong astutely deliver a very different sound and lighting experience. For starters, the mix is not a left - right concert mix. There is a careful balance between the six or so onstage vocalists, the lead vocal, and the choir. This needs to get over the top of sometimes very loud singing from the audience and a large band. The audience is lit so faces can be seen from the platform, making lighting a different form of challenge.

Connections to be replaced

New bi-monthly magazine in 2003, with breaking news website, and remodelled ENTECH

The December edition of Connections will be the tenth anniversary edition - and the last. This magazine will be replaced by a new bi-monthly title, CX Magazine - CX is the short 'in house' nickname used for Connections.

The move follows a year of restructuring for the firm, now named Juliusmedia Pty Ltd. "We started to rebuild just before ENTECH, following the collapse of the founding partnership" says Director Julius Grafton.

"Connections is very good at concise, accurate news - and it's actually been hard to stay current, even with a monthly title. From January we will break news as it happens on a news site at www.juliusmedia.com. The new magazine will cater to the same markets, but be slightly more features and contracting based. It will work alongside the website and each will lead into the other. This is the way forward for the next ten years."

The company owns ENTECH, which has been relaunched as a slightly smaller event for 2004, with the addition of 'around a dozen' demonstration and lecture rooms, made possible by recent additions to the Sydney Exhibition and Convention Centre.

"The relaunch of ENTECH wasn't totally understood by the market at first", continues Grafton, "because there was no industry push for a smaller event. But we decided the slightly reduce the size of stands, and to limit the floor to 8,000 instead of 10,000 square metres. The reasoning is to give the visitor a better chance to navigate the show, and to cap the eventual cost to the exhibitor. And we have added on demonstration rooms for the first time, so there needed to be a tradeoff."

"Trade shows are a very mature business these days, as are magazines. I would stick my neck out and say that my tradeshow business is static, and my magazine has actually shrunk in the last 18 months. My contemporaries around the world are in exactly the same position, or worse, but they won't admit it. A company like ours needs new horizons for growth."

Growth has come to Juliusmedia with technical training, although that hasn't been an easy path to follow. "We had to gamble on our course content, and wait until the new Certificate Three was endorsed and the Entertainment Industry Training Package review ended. That has dragged on a little, but for good reason, because the trade has been involved and there is the probability the industry will fall in behind the new package", Grafton stated.

"We have been extremely fortunate that our good reputation in the entertainment industry as a magazine publisher has seen our

courses prosper. Starting a training business without any training credentials would be impossible - unless customers clearly trust the brand and the people behind it. That's a ringing endorsement of the reputation of Connections Magazine. Plus it is testimony to the reach of Connections that we've filled courses with people from far afield, and been able to expand our training across Australia next year".

TEN YEARS OF CONNECTIONS

Those with long memories will recall Connections itself replaced a magazine called Channels, which was published by Jands for just over two years. While Connections will celebrate its tenth anniversary next month, Channels was founded in August 1990 as a response to a perceived need by Jands CEO Paul Mulholland. At the time, he felt the growing professional audio and lighting industries were underserved by a magazine, and were in need of a communication medium.

He was spectacularly correct, and Channels (edited by Julius Grafton) grew uncomfortable within the Jands framework. It was carrying advertising from competitors, and profiling their work. Jands wasn't in the publishing business, so they graciously exited and encouraged the creation of Connections, as an independent publication.

Early lingering perceptions of Jands favouritism in Connections dissipated, and the magazine boomed - hitting a revenue and page count high in 1996.

Much has changed in ten years, and next month's final edition gives us the chance to profile the business as it was, and the advances we have all experienced and mainly enjoyed in the decade since.

Contributions and letters for the FINAL EDITION next month are welcomed!

ENTER CX MAGAZINE

The new magazine will focus on the same industries - pro sound, lighting and vision, but with a more features based approach. Extra emphasis will be placed on contracting and building I.T. backbone issues, significant in an era where almost everything is controlled over ethernet.

Connections publisher Julius Grafton moves back to the editor's chair, while John Grimshaw becomes Director of Training. Louise Brooks returns from PLASA to assume the role as Director of Sales, and to oversee the management of ENTECH 2004, scheduled for April 5 - 9, 2004.

• www.juliusmedia.com



EAW Draw the Line at Livid Brisbane

IJS Concert Sound and Lighting, with support from KF760 group partner Deluxe Audio, successfully deployed their new EAW KF760 Line Array System for the Livid Festival at the Brisbane Showground last month.

The system was utilised on the Main Stages to provide sound reinforcement to 30,000+ people.

A total of 24 x KF760 and 6 x KF761 modules were hung in 3 lines of 10, (8 x KF760 and 2 x KF761), left and right of the twin stages with the 3rd line hung between

the 2 stages as a left or right cluster dependant on which stage was in operation.

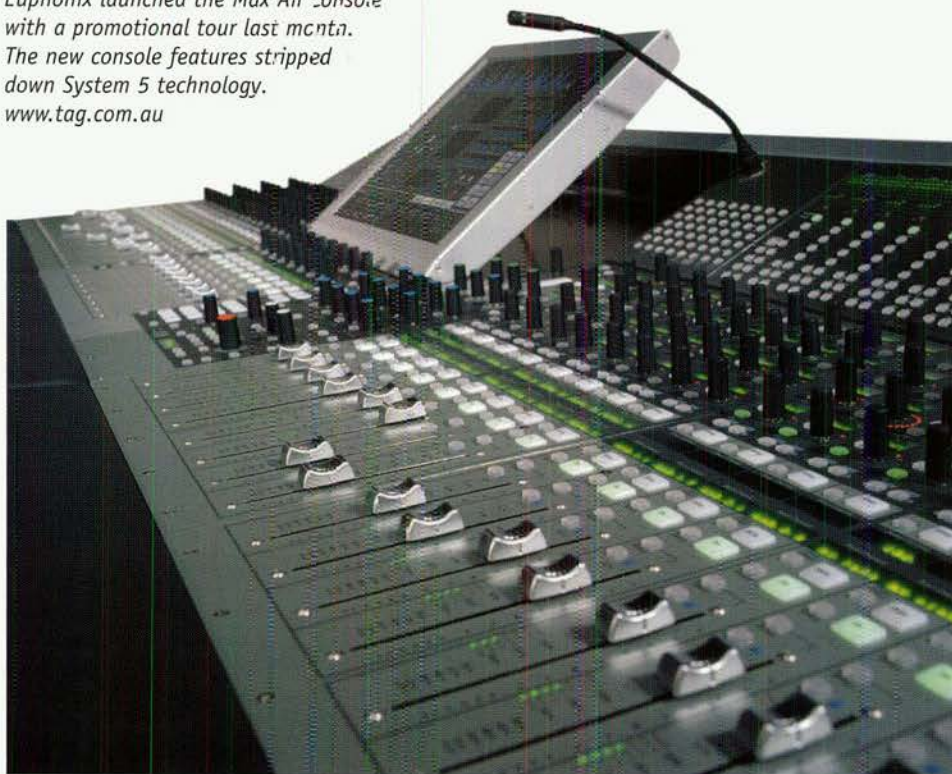
Amplification for the system was by Crest 8002 and CA Series, XTA DP226's provided loudspeaker processing.

In what could be best described as punishing schedule the system performed faultlessly over the 8+ hours the festival ran providing plenty of headroom for bands such as Oasis, Powderfinger, Grinspoon, Something for Kate, Superheist and Motor Ace just to name a few.

www.ijs.com.au

www.deluxeaudio.com.au

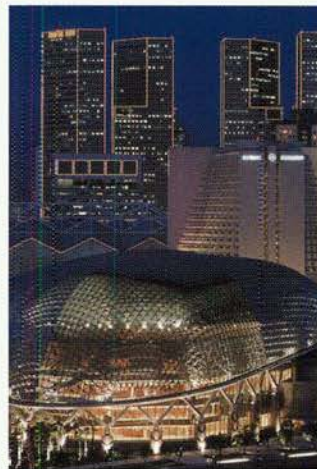
Euphonix launched the Max Air console with a promotional tour last month. The new console features stripped down System 5 technology.
www.tag.com.au



INSIDE

ESPLANADE OPENS

See page 20



SUPERB STUDIO LX Seven Network's new facility is slick!

Starts on page 44



WHAT MAKES A GOOD PA SYSTEM?

Standards, that's what!

Read about it on page 24



PLUS LOT'S MORE.....

- New Yamaha DM1000
Page 19
- 3 Projector Shootout
Page 56
- Oasis on tour
Page 52

NEW APPOINTMENTS

TEAC Australia announces the appointment of **Kevin Garant** to TASCAM Account Executive.

Kevin's diverse musical career will provide Tascam dealers and customers with great support and product knowledge that is needed to compete in today's market. Kevin's background in music production, film & television post production and as a professional musician for more than 20 years will also service the professional market with real world applications.

- Belden Australia has appointed **Robyn Henderson** as its new state manager, southern region.

Ms Henderson's role is to maximise the specification of Belden cables throughout Victoria, South Australia and Tasmania, working with Belden's partners and exploring new growth opportunities.

Belden has also appointed **David Leadbetter** as marketing manager, heading up a dedicated marketing team focused on Australia, New Zealand and the expanding Asian markets.

MOVED

CANNON SOUND AND LIGHT have moved to: Unit 17, 98 Old Pittwater Road, Brookvale NSW Australia 2100. Call Ph: +61 2 9939 3300 or go to website: www.cannonsound.com.au

THEFT

A RECENT BREAK AND ENTER has denied a Church at The Entrance in NSW its sound system. The system is made up of almost new JBL EON, Soundcraft and other items. The gear was stolen between Sunday 6-10-02 and 13-10-02 Further details can be obtained from Graham Pogmore on 0410604086

TRUCK HOURS

New Workcover regulations in NSW provide a stiff fine for anyone SCHEDULING a truck trip where there is the chance the driver will be fatigued.

LETTERS

ArtNet

Just writing in to let you now article that I read on Artnet (October) was so interesting that I had to find out more. So I went to the website to find that the website doesn't exist.

The reason for this I found after a quick search was a simple mistype in the editorial. No big deal but I thought in case others had the same problem. I probably have typos even in this email.

The correct address is <http://www.artisticlicence.com>

Stuart Sinclair

TEST AND TAG : MORE

I write this to your magazine with some urgency. As I sat down to wait for my daughter to complete dance training, I flipped open the Connections and commenced reading what I believe to be a disturbing article with a view that is misleading and potentially dangerous.

The letter is from Paul Matthews, marked TEST and TAG issues (1).

I think that Paul has missed the whole objective of QUALIFIED ELECTRICIANS performing QUANTIFIABLE TESTING within the scope of AS 2000/3000 and other applicable standards. Or maybe it is that he just hasn't read the contents of it.

There is within Australia, a set of standards that outline the processes for testing of appliances, the frequency of retesting and the obligation for the keeping of accurate records of these appliances.

The machinery with which testing is performed is also covered within a set of Australian Standards.

All of the above Standards are in practice and are required by LAW.

Pauls first point; Visual Inspection:

Yes it is the first and yet quite often ignored step to identifying potential faults to an appliance. All individuals using any electrical device, each and every time, should perform this that they wish to use the device. They should also take that extra half of one minute to view the retest due date affixed to the appliance. This is a requirement of Workplace Health and Safety across Australia. And should the appliance not be within the date range then they should either have it re-inspected or remove it from use until it is re-tested and tagged appropriately.

As for Pauls following points; Polarity, Insulation Resistance, Earth Resistance and The Tag Itself - All of these tests should be performed by a qualified person as a knowledgeable electrical circuits, the physical attributes of the appliances and a knowledge of testing procedure and safety that is required to perform these tests.

Just to more accurately inform the readers,

I personally wouldn't recommend the submerging of any part of any appliance (in water or alike) as insulation leakage is detectable with the correct testing equipment and procedures. Don't go energising anything that might liven the work environment and increase the risk of injury or damage.

As extension leads and appliances form a part of the whole installation when connected, their respective earth conductor resistance may only be as high as 1ohm. For consideration are the resistances of the building and the appliance combined not exceeding 2 ohms. A resistance higher than this only increases the potential of personal injury when a fault occurs and you are the path to ground. Additionally remember that an RCD is only going to protect personnel if the RCD trips within a specified time and at a specified amount of imbalance in the active circuit/referenced to ground.

The tag is to be within 300 mm of the plug top (supply or line side of appliance).

Here is where it gets real...

You are required to keep the test results for each and every appliance in your usage inventory. Failure to do so could lead to you being found negligent of your responsibilities as the owner and/or representative of the owner, where the courts will search for responsible compliance. The positive aspect to this is that if the item in question has clear records then it may be your first and only needed defence should the question of negligence arise. So please keep the records current.

Regardless as to whether there are one or one thousand items in your stock they all require testing, tagging and reporting. This is law. You can discover through the Australian Standards the required intervals for the testing of individual items and how it is determined that they may form a part of an entire unit. Please note that there are requirements for the reduction of access to the individual components and the movability frequency of the same. Also consider the working environments such as dust, moisture, corrosive areas and the frequency of movement of items.

A good T&T programme will reduce risk to personnel

All of this to boot and you will find that the reliability of your stock will improve, through the detection of damaged articles, regular servicing and cleaning, and the customer will reward you with confidence of return business.

I have only briefed over the issues that I have with Pauls article and feel very strongly to the issues raised. Lets do ourselves and our industry a favour. Don't look for shortcuts. Let us work and promote the industry to greater creditability.

Wayne Dunnington

* Paul Matthews will respond next month. -Ed

JBL PD Loudspeakers installed in Arena



The Vodafone Arena is the newest addition to Melbourne's offering of premier sports and entertainment venues.

A purpose-built multi-function stadium, the venue has a maximum capacity of 10,800. Retractable and removable seats enable the venue to be transformed from one event configuration to another in order to accommodate tennis, basketball, live music concerts and a velodrome.

Sven Langebeck, owner and chief engineer at Warehouse Sound Systems, together with Douglas Growcott from Watson Moss Growcott, acoustic consultants, examined various scenarios and a variety of loudspeaker designs and presented a number of design options to the venue owners - the one eventually accepted featured the new JBL P.D. stadium horn loudspeakers.

The 250 metre velodrome circuit is designed and constructed by world-renowned builder, Ron Webb to produce fast times and exciting racing.

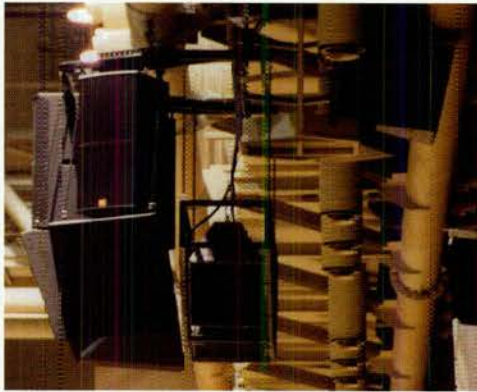
A retractable roof, which takes only ten minutes to fully open or close, allows the venue to be transformed from an indoor arena to an outdoor venue.

The roof presents a challenge to the sound designer, as the loudspeaker system cannot be mounted in the centre of the arena. The closest fixed suspension points are on the catwalk that runs around the perimeter of the open roof structure.

The original sound system, comprising a six-element circular array of 15' 2-way loudspeakers delivered acceptable audio level to the seating banks immediately behind the cluster, a projection distance of 10-20 metres, but was not capable of generating sufficient loudness to be intelligible in seating areas at the other three

sides of the stadium, which vary in distance from 30 to 85 metres.

After frequent complaints from announcers and sportscasters, the local A/V contractor and JBL dealer, Warehouse Sound Systems was



approached to upgrade the loudspeaker system, utilising wherever possible, the existing loudspeakers, amplifiers and processing equipment.

"We chose the P.D speaker system based on the specifications publicised by JBL and, from the arguments put forward in a white paper describing the technology used," said Sven Langebeck. "My confidence in the accuracy of JBL specifications has been built up over many years," continued Sven "again they did not let me down - the commissioned system, when fired up exceeded all the expectations of the design team and the venue owners."

The new system has already been used for a variety of sporting events, including World Junior Cycling Championships. Alan Woo, team leader for the house technical team expressed his satisfaction, "The new system's great. There have been no complaints."

Courses go national

Connections Technical Training have added Brisbane and Perth training venues for 2003. Short courses in Stage OH&S, Professional Performance Lighting and Live Sound will be run in four states in the first half of 2003.

Details: www.juliusmedia.com

M One loses \$4.9mil

Austereo Group have announced the end of the M One rock festival concert format after losing A\$4.9 million on the 2002 events. The group made a profit from its Rhumba festivals in 2001, and expected to repeat the format which involved negotiating free or heavily discounted performance fees in exchange for artist promotion. It is understood this kind of deal is not repeatable. Rhumba 2002 will be staged in December.

Studios 301 moves "Studio A" to Byron

SAE Technology College and Festival Mushroom Records have announced the acquisition by SAE/Studios 301 Group of Festival's famous recording Studio 'A' in Sydney.

The studio equipment and other items have been listed on the NSW Heritage Register and will be relocated to a new Studios 301 facility within the grounds of SAE's new technology college and corporate headquarters at Byron Bay.

Roger Grierson, Chairman of Festival Mushroom Records, commented: "The reconstruction of the classic Festival Studio A by Studios 301 is a great result."

"Thanks to 301's determination to bring new talent into the recording industry, it also means the studio will have an educational aspect that it could never have had in its previous incarnation."

The studio will be used both commercially and for education purposes as part of the SAE Audio Engineering courses.

32Ch Miniature Control Console Fits in the Palm of Your Hand



The new CS-32 MiniDesk is a miniature control surface for fast access to the most commonly used functions in most audio programs.

It works with Digidesign ProTools, Digigram X-Track, Steinberg Nuendo, Cuebase SX, VST, MOTU Digital Performer, Soundscape REd, Cakewalk Pro, Sonic Foundry, Abelton Live, Merging Technologies Pyramix, Logic Audio and Most Audio Software Programs.

The CS-32's "Mini" has Tactile Transport Buttons, Cursor Keys and Weighted Jog/Scrub Wheel, just like the big guys. Six Rotary Knobs give you hands-on, automation control of Panning and Plug-Ins. A full bank of quick function keys are ready for frequently used editing features.

MiniDesk takes up less space than a sheet of paper. IDI, USB and RS-232 models available

The Price is expected to be RRP A\$1099 inc GST

• Major Music Wholesale +61 2 9545 3540
www.majormusic.com.au

16 x 16 install DSP

iDR is a DSP audio system for fixed installation with a range of hardware units, plus software, complemented by a series of wall

plates and remote controllers. iDR takes the DR66/128 concept another leap forward with expandability up to 16x16, greater flexibility, simplified set-up programming and logical operator interface.

One or more iDR units sit at the core of any system. iDR-8 is an 8+2 in, 8+2 out audio mix processor with Motorola DSPs giving enough processing power for fixed architecture with full processing on all inputs and outputs. Processing includes preamp gain, pad and +48v, fader, mute, polarity, parametric EQ, crossover filters, compressor and gate with sidechain filter, limiter, crosspoint matrix, input and output patchbay, stereo/group linking, 16 level ducker, automatic mic mixer with ambient noise sensing, two independent pagers and signal generator.

There are 16 soft keys and 32 tri-colour LEDs on iDR-8's front panel, the functions of which are set by the installer. iDR-in and iDR-out are 8 channel expanders which increase the channel architecture to 8x16, 16x8 or the full 16x16. These expanders can be up to 300m from the iDR-8 and further expansion is possible by daisy-chaining iDR-8 units. Monitoring can also be linked, making it possible to listen to any point in the signal chain.

iDR System Manager is the installer's main tool for configuring a system. Up to 99 patches can be saved and then recalled as timed events or instantaneously from front panel keys or one of the remote control options. PC set-up can be either direct or via a modem and once configuration is complete the PC can be removed, leaving the system



ready for standalone operation.

Both analogue and digital remote control options are available. The analogue PL-1 and PL-2 wall plates are used in conjunction with iDR switch boxes which provide up to 72 switch closure inputs and 48 logic outputs to control external devices such as wall plates, curtains, lights, custom panels and PIR sensors.

PL-Anet is an RS485 serial network protocol for interfacing the intelligent PL3 and PL4 wall plate. PL5 is a handheld IR remote and PL6 a compact wall mounted mixer interface with eight 60mm faders and 16 installer configurable switches making it possible to mix live events. iDR communicates with third party controllers such as AMX or Crestron via an RS232 port.

Retail price of the iDR-8 is \$9,995 and in New Zealand \$NZ11,995. Allen & Heath is distributed in Australia and New Zealand by Technical Audio Group

• Technical Audio Group +61 2 9810 5300
www.tag.au.com

Digigram Releases Mac OS X Drivers

VX222, VXpocket v2, and VXpocket 440 supported Digigram, manufacturer of digital audio network solutions, announced the release of Mac OS X drivers for its VXpocket v2, VXpocket 440 and VX222 sound cards. The drivers are fully compliant with both Mac OS X v10.1 and v10.2 (Jaguar).

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The mighty MADI* console goes one better



With the new DMX-R100 Automation Editor ...walk away with your mixes!

The new DMX-R100 off-line Automation Editor runs on a standard Windows-based PC. Files can be transferred between the DMX-R100 and PC either by floppy disk or serial cable, allowing a multitude of off-line edit functions.

A GUI-based operation with, in most cases, the same familiar GUIs as used within the DMX-R100 itself.

Channel controls, including faders, knobs and buttons are individually adjustable off-line. EQ and Dynamics sections can be switched in/out and copied as complete blocks.

Timeline-based automation data for individual controls is adjustable by familiar click and drag with copy-paste and time shifting of individual functions to single or multiple channels.

Snapshots can be modified on a channel-by-channel basis and with access to DMX-R100 set-up parameters the Automation Editor adds operational control and user convenience to the highly successful DMX-R100.

...Oh! ...And it's FREE for V2.xx users.

**Multiple Audio Digital Interface (AES 10). 48 Ch I/O via DMBK-R109 option*

Call 1800 017 669 for further details or check-out www.sony.com.au/proaudio

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SONY

Osram release new ELC Lamp



The newest offering from Osram is the ELC/7. Reportedly with 40% more life than any ELC on

the market, this lamp is rated with a life of 700hrs with the same colour temperature is the normal 500hr lamp. This has been achieved with an axial filament, allowing for consistent light and life performance over conventional transverse filaments. Available from Osram stockists.

• Osram Australia www.osram.com
+61 2 9481 8399

TRANSPORTABLE CD RECORDER



Marantz have introduced a transportable CD recorder designed to replace the humble portable cassette in those semi pro applications where we are stuck with the dumb thing. (The cassette, that is!)

The recording of meetings, interviews, lectures and numerous voice only applications has, despite the best efforts of other digital formats (like MiniDisk), remained the stronghold of the low-tech analogue cassette. And how we hate the cassette. Hiss. Graunch.

Its competitive advantage is format universality, that is, every car, home, office, public building etc has a cassette player. Marantz now intend to displace this last cassette stronghold with the other universal format, the CD.

CDR300 is a transportable CD recorder with the features of a comprehensive rack-mount CDR but the ease of operation of the simplest portable cassette. The 300 x 220 x 80mm package includes a built-in speaker, a headphone jack and line and digital outputs on RCA's. Inputs include an internal microphone, 3-Pin XLRs with phantom power, mic/line on 6.5mm jack and a digital input on RCA.

The new model includes the facilities to make fully professional recordings with CD Text read and write, SCMS recording on/off and auto finalise. For the less experienced user an automatic level control with limiter can be switched in for 'single button' recording simplicity.

Retail price of the CDR300 is \$1,995 and in New Zealand \$NZ2,495. Marantz is distributed in Australia and New Zealand by Technical Audio Group.

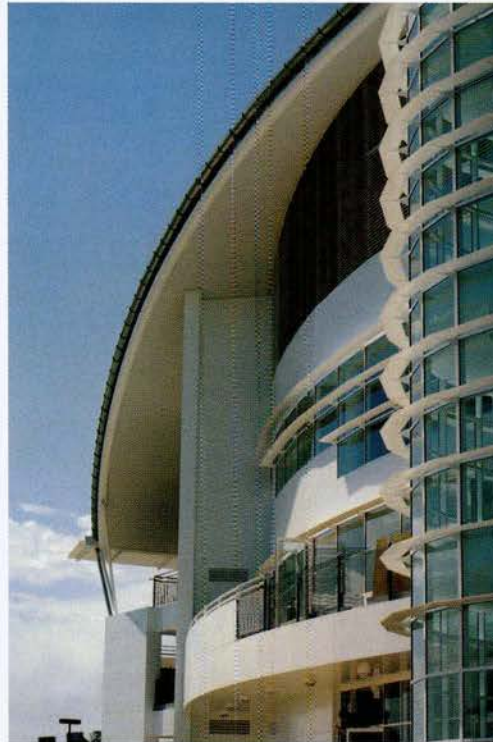
• Technical Audio Group
+61 2 9810 5300
www.tag.au.com

Congratulations!

Hillsong Church, your new Worship Centre at Baulkham Hills looks sensational!

Lots of Watts were honoured to have been selected to install state of the art audio and lighting within the new facility.

Thanks to our staff, our suppliers for their invaluable support, and in particular: thanks to Brian Houston, George Aghajarian, David Watson and Hillsong Church for having confidence in us.



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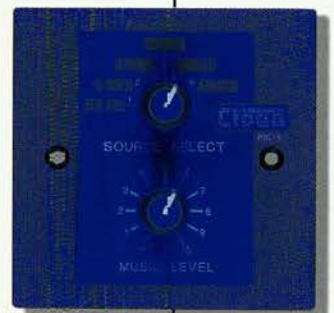


Optional Bose® EQ Module Now Available
To suit models 8, 25, 32, 102 Bose Speakers

Legendary Cloud flexibility and reliability with 2 knob control simplicity

No more tough decisions. The new Cloud 36/50 TWC Zone Mixer Amplifier now provides a cost effective one box solution to fully meet the music and messaging needs of most shops, pubs, bars and restaurants. Combining the best features of two of our most popular products, the 36/50 offers 6 music inputs plus 1 microphone input, fully assignable into 2 main zone outputs plus 1 utility output, all at 50 Watts. The third output may be used to double-up the power available for Zone 1 or to drive peripheral speakers in such areas as storerooms, toilets, foyers and corridors. The 36/50 brings big business style and authority at a small business price.

To explore its features, simply request a brochure.



RSL-6 Zone Controller

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Martin's new Chinese factory

Martin Professional is putting the finishing touches on its new Asian manufacturing facility in Zhuhai, China. Production is on schedule to begin at the start of the year 2003.

Production management for the factory is already in place, and the challenges of opening up a manufacturing facility in China have been smoothed by the hiring of a Customs Clearance Administrator. Henrik and his team will be hiring a further 30-40 employees in the coming months.

The facility is located in the Nanping Science and Technology Industry Park in the city of Zhuhai, a Special Economic Zone in the southern part of the country. It occupies the fourth floor of the new building, an area of approximately 3,400 m². Established as an important part of Martin's strategy to maintain its competitiveness in the lower priced lighting segments, the facility will be geared toward the production of Martin's DJ range of lighting products.

Martin President and CEO Kristian Kolding has made it clear that Martin will maintain full control over the facility's production and level of product quality.

"We are determined not to turn to OEM as a competitive approach due to the lack of control involved," he states. "At this new facility, although we will obviously benefit from low Chinese production costs, we will maintain control over quality and will produce a line of products."

Ethernet cable

German company Igus has released through its Australian distributor, Treotham Trading, the CF14 highly flexible Ethernet bus cable for industrial use in energy supply systems.

Providing connection with transfer rates up to 100 Mbit/s, this PVC-free and halogen-free cable has been manufactured and tested for a minimum bending radius in energy conduction systems of 12.5 x cable diameter.

The CF14 CAT5 special cable, marketed under the brand name Chainflex, is available as a 4 x 2 x 0.25mm² cable that conforms to DESINA requirements.

• Treotham Trading +61 2 9907 1788
www.treotham.com.au



OH&S Consultancy for the Entertainment Industry

An OHS consultation service aimed at the entertainment industry is a timely service that Day2 Night Pty Ltd are adding to their business. Newly appointed, Les Owen's role is to be able to assist a company (including employees and contract labour) to develop a new culture aimed at minimising risk to everyone's safety, health and welfare in the work place. Companies would be able to demonstrate Work Cover compliance, which would then enable the company to gain lower Workers' compensation premiums. This is done by making the company compliant with the new NSW OHS Act 2000.

Touring companies beware – if you enter

NSW, you will also need to be compliant with NSW regulations.

Although the NSW Workcover site indicates that the transitional period for implementation of the new provisions of the Regulation for businesses recently expired, small employers (with no more than 20 employees) have less than ten months to implement the risk management requirements of the Regulation.

Les has a plethora of experience and accreditations that he brings to this role, and can advise on many issues including Testing and Tagging.

• Day 2 Night Pty Ltd +61 2 9889 7220
www.day2night.com.au



Ouch! That'd hurt

This picture is from the archives of Lighting Designer Jamie Ivarsen. It was taken by him at the National Theatre, St Kilda, September 1989. This cradle was smashed through hardwood and metal beams to its final resting place. As far as we know, no one was hurt, but this highlights the danger of these systems.

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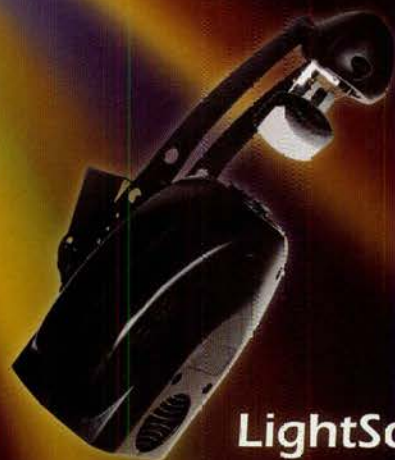


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Farmhand Concert

People around Australia have dug deep over the past few weeks, raising more than \$13.5mil for the nation's farming families. Preliminary figures show last month's Farmhand concert and telethon, broadcast nationally from the Sydney SuperDome at Sydney Olympic Park, raised more than \$2.5M towards the appeal, Farmhand Foundation chairman Bob Mansfield said.

"We've been overwhelmed by the generosity of people all over the nation over the past few weeks," Mr Mansfield said.

The Australian Red Cross will begin distributing helping hand grants by the end of November.

New Jaycar Website

Jaycar Electronics has recently unveiled its new redesigned website. The site has many new features, including an express order function, advanced search and ordering system.

The site also has information on many electronic topics, including 'Earth Loops & Hums', 'Designing Speaker Crossovers' etc.

• Jaycar +61 2 9741 8555
www.jaycar.com.au



Avolites launches Diamond 4 Elite

Avolites launched their latest lighting console in the Diamond 4 Series, the "D4 Elite", at LDI 2002. The console is streamlined to offer the maximum power and functionality in the minimum physical space.

The D4 Elite offers all the features of the full sized Diamond 4, in a smaller chassis with 14 submasters and 96 assigned playbacks, with direct access to 96 fixtures via

Legend Cells (re-assignable preset playbacks).

Both D4 products have been developed in parallel. Avolites wanted to offer a physically smaller console in the range that still had flexibility and versatility.

Details of the production and local availability were not available at press time.

• Universal Lighting and Audio

+61 7 9818 4677 www.ula.com.au

Fairlight introduces Plug-Ins Manager 5

Fairlight has always provided a powerful native plug-in suite within the QDC engine, comprising clip-based EQ and Dynamics, channel EQ and Dynamics, and the Serato "Time Sculptor" pitch and time processing system.

In addition to these standard high performance plug-ins, Fairlight's Plug-ins Manager 5 now offers access to a huge range of third party plug-ins, both DSP-based and native.

PIM5 utilizes a scalable DSP engine which can be expanded as customer's requirements grow. This runs independently of the main QDC recording, editing and mixing engine ensuring that any instabilities introduced by third party processes do not interfere with the fundamental operation of the system - if a plug-in crashes, PIM5 can be restarted without fear of data loss in the main system.

PIM5 uses at its core a dedicated DSP processing card developed in conjunction with Creamware, and based on their highly successful Pulsar and Scope series of products. Core cards are available with either 6 or 15 Analog Devices SHARC DSP chips. All DSP-based plug-ins are full 32-bit floating point processes offering superb audio quality and no inherent latency. As standard, PIM5 ships

with over 50 Creamware DSP-based plug-ins, encompassing a wide range of effects such as reverbs, delays, dynamics packages, phasers, flangers, ring modulators and multi-pole filters. A library of additional plug-ins is also available for purchase and download from the Creamware web site. PIM5 is not limited to these libraries, however, as it is also a full VST2 host in its own right and, therefore, supports a huge range of VST plug-ins which run independently of the DSP card.

Plug-ins are controlled from their on-screen interfaces and/or by the hardware control surfaces of Station and Console. All plug-in parameters may be automated, and all plug-in settings and configurations are naturally stored in and recalled with the audio/mix project.

"DREAM Station and Console systems fitted with PIM5 deliver the functionality and flexibility required from a full stand-alone audio production system with superior quality, full integration and a degree of data protection and reliability that has previously not been possible in conventional PC-Based platforms," comments Ross Caston, Product Director, Fairlight.

• Fairlight +61 2 8977 9999 www.fairlight.net

Yamaha's new DM1000 Digital Mixer

Yamaha have kind of replaced the 03D, and the 02R digital mixing platforms. But not really, because the replacement devices don't directly map against any previous mixers.

Confused? Start at ENTECH when the

DM 2000 was launched. Most people thought 'post production', but it quickly became apparent the new mid-market (50 grand) desk would do live or broadcast work. Which it is, today, in the inventory of a growing number of rental firms.

Then the 02R 96 came along, which really has zero relationship to the 02R, except that it does an 02R mission (post or music recording) extremely well. Yamaha perhaps should have called the 02R 96 the DM 1500 instead.

Now the DM 1000 is here, and it is all things to most people with 10 grand to spend.

The new desk continues the concepts pioneered in the other new Yamaha consoles, has the latest dsp chipsets, and gives powerful reasons to think

digital instead of analogue.

DM1000 delivers 48 channels of 24-bit / 96 kHz audio, effects and processing on every channel, extensive surround production features, integrated control for digital audio workstations and automated recording into a rack mountable package.

The unit offers the same head amplifiers as the DM2000, and is equipped with 20 XLR analog inputs (16 with mic preamps) and 12 analog XLR outputs. Note that these are 'omni' outputs, so YOU can decide whether or what to use them for. That is a key feature! Plus as you'd expect in 2002, all onboard A/D and D/A conversions make use of true 24-bit/96 kHz converters.

The DM1000 includes a range of 96 kHz-compatible stereo effects with 32-bit internal processing— plus several specifically designed for surround. Users can manipulate up to four individual effects processors simultaneously. The 17 precision 100mm motorized channel faders may be instantly layer-switched to control any of the 48 channels, plus Auxiliary, Bus and Remote channels. Additionally, all

available inputs, outputs, effects and channel inserts can be assigned to any channel or output via the digital patching system.

The eight auxiliary buses can also be patched to any location in the system. An extensive selection of preset effects "libraries" may be selected and used unmodified, or edited for specific applications and recalled as needed.

All 48 input channels feature a comprehensive range of flexible, independent compression and gating/ducking processors, 4-band parametric channel EQ with switchable "Type I" or "Type II" algorithms, and channel delay with a maximum delay of 453 milliseconds.

The desk also features comprehensive automation and scene memory control, with full automation of virtually all console parameters.

Integrated tools for surround processing, panning and monitoring include: a mini joystick; graphic monitor configuration and multi-channel surround pan/position displays; individual speaker muting and attenuation; monitor output level control; bass management; independent delays; and stem mix monitoring.

In order to create a complete production and mixing environment, the DM1000 has been engineered to seamlessly integrate with leading digital audio workstation and computer automated recording technology. These systems include DigiDesign ProTools, Steinberg Nuendo and E-Magic's Logic Audio.

All mixing and processing parameters, transport control, and editing functions can be controlled directly from the DM1000 work surface.

"The features of the DM1000 will more than meet the requirements of any posting, scoring or editing facility that requires high quality digital audio production," states Yamaha Australia's pro audio boss Mark Amory.

Bundled Yamaha Studio Manager Software is compatible for both Macintosh and Windows platforms, and works as a common medium for exchanging mix data between the DM1000, DM2000 and 02R96.

Two 24-bit/96 kHz compatible mini-YGDAI expansion slots accept a wide range of digital and analog I/O and processing plug-in cards.

Targeted for March 2003 delivery, the system includes the DM1000 mainframe (estimated A\$10,000), MB1000 meter bridge (esti. A\$1,800) and side panels - A\$600/pair.

Now we await the 'son of PM1D' and maybe even the grandson. Bring it on!

Info: www.yamaha.com/proaudio.



Revealed!

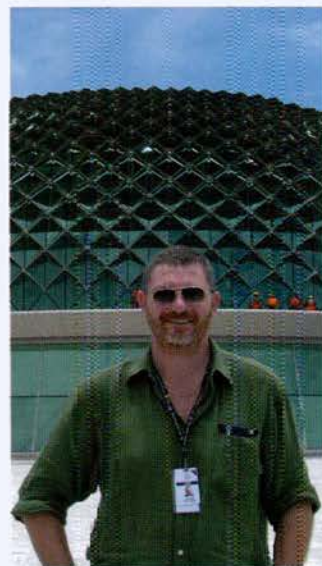




Singapore opens performing arts centre

No expense spared - now all it needs to do is properly subsidise its programming. Finally, there is somewhere to go at night in Singapore, as Esplanade theatres on the bay opens. Julius Grafton was there.....

Head of lighting, Leon Dark



Singapore's Esplanade theatres on the bay are open, completing a virtual circuit of performing arts centres in South East Asia. The new centre is visually unique, resembling either a pair of giant pineapples, or durian fruit. You can't mistake it.

Inside it's all European functionality, with a 1,600 seat concert hall and a 2,000 seat theatre. Finishes are excellent, along with ambience. The technical fittout is world class. The loading dock isn't. Nothing is quite perfect in this world!

The 2000-seat Theatre, an adaptation of the traditional horseshoe form of European opera houses, is designed for the presentation of traditional Asian and Western performing arts as well as the most advanced multimedia presentations.

It has a main stage with an adjustable proscenium arch, two full-sized ancillary stages, a 30m high fly tower, and an adjustable orchestra pit that can hold up to 35 musicians.

The Concert Hall is the premier perform-

ing venue for music. Highlights of the Hall include reverberation chambers and an acoustic canopy. These state-of-the-art mechanisms allow the Hall to highlight different types of music. The Variable Acoustic features a reverberation chamber with 74 doors (36 single, 38 double) that open to a void at the side of the house.

The Concert Hall can seat up to 1,600 people with an additional 200 seats in the Gallery. The stage can accommodate an orchestra of up to 170 musicians.

Another noteworthy feature is a Klais pipe organ with 4,740 pipes and 61 stops.

Just prior to opening, head of lighting Leon Dark (formerly with the VAC) took Connections on a tour of the building, which sits on extremely long piles laboriously driven deep into marine clay to create reclaimed land.

The theatre boasts a 39m wide stage, 23m deep, with a Bytcraft State V stage automation system controlling 103 fly linesets. There are 24 point hoists, 12 chain hoists and 2 moveable side gantry hoists - plus 10 rear



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31 lbs (14.06 kg)

Max Peak SPL 125 dB

Companion M1D-Sub available



M2D

39.00" w x 12.10" h x 17.50" d
(991 mm x 307 mm x 445 mm)

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Companion M2D-Sub available



M3D

54.00" w x 20.00" h x 30.50" d
(1372 mm x 508 mm x 762.5 mm)

415 lbs (188.24 kg)

Max Peak SPL 145 dB

Companion M3D-Sub available

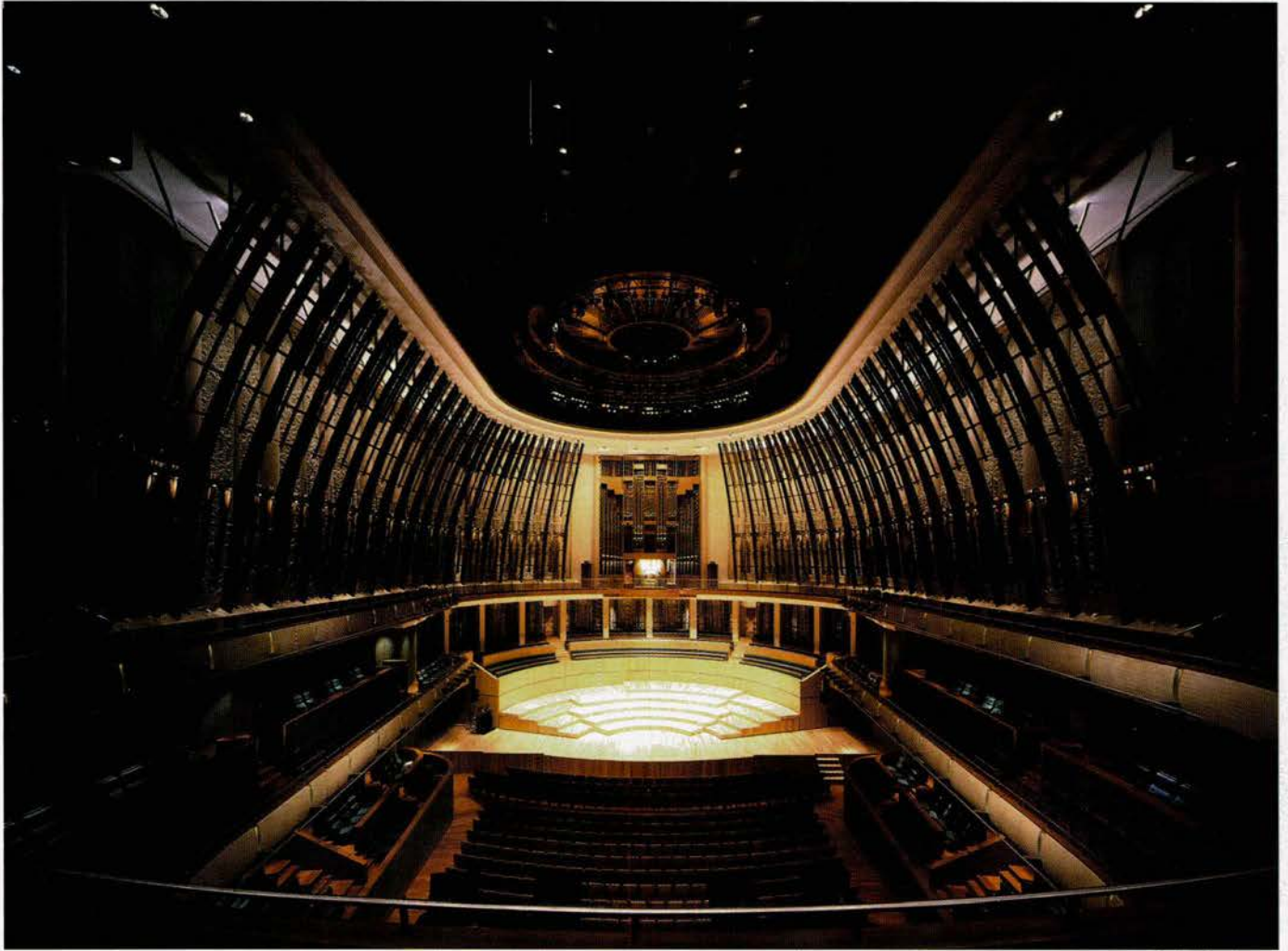
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"One thing I learned from Bill Graham is that collectively, our ultimate goal is to please the audience. No matter how big no matter how small."

John Meyer
President & CEO





Pix by Hidetaka Mori.

stage flybars. The stage has 6 elevators.

Strand SLD dimmers are fitted, there are 852 x 3.3kW, and 148 x 5.5kW, controlled by a Strand 550i console.

Luminaires through the complex include 120 High End movers - Studio Colors, Studio Spots, Studio Beams, and X-Spots with framing shutters. "We are one of the first venues to get them and the designers just love the framing shutters. They need 38 dmx channels to drive them", said Leon.

Kit at Esplanade includes Strand 5k fresnels, 2.5k ALTC PC's, lots of Source 4 pars, and all the zoom profiles are Strand SLs. All fixed degree profiles of the Source 4 persuasion. Just to keep the lighting inventory truly multinational, Leon reports that "we've got an absolute raft of Selecon Pacifics, that can be used as MSR or 1000w tungsten".

"Although we're a Strand house we also have a Whole Hog II, and High End have loaned us a Hog III to play with."

"I was pretty well off when I arrived, they'd spent over S\$7m on gear".

Without singling out any supplier in particular, Leon issues a warning for anyone fitting out a new venue. "Virtually every bit of kit from every vendor has been faulty. My warning is, don't assume it's going to work or indeed even be electrically safe. We don't have a test and tag law here, as yet."

The concert hall has an acoustic canopy, with hoists strategically positioned throughout. It also has a Strand 550i control desk, with 458 x 3.3kW and 166 x 5.5kW dimmers.

Robin Shuttleworth is head of sound, formerly from South Africa, and he saw the job in Singapore advertised in Connections. Now he is resident at the island state, and presiding

over two new, large audio systems of different heritage.

The Concert Hall (above) has a German d&b Audiotechnic loudspeaker system made up of a centre cluster of C7, C4, and B2 boxes with i6 and i9 cabinets as sidefills, and E3 front fills. There is also a C7 system for left and right. "It pulls the image further down and complements the image for rock or pop shows. There is some superb design work done here by Artec, the acoustical consultants.

Over in the Theatre there is a Meyer System. "It's because of the nature of the room as a more musical room", Robin asserts. Here you will find Meyer MSL 4, CQ 1, CQ 2, UPA2, and UPM 1 inventory.

The two systems are working very well, says Robin. "The d&b system when powered up in full configuration will kick some butt. But the lyric theatre is far easier, the acoustics are more sympathetic to amplified sound".

All consoles are Cadac J-series. "There's no question in the lyric theatre it's the right console, in the concert hall perhaps a left-right-centre console could have been chosen" says Robin. "But the Cadac is such a terrific sounding board. Sonically the board is wonderful, all the bells and whistles. But you can't listen to a left-right mix on headsets, because it has a matrix output. While the riders say Midas or Yamaha, they (engineers) are quite comfortable with the Cadac".

"I'm slowly getting to know the local hiring companies too. Phil from Coda (Audio, Sydney) is here, he came and introduced himself and we are making use of their services too".

Theatre Projects were the consultants at Esplanade.

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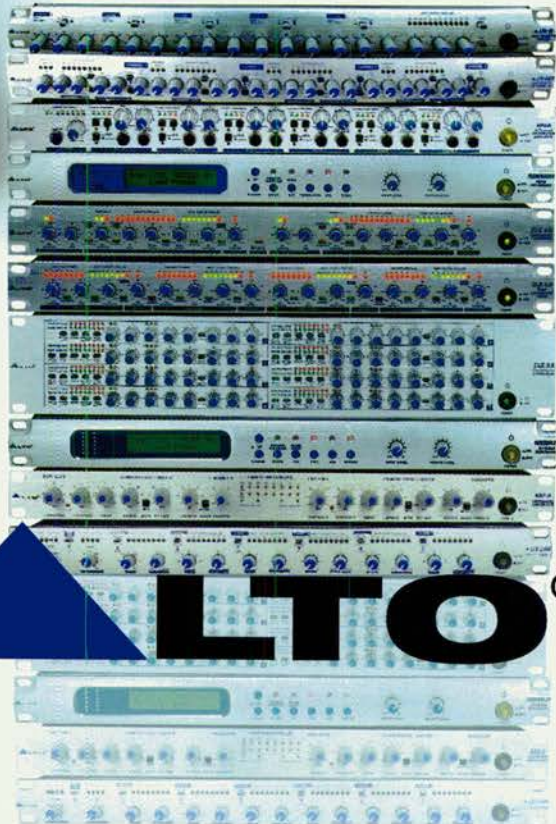
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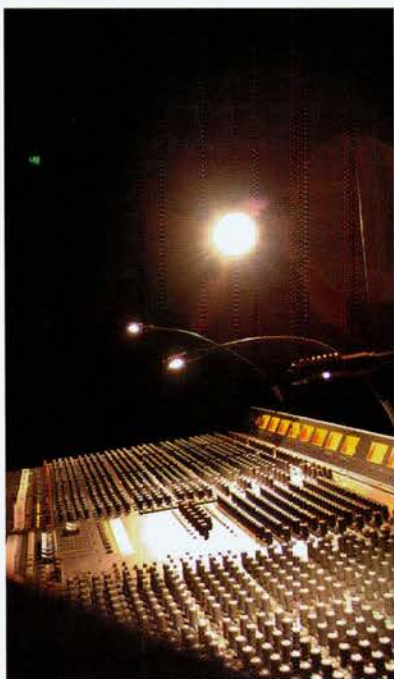


ALTO®



What makes a Concert PA? Quality standards!

We use a McLean Audio Services system at Connections Technical Training in Melbourne. Julius Grafton finds the nice little touches make all the difference!



The M3000 was slightly more desk than we expected....

Concert sound systems differ from ordinary ones, but how? I found out when we at Connections hosted our professional audio induction course at the Victorian Arts Centre last month.

McLean Audio Services provided the sound system, exceeding my specification because it was easier to simply truck over their number 3 system than to build one just for my week. My client students were highly happy to see four tonnes of sound rolling down the truck ramp. I felt a little tested when we launched into the appropriately named 'equipment recognition' module. I was looking at a system I had never seen before.

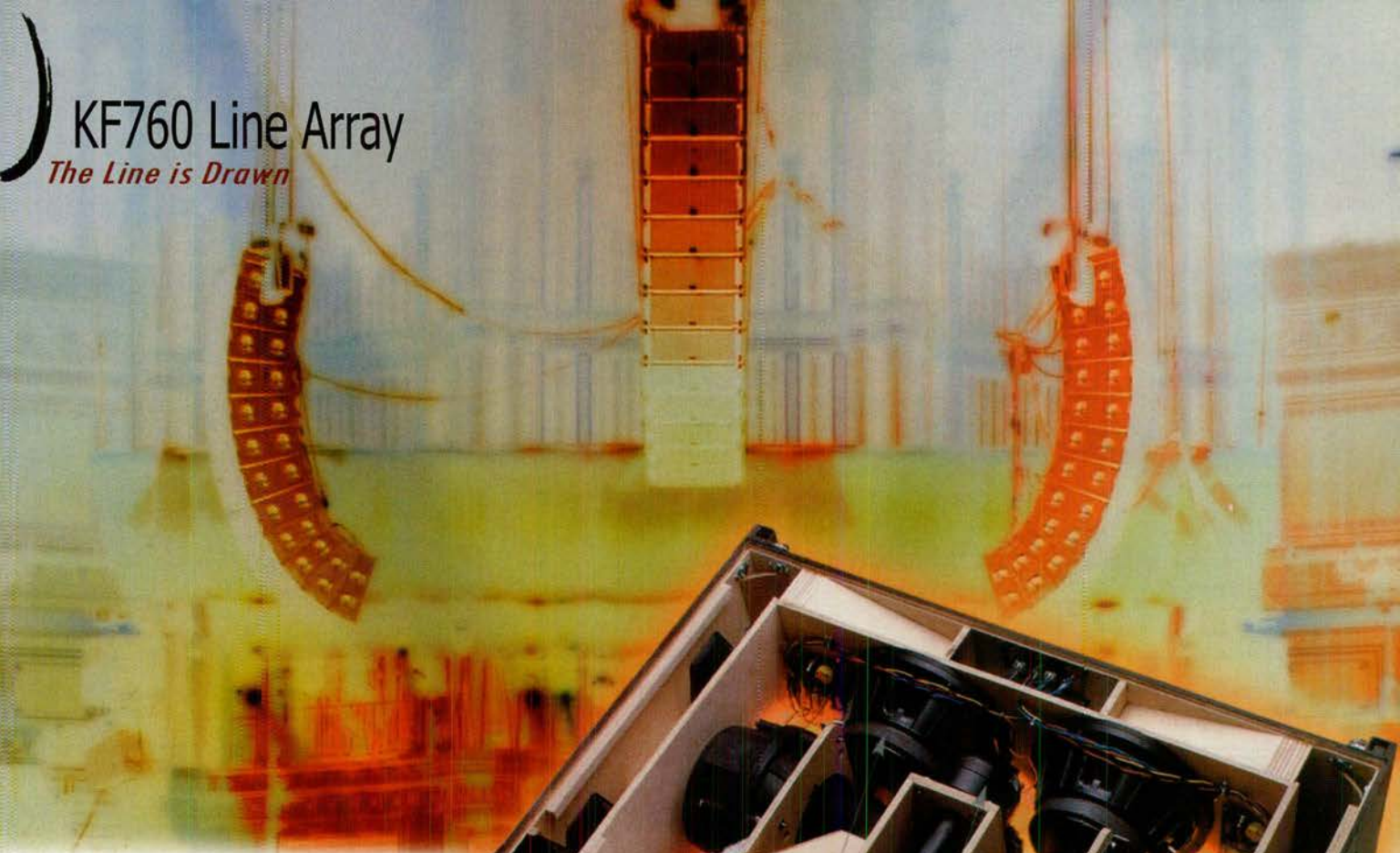
We found identifying the components easy since each case and rack are stencilled next with a description, but crucially also the case weight. This ought to be mandatory, especially since the large multi-core case had 230KG sprayed on it. We treated this case with all the respect it was due.

Setting up half our system, namely one McLean dual 18" JBL sub-low speaker box and one EAW K2 650 per side, we surveyed the speaker connections to find the 650 wanted

an 6 pin EP cable, while the sub wanted a four pin variant. No problem so far, but at the amp rack with 3 Crest CA-9 amps we were presented with 8 pin EP connectors. Looking more closely, we found short adaptor cables were neatly tied to the lower front of the rack, making the connection logical.

Over at the end of the room my mixer team had the 180kg Yamaha M3000 48 channel console set up on its customised steel stand in no time, and without much effort. The stand has a curved front so it rolls over and slides under the console like a forklift. Then several people just roll it back over, and the console is ready for the lid to come off. The two effects racks were set up alongside, and we explored the cable options.

Rather than unravel the 100m concert multi-core, complete with its multi-pinned mysteries, we just ran a couple of microphone cables back to the amp racks, where an EAW processor would do the signal splitting, crossover, processing and protection tasks. Today's job was simply to induct the class as to types of equipment. We had decided we wanted to make noise by 11.15am, giving us



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The Line is Drawn



The KF760 long throw module combines **2PST™**, **VA4™** and **SuperSub™** technologies to create an array building block that is both compact and powerful:

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two hours to do so.

With signal available from the CD player connected to the console, and the BSS third octave equalisers connected to the dual DBX 160X limiters, we tentatively patched the outputs of the EAW processor to what appeared to be the correct six XLR feeds for the three CA9 amplifiers – mindful that I wasn't totally sure which amp channel ran which part of each three way KF 650 box. At the time, I'm telling the students that running anything other than high frequencies to the high frequency horn in the speaker box will kill it. Sobering! I called a coffee break.

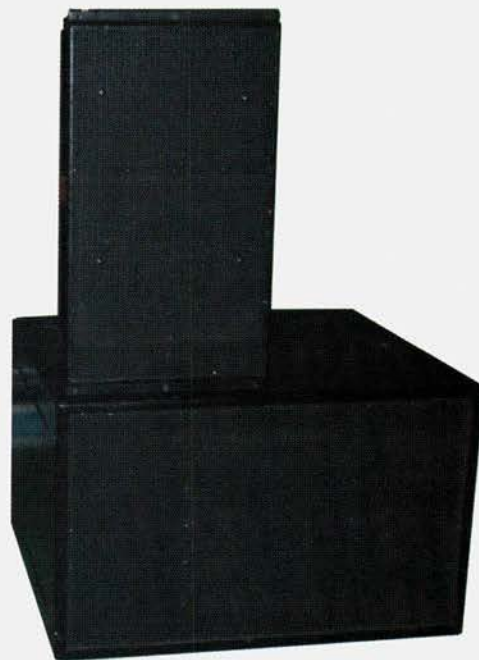
We got it right, reasoning that inputs one and four must be the upmost amp, which usually runs high frequencies. Most systems work this way. We fed a little CD to the processor, saw signal was present, and gently un-muted the high frequency outputs. If we were sending highs to anything other than the horns, it wouldn't be as catastrophic as sending the wrong component to the horns themselves.

At 11.13am we made sound, and a call to Bill McCormick at McLean's was averted. My pride was intact, and the students decided it was all good.

The point of this story is to give McLeans a big plug for their standards. We were all highly impressed at the way their rig was packaged.

Here's a loose inventory of standards. The consoles came cleaned, reset to zero (EQ at flat, all auxiliary sends at 0) and with fresh white marking tape placed ready for use. FOH had an

Clean, recently painted speaker boxes, and clearly labelled amp racks are a great quality standard! This is an EAW KF 650 atop a Mclean's dual 18" JBL subwoofer. McLean's configure their systems so you just scale up as many 'stacks and racks' as you need. It's all inter-related.



accessory case with everything you would ever need neatly placed in its drawers. A list on the inside of the door matched exactly what was there. They had things like first aid, sun block, work lights, fire extinguisher, headphones, spare tape, and every kind of audio adaptor. Instead of XLR 'Y' leads they went one better and made XLR 'X' leads, where each had 2 male and 2 female connectors. It removed the need for two different kinds of Y adaptors (male/male/female, or female/female/male) and gee, why didn't I ever think of that?

Everything was clean. Everything was labelled. The microphone case had a mic in every foam slot, and the list matched exactly what was there. A correct collection of proper mic clips was present. Nothing was left to chance. There were spare lamps, fuses

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and patch leads. The mic cables were colour coded for length. The two odd speaker cables (XLR to XLR for two older wedges I ordered) were also colour coded.

In the back of the effects and FOH racks were neat cable looms, hung on a hook to take the strain. The mic. stands case had stands and booms that were all uniformly functioning – a rarity since these often seem to be missing parts.

Several days later when we got to the stage monitor part of the course we unpacked the standard and reliable Yamaha MC3210 monitor console and found the same attention to detail. McLean's MP122 12" and 2" active wedges came in road cases, were immaculate, and sounded great with flat EQ (meaning, none). The EQ rack was logical, it's cable loom all marked up – and the students had no trouble setting it up. The active amp rack had 2 Yamaha PC 2002M amplifiers and two Carver PM 900 amps with Carver PMX bi-amp cards, each rack powering 4 sends.

McLean's have a range of systems all packaged up ready to roll, suiting their staple work of corporate theatre and special events. The EAW KF 650's have been in their inventory for some time, they have new EAW KF 750's, a new Midas H 3000 Heritage console, and something for everyone.

McLean's operations manager Michael Wickow told me the philosophy allows them to easily scale up a system, by just adding stacks and racks and monitors. I can see how they could quickly turn their systems around. Indeed the system we used was trucked out of VAC on Friday afternoon (on time too) for a John Farnham warm up gig the next day at The Esy in St. Kilda.

Using McLean Audio Systems, and calling a couple of times to finesse some details, was an absolute pleasure.

• McLean Audio Services
Phone: +61 3 9429 5381

Standards are variable. But McLean's get it right, with everything you could possibly think of packed into two accessory cases. I went looking for a 'Y' lead - 2 x male to 1 x female XLR. At first I didn't find one, but there were a bunch of four way 'daisy chained' cables - with 2 x male, and 2 x female ends. Hey - that's a good idea - a 'Y' lead plus. That isn't gender specific! The accessory case had a little toolkit, a fire extinguisher, spare lamps, tape and 101 other little things. I was still finding stuff on day five when we loaded it all out.



The monitor rig was very together too. The desk came with white marking tape neatly applied wherever required, all controls zero'd or at 12 o'clock, and of course it was very clean. The wedges were well tuned too, and came in roadcases. We found setting up the monitors for our end of course gig a snap, and had the thing ready to tune (EQ) within one hour and 5 minutes. All the mic stands were working properly, the microphones clean and tidy, and all mic cables colour coded for length. Note the happy 'lightie' with the Mac 2000.....



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HOT SHOE SHUFFLES

2 trucks, 4 cars, 13 cast, 6 crew, 1 merchandise manager, 32 venues, 6 months on the road. Sounds exhausting to us! Darren Waide reports from out there, somewhere.....

Hot Shoe Shuffle thundered across Australia again, this time with 2 trucks, 4 cars, 13 cast, 6 crew and 1 merchandise manager. 32 venues in all, 6 months on the road and a final stint

is no tour manager, company manager, technical director, board operators, radio mic technician or anything like that. These roles are covered by the touring team.



Tech trio: Garth Hooper, Darren Waide and Wayne Aspinall



in home town Sydney's Theatre Royal at the end of the tour.

David Atkins' Hot Shoe Shuffle has been recreated in a touring version and is now on it's final stretch from the QLD coast back to hometown Sydney.

The cast and crew have been on the road now for approx five months living out of suitcases and hotel rooms. They have played everywhere from Hobart, Melbourne, Adelaide, Perth, Darwin and Brisbane including just about everywhere in between. They have played most decent regional centers all around the country, sometimes 3 or 4 venues in the one week.

"It is great to get to a capital city after doing weeks of the regional touring. Besides great venues and having somewhere to eat after a show, it gives much needed time for maintenance on equipment and the set and props", says Darren Waide.

The crew is a dedicated team of six all from Sydney. Darren Waide leads the team as Production Manager and Stage Manager, Greg Yates is Head Electrician, Rigger and board operator, Steve Peereboom is chief audio technician, Garth Hooper is Head Mechanist, Angela Fiorenza is queen of wardrobe & wigs and Wayne Aspinall is the Assistant Stage Manager and has a cameo as the infamous barman during the show.

To make the show financially viable the crew has been limited to the essentials. There

The team is small, dedicated and works bloody hard.

"To get a show of this size up, bumped in, rehearsed, performed and bumped out after the show is no small ask", reaffirms Darren. "It takes about 6 hours to set up all scenery, lighting and sound, then a couple of hours to do lighting focus and tune the sound. Rehearsals with the cast and local show crew takes part just before the show then we run the show mostly on the fly. The local dome operators and stage mechs don't get much of a rehearsal. Most of the pick ups and movements they are doing for the very first time, which is often very interesting to say the least".

The show is as independent as possible. "We could pretty much do this show in the middle of a empty football stadium if we had to".

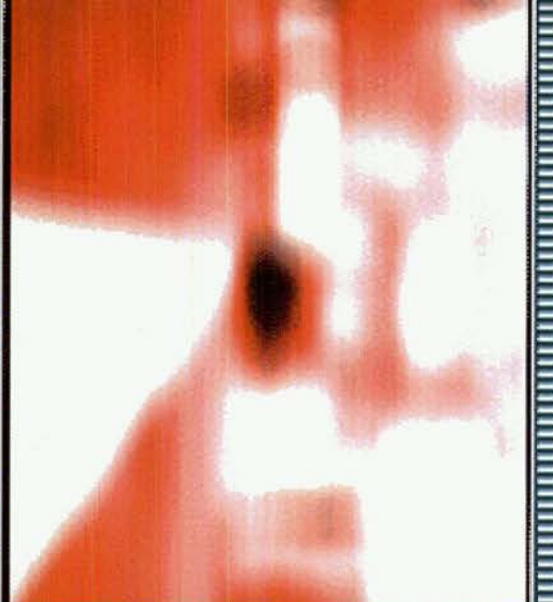
HSS tours all lighting, sound, rigging, set and props and most of the masking. In each venue they pick up a few front lights, some masking borders and that's about it.

"The show has to be incredibly versatile to fit within 32 venues all of varying heights, widths, depths, different auditorium sizes, etc. Some theatres don't have fly towers, some have a 6 meter ceiling".

With this in mind the set was designed (by Eamon D'Arcy) to sit within the footprint of a Tomcat self-climbing truss system, supplied by Stagerig. All drapes, scenery, on stage

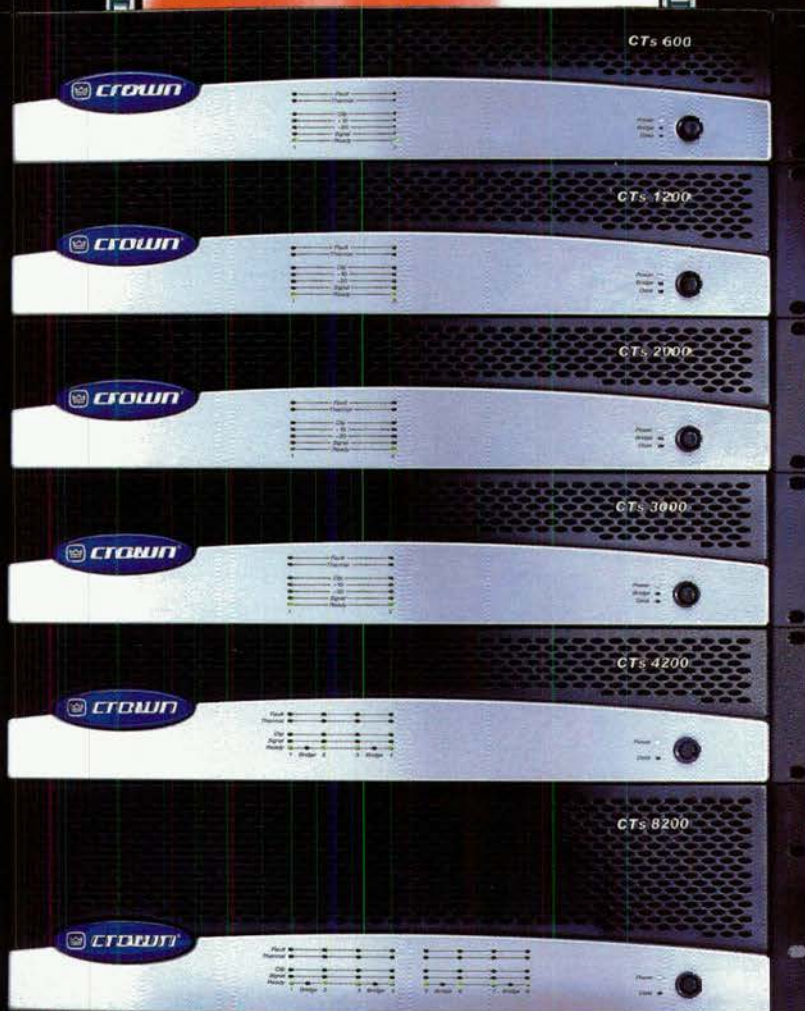


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THE NEW STANDARD FOR INSTALLED SOUND

lighting and monitoring, all hangs off this truss. The truss can be reduced in depth, width and height quickly and easily without compromising the look of the show or the blocking of the action on stage.

Gavin Swift's lighting design is versatile, quick and effective. Lighting equipment supplied by Chameleon mainly consists of conventional fixtures, for ease of set up,

do the show without raising a sweat. Now, Yamaha, about that monitor interface....."

Radio mics are all Shure U4 series and have proved fantastic. "I would never have believed that a tour could map the whole country and not need to re-frequency or have a drop out" said Steve. "It's great to have confidence in the radio system. The amount of stress that a flakey system can cause has to

HOT SHOE \$HUFFLE

THE TAP MUSICAL

Steve Peereboom,
chief audio technician



maintenance and plotting. There is almost 1500 budlights within the set, which always gives Greg Yates something to do when there is nothing to do(!).

"I've been so impressed with the quality of the equipment and its roadworthiness. We have gear from lots a manufactures such as Jands, Altman, Showcraft, ETC and Martin, and all of it has travelled very well over some very bad roads (such as way-out-back Qld) and it just kept going with very little maintenance", said Greg.

Coda Audio has provided the audio system and it works a treat. FOH consist of Meyer MSL-2's coupled with PWS-4 self powered sub woofers, Martin EM-15's and Meyer UPA-1c. The system is driven by the new and extremely road worthy Yamaha AW-4416 multitrack hard disk console. System design is by Adam Iuston, of Coda Audio - whose surname has survived mangulation at the hands

of Connections' sub editors for years.

"The AW-44 was a bit of an unknown for me, but Adam had used it for a while now with other touring productions. I was sceptical about a Hard Disk platform providing the basis for the show but the results speak for themselves. The unit is fast enough and flexible enough to

be experienced to be believed."

System control is via BSS 366 Omnidrive. Using MIDI interface coupled with SIA SMAART, the system can be tuned and time aligned in a snap. "This is the stuff that we could only dream about a few years ago. To see the response of the system and literally point the mouse to it and fix it well, fix it within reason ... when you're constrained for time like this, it's a big advantage."

Over the course of the tour, HSS will have directly employed over 400 local crew and shown the show to close to 135,000 people with almost 200 shows.

" We certainly have seen some strange things and met some amazing people. It is very interesting getting a pig farmer who has never operated a follow spot before, to pick up anything on stage in the right frame, position, size or intensity, let alone getting the local stage mech to wear black or tell the difference between prompt side and OP. Not to mention the loading docks, which are sometimes 5 meters off the ground ... why? You have to keep laughing, if you don't you'd cry. It certainly has been a laugh".

Hot Shoe Shuffle will be playing at The Theatre Royal in Sydney for at least all of November.

* Staging Rentals manufactured and refurbished all of the set, prop and drapes in the show. The set construction had to be very sturdy and long lasting as just about everything gets danced on and tap shoes show little mercy to sets.

Although there are some large scenic elements, everything had to be constructed to breakdown into an extremely tight truck pack.

Most of the set items which are danced on need repainting every 3 days or so, which adds considerable time to bump-ins with drying time and all the rest.



Connections

New magazine to replace Connections

READERS URGED TO CONTRIBUTE TO CELEBRATORY 10th BIRTHDAY EDITION!

The December issue of Connections will be the last. After ten years of monthly publication, this magazine will be replaced in March with a new bi-monthly, called CX Magazine.

CX will cover similar ground, but offer a fresh new perspective. CX will be edited by Julius Grafton, the founding editor of Connections, returning to the editor's role.

We are calling for your opinions, your input, and your letters of reminiscence about Connections - and what it means to you. Overleaf is a survey form which can be mailed or faxed back - or you can email mail@conpub.com.au. Please, do it now!

The December edition will appear late, in contrast to the on-time monthly schedule we have stuck to, for the past decade.

On January 1st, we launch an exciting internet news site - www.juliusmedia.com - integrated with our new magazine, CX.

What this means to Subscribers

Your subscription continues and is unaffected. You will receive all the issues you ordered. If your sub was for one year, you get 11 issues. 2 year subs get 22 issues. After the December issue of Connections, we will recalculate your subscription renewal date and write to you.

No more NEWSAGENT SALES after March

AFTER the first issue of CX Magazine, (March-April), we will trial non newsagent distribution in favour of direct trade industry outlet sales, and subscriptions.

Readers who currently buy Connections from newsagents are urged to subscribe, by calling 1-800-635-514. *Subscribers also get news by email — as it breaks!*

Subscription rates are A\$31 (Australia), A\$43 (NZ), A\$48 Asia and A\$66 Euro-USA.

Questions? Feel free to call us on 1-800-635-514



This is the new name for the company behind Connections Technical Training, CX Magazine, and ENTECH. Our new website arrives next year, www.juliusmedia.com

Connections

New magazine! Survey

We will replace this magazine with a new bi-monthly called CX Magazine, and an industry news website (www.juliusmedia.com) starting March 2003. Now you have the chance to tell us what you think. What have you enjoyed, what have you not enjoyed, what should we continue with, what should we drop. YOUR opinions matter to us, PLEASE take the time to participate. But do it right now!

What did you like BEST in Connections?

Which story stands out in your memory?

What direction would you like CX to take?

What did you like LEAST - and why?

Why does the story stand out?

What did Connections mean to you?

Which writers in Connections do you like?

What do you think Connections did well?

Any other comments — please!

Which writers in do you dislike? And why?

What did Connections not do/cover well?

Thank you!

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NEW

TANNOY V SERIES SOUND REINFORCEMENT LOUDSPEAKERS

Responding to input from the marketplace, Tannoy has launched the V Series, a new range of Point Source, Dual Concentric™ sound reinforcement loudspeaker systems. Featuring a modern cabinet design which provides unrivalled installation flexibility for use in a wide range of sound reinforcement applications.

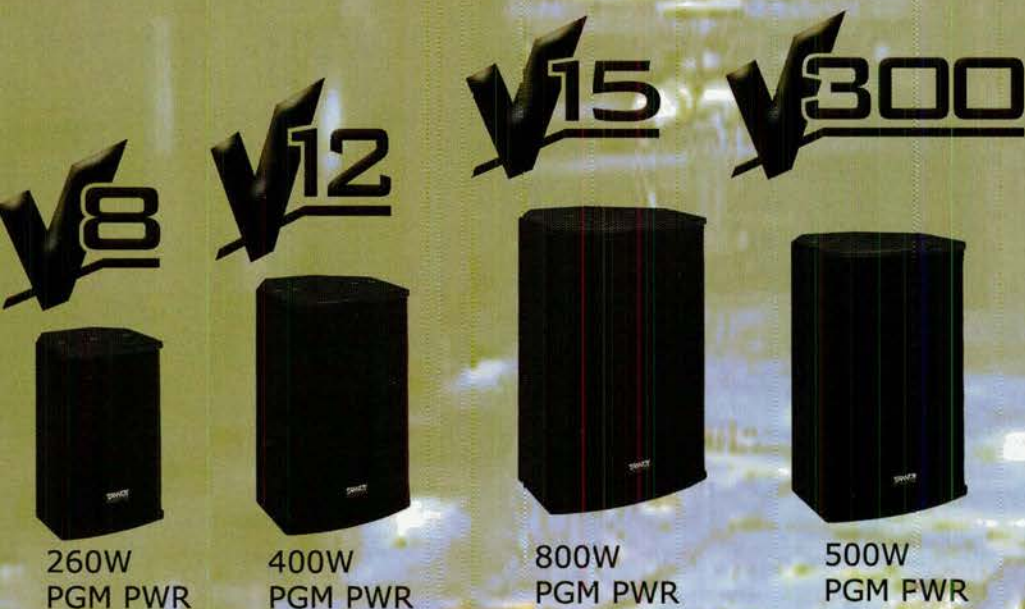
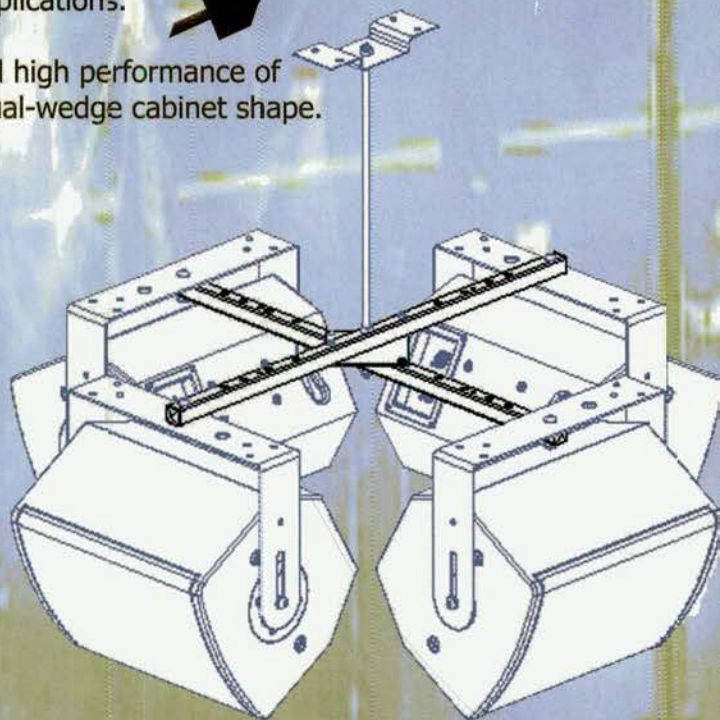


The Tannoy V Series combines the outstanding qualities and high performance of Tannoy's established installation loudspeakers into a new dual-wedge cabinet shape.

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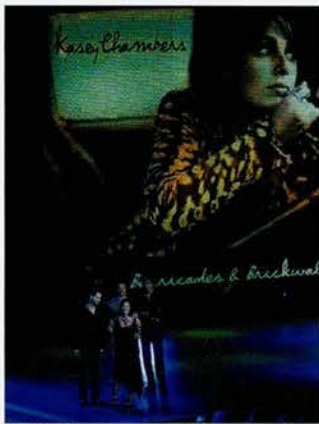
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The recent 16th annual ARIA Awards ceremony was an excellent example of how to stage a live event, and televise it without compromising on the live show. The ARIA Awards held in Sydney last month and telecast on Network Ten, was a huge success at the Superdome and on 1.2 million television screens across Australia. The scale of the event may not have been obvious to the television audience, but this show was a mammoth undertaking.

by John Grimshaw



Kasie Chambers receiving one of her awards on the night

To say this was a big show is an understatement. John Farnham will be a big show, Paul McCartney would have been a big show. This was bigger: Close to 55 tons of equipment hanging above a main stage that was big to say the least. The set extended along the length of the stage, made up of two separate performance areas. The main band stage had a three dimensional streetscape, except for the Silverchair performance where a backdrop of 128 Parcans was flown in. The other stage was the awards stage with the backdrop of a large Clipsal Vision LED screen. This screen could be removed to reveal a second band setup, thus making the whole event appear completely seamless. Twelve performances and numerous awards in a strict timeslot.

work by JPS on this event was first class, with FOE engineer Michael Waters looking after the live mix. The monitors team had a complex system to cope with the number of acts and presenters coming on to the stage.

Global Television provided all of the vision mixing for the broadcast via a number of their OB vans which were setup in the outside dock area for the show. The awards were covered by 17 of their cameras with associated crew.

Lighting was supplied by Chameleon Touring Systems. Lighting Designer, Francesco Calvi, managed to meet the requirements for the live broadcast while still providing an impressive show for the live audience. The show was controlled by a Wholehog II (with wing board), and two GrandMA consoles (one as backup).

The equipment list would have been enough to supply several touring shows simultaneously: 950' Truss, 50x Chain Motors, 572x Par 64, 48x Source 4 Par, 8x Source 4 19°, 8x 4 Lite DWE, 7x 8 Lite DWE, 15x 2k Fresnel, 32x VL 2402, 36x Mac 2000, 3x Mac 600, 36x Mac 500, 9x Mac 300, 4x Mac 250, 14x City Colour, 12x Cyc 2, 6x Omni Flood, 432 Dimmer Channels, 136 Hot power Channels and more.

The "After Party" was a production unto itself, with a Lara Croft theme involving pyro, water effects, copious amounts of alcohol, and numerous different party zones. On entering the stadium at the beginning of the night, the party scenery was hidden from the visitors by huge black drapes. While the ceremony was underway, the party was made ready so that the "specially invited 2500+ guests" found a surprise waiting for them after the show. Production for the party in the Grand Foyer was handled by Showcorp.

The day after the event, ARIA Chairman Denis Handlin said, "Last night we witnessed the next stage of the evolution of ARIA music awards. A new format, a new venue and a new level of excellence."

Next year's 17th ARIA Awards night now has a lot to live up to.



Hanging points and main truss in



Floor complete, fire trusses prepped



Staging, screens, set & PA underway



Tables being set, rehearsals underway



More floor, lights and set



The next day - dirt for motocross

In the audience were 2900 VIPs having dinner as well as 4000 punters seated around the stadium and dancing in the 'mosh pit'. For this event, it was clear someone had a lot of money to spend - well, this is the record industry.

Jands Production Services (PS) Eric Robinson was the Production Manager for the event, and Michael Oberg worked with Eric to ensure the event's smooth running. Jands also supplied the audio for the live show and onstage monitors and the music mix for broadcast - which was engineered by George Gorga in a separate control room. The



Tube Preamp Channel Strip w/ Digital Out

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In the digital world, you're only as good as your weakest link or channel. So, why settle for any less than the warmth and integrity offered by the new dbx® 376 Tube Preamp Channel Strip with 96k Digital Outs? For more than 25 years dbx has been setting the standard, and the 376 is the culmination of those years of innovative success.

376

With a feature list that includes a vacuum tube preamp section, three-band parametric EQ, compressor and the *real* kickers: built-in De-Essing and AES/EBU and S/PDIF digital outputs, make the 376 an all inclusive Channel Strip toolbox that's just as much at home in a conventional analog mixer application as it is in a state-of-the-art digital workstation. With the 376 you can bypass the mixer all together, while producing warm and rich tube mic preamp tones in the digital domain by using dbx's proprietary Type IV™ A/D conversion system. Stop by your local authorized dbx® dealer and tune into all that is available on the next channel.

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- 24, 20 and 16 bit wordlengths
- Word clock sync input and output
- Selectable mic./line switch
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dbx® the Standard in Professional Signal Processing



Unit is 9" wide and will not fit in a mixing console.

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PROFESSIONAL PRODUCTS

Alice Springs gets shiny new PA

Since 1984 Alice Springs in Central Australia has hosted the Masters Games, An Event that caters for athletes over fifty years of age. The event that brings hundreds of athletes to the Red Centre, for Alice Springs with a population of 28,000 people this is the biggest event of the year. The Games provide competition in traditional athletics and swimming events as well as team sports such as Rugby and Netball. The games run for a full week from the 19th till the 26th of October with both opening and closing ceremonies featuring a full march past of Athletes.

A major sponsor of the games is Lassetter's Casino which apart from supplying facilities for the administration of the games this year invested in the purchase of a PA System to cater for the

opening and closing ceremonies as well as evening entertainment for the duration of the games. The opening ceremony alone saw in excess of 25% of the city's population come out to an event featuring local band 'Pogo Monkey', Sydney Band 'Le Club Nerd' and Australian Rock and Roll icon 'John English'

The system comprised of an EV X-Array front of house and foldback system powered by 'P' series power amplifiers. Foldback graphics were Klark Teknik DN 360's as were the front of house EQ's with K-T DN 500 and DN 504 compressors.

The system was controlled by a new Midas Legend 3000 mixing console that along with the rest of the system was making its first operational debut in the 'Red Centre'.

With three bands to cater for plus the formal opening ceremony speeches all 48 inputs on the console were used in addition to the four stereo inputs. In addition to running the main stereo feeds additional matrix outputs were derived to drive a fill system and delays.

Production engineer Steve Davidson despite having only had five hours sleep in the previous two days successfully navigated the new console through its first gig with both visiting engineers having their first experience at mixing on the Legend. 'Le Nerds' engineer Russell on learning he was the first to mix in anger on the new console indicated 'he would be gentle with her'.

Long standing John English engineer Lindsay Hall - despite complaining about the number of EQ knobs - extended the system with a tight punchy mix that had the crowd of in excess of 8000 yelling for more.

Lassetter's operations manager Bill Coffey who was responsible for putting the system together was exceptionally pleased with the systems debut describing the event as the best sounding opening ceremony in the game's history.

The system was sold to the Casino by Sydney Company 'Focal Point Productions' with operations manager Steve Willis on hand to ensure its smooth operation. Additional equipment and lighting were supplied by Darwin based company 'Top End Sounds' who employ production manager Steve Davidson as their Alice Springs representative to operate the system on the Casino's behalf.

Post Script:

Production Manager Steve Davidson and his crew along with system supplier Steve Willis and his crew spent two days setting up the system to make sure it performed well for its debut. Temperatures on the set up days at times exceeded a spring-like 42 degrees centigrade.

The system survived well in this environment without any breakdowns, alas this could not be said for all the athletes.



Brand new console! Owner's manual on top.



Console power supply with insert and FOH EQ's, plus delay amps and system drive in adjoining rack

The EQ with no equal.



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MARKET REPORT

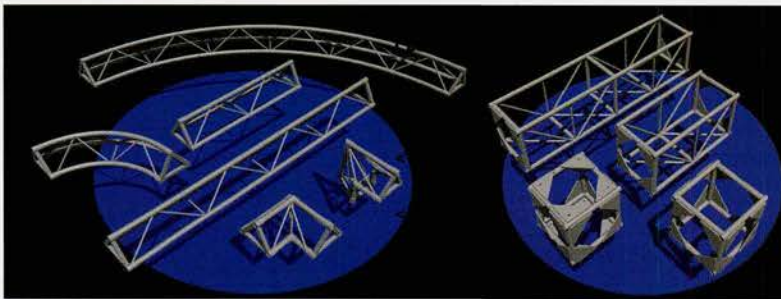
The Rigging Market Report is a collection of hardware solutions to hanging things in the air. Everything from hook clamps to truss and harnesses can be found here. While most manufacturers and distributors took the opportunity to tell us about their product, not all did.

However, this report is a good indication of the state of the market out there - and there are bound to be a few widgets you may not have known about.

The report is divided into three categories: Temporary Hardware, Permanent/Touring Hardware, and Safety Hardware.

TEMPORARY HARDWARE

Avenger A100 High Combo with Lazy leg	Purpose - Push up stand for lighting/sound/av, Construction: steel/aluminium, Other: 40kg SWL @ 4m, lazy leg for uneven ground, 29mm spigot receiver	\$674
Avenger B-200 3 section high windup	Purpose - Ratchet wind up stand for lighting/sound/av, Construction: steel/aluminium, Other: Fold away crank handle, 30kg SWL @ 3.8m, braked wheels included	\$1,852
Avenger B-250X Super Wind-Up stand	Purpose - Ratchet wind up stand for lighting/sound/av, Construction: steel/aluminium, Other: Fold away crank handle, 80kg SWL @ 3.8m, braked wheels included	\$2,724
Bonwick Ladders 20' Wire ladder	Purpose - 20 foot, lightweight access, Construction: Alloy/ steel, Other: Can be linked together, come with an 8' trace	\$123
Bonwick Ladders 30' Wire ladder	Purpose - 30 foot, lightweight access, Construction: Alloy/ steel, Other: Can be linked together, come with an 8' trace	\$156
Bonwick Ladders 50' Wire ladder	Purpose - 50 foot, lightweight access, Construction: Alloy/ steel, Other: Can be linked together, come with an 8' trace	\$211
Brown's Precision Welding 300mm Alloy Tri Truss (3m section)	Purpose - General Rigging Infrastructure, Construction: High Grade Aluminium Alloy, Other: Compatibility with existing brands	\$643.50
Brown's Precision Welding 400mm Alloy Box Truss (3m section)	Purpose - General Rigging Infrastructure, Const: High Grade Aluminium Alloy, Other: Utilises male/female couplers & gates improving design flexibility	\$1,287
Brown's Precision Welding 500mm Alloy Box Truss (3m section)	Purpose - Heavy Duty Rigging Infrastructure, Const: High Grade Aluminium Alloy, Other: High load capacity; uses plate joiners	\$1,309
Brown's Precision Welding Plasma Screen Adaptor	Purpose - Three-way Plasma Screen Frame, Construction: High Grade Aluminium Alloy, Other: Excellent for exhibitions; variations possible	\$522.50
3m Alloy Box Truss 300mm C-C	Purpose - Lighting and other equip support, Const: Aluminum	\$828.30
3m Alloy Box Truss H.D 400mm C-C	Purpose - Lighting and other equip support, Const: Aluminum	\$1,290.30
CLS 3m Alloy Box Truss H.D. 500mm C-C	Purpose - Lighting and other equip support, Const: Aluminum	\$1,508.10
CLS 3m Alloy Tri Truss 300mm C-C	Purpose - Lighting and other equip support, Const: Aluminum	\$709.50
Dexel Lighting Cocodrilo gaffer grip		\$63.10
Dexel Lighting Standard C-Clamp		\$17.33



Dexel Lighting Stands	Purpose - For spotlights and audio and video equipments, Const: Aluminium, Other: Height from 0.9 to 4.4m.	from \$75
Dexel Lighting Telescopic Hangers	Purpose - For spotlights and audio and video equipments, Construction: Aluminium, Other: Length from 0.8 to 6.0 m.	from \$176
Doughty T5592 - Zenith 620T WinchUp Stand	Purpose - Heavy duty 6 (six) metre winch-up stand with 4 adjustable legs, Construction: Steel stand with aluminium castings, Other: 200kg SWL @ 6m. Self locking, internal cables, TUV tested	from \$3,550
Doughty T58200 - Quick Trigger	Purpose - One hand, dead hanging clamp with large handle for easy tightening, Const: Aluminium (extrusions and castings), Other: Fits all tubes from 38 to 51mm.SWL rating 250kg. TUV tested	\$64
>> Doughty T58240 - Quick Trigger TV Clamp	Purpose - Quick Trigger with 29mm spigot receiver, dual locking system, Construction: Aluminium (extrusions and castings), Other: Simple one-handed operation, dead hanging, TUV tested	\$154



Brand	Distributor	Phone	Web	Temp	Safety Perm
Avenger	Coemar De Sisti Australia	+61 3 9467 8666	www.cdaust.com.au	100+	0 0
Blue Water	Total Height Safety	+61 2 9966 9070	www.ths.com.au	0	0 4+
Bonwick Ladders	Total Height Safety	+61 2 9966 9070	www.ths.com.au	3	0 0
Brown's	Brown's Precision Welding	+61 3 9701 2355	www.browns welding.com.au	4+	0 1+
CLS	Concert Lighting Systems	+61 3 9682 6111	www.clsa.com.au	217	3+ 0
De Sisti	Coemar De Sisti Australia	+61 3 9467 8666	www.cdaust.com.au	0	60+ 0
Dexel Lighting	Hels Australia Pty Ltd	+61 3 9846 8127	www.hels.com.au	36	0 0
Doughty	Coemar De Sisti Australia	+61 3 9467 8666	www.cdaust.com.au	280	80 40
Jands	Jands Pty Ltd	+61 2 95820909	www.jands.com.au	0	2 0
Kupo	Show Technology Aust	1800 646 666	www.showtech.com.au	18	0 0
Lightmoves	Lightmoves Pty Ltd	+61 3 9701 2500	www.lightmoves.com	10+	0 0
Litecraft	ULA	1800-648-111	www.ula.com.au	4	0 0
Maillon Rapide	Total Height Safety	+61 2 9966 9070	www.ths.com.au	20	0 0
MTS	Hels Australia Pty Ltd	+61 3 9846 8127	www.hels.com.au	12	10 0
Omega Pacific	Total Height Safety	+61 2 9966 9070	www.ths.com.au	20+	0 0
Petzl	Total Height Safety	+61 2 9966 9070	www.ths.com.au	20+	0 20+
RSI	Total Height Safety	+61 2 9966 9070	www.ths.com.au	1	0 2
VMB	Show Technology Aust	1800 646 666	www.showtech.com.au	12	0 0
Wild Stuff	Total Height Safety	+61 2 9966 9070	www.ths.com.au	1+	0 3+

Doughty T58860 - Trigger Clamp Purpose - Self closing 'trigger' clamp for one person hanging, Construction: Aluminium (extrusions and castings), Other: Fits all tubes from 38 to 51mm.SWL rating 250kg. TUV tested \$52

Kupo 2 Inch Hook Clamp Purpose - Lamp hook for hanging smaller single fixtures, Construction: Aluminium, Other: \$12

Kupo Follow Spot Stand Purpose - generic adjustable follow spot stand, Construction: Aluminium, Other: Optional spigot adaptor available \$469

Kupo Kupo Trigger Clamp Purpose - Heavy Duty clamp, ideal for larger figures, Construction: Aluminium, Other: TUV Rating 200kg \$69

Kupo Wind Up Stand 3m Purpose - Variable height for up to 30kg weights, Const: Steel, Other: Lazy leg - adjustable for sloped stages



\$1,299

Lightmoves Boom Arms Purpose - Standard rigging accessory, Construction: Steel, Other: \$25.30

Lightmoves Circuit Tube Purpose - Powered Lighting Bar - theatrical infrastructure, Construction: Aluminium, Other: Lighting bar with load capacity & power outlets PDA

Lightmoves Hook Clamp 50mm Purpose - Standard rigging accessory, Construction: Steel, Other: \$7.40

Lightmoves T-stand, bar and spigot Purpose - Portable lighting stand, Construction: Steel, Other: \$211.20

Litecraft 1/2 Coupler Purpose - Luminaire Rigging, Construction: Aluminium, Other: Rated to 300KG SWL \$54

<< **Litecraft 2" Hookclamp** Purpose - Luminaire Rigging, Construction: Steel, Other: Finished in Black Zinc \$9.75

Litecraft Safety Wire Purpose - Luminaire Rigging, Const: Stainless Wire, Other: Complete with carabena & loop \$4.70

>> **Litecraft Scanner Coupler** Purpose - Luminaire Rigging, Const: Aluminium, Other: Rated to 200KG SWL \$75

Maillon Rapide 10mm Steel C-shaped Purpose - Semi-permanent connectors, Construction: Steel, Other: CE standard, manual locking, no hinge pins, also available in alloy \$17.80

Maillon Rapide 12mm Steel Delta Purpose - Semi-permanent connectors, Construction: Steel, Other: CE standard, manual locking, no hinge pins, also available in alloy \$22

Maillon Rapide 7mm Steel Wide Purpose - Semi-permanent connectors, Construction: Steel, Other: CE standard, manual locking, no hinge pins, also available in alloy \$8.20

Maillon Rapide 8mm Steel Normal Purpose - Semi-permanent connectors, Construction: Steel, Other: CE standard, manual locking, no hinge pins, also available in alloy \$8.80

MTS Drop arm, fix Purpose - For suspending lighting equipments, loudspeakers, monitors, Construction: steel, Other: Length from 0,25 to 1,5 m, pay load 30 kg. from \$152

MTS Drop arm, variable lengths Purpose - For suspending lighting equipments, loudspeakers, monitors, Construction: steel, Other: Length from 0,4 to 1,65 m, pay load 30 kg. from \$280

MTS Manual Pantograph Purpose - Pole-operated, for spotlights and audio and video equipments, Construction: Rectangular aluminium, Other: Length from 0,56 to 5,5 m, pay load 30 kg. from \$1633

MTS Manual Trolley Purpose - Pole-operated, for spotlights and audio and video equipments, Construction: Aluminium, Other: Two wheels, braking device, for round pipes up to 52 mm diameter. \$288

Petzl Descenders Purpose - Controlled rate descent, Const: Alloy, Other: Available in black, self-braking, \$120-300

Petzl Karabiners Purpose - Low visibility connectors, Construction: Alloy, Other: Auto or manual locking, wide range of shapes and sizes, available in black \$39-45

Petzl Swivels Purpose - Allows performers or load to rotate without twisting the rig, Construction: Alloy/Steel, Other: Extremely smooth ball-bearing swivel, WLL 500kg \$180

RSI Haul safe Purpose - 4:1 Block & tackle system, Construction: Alloy/Steel, Other: Lightweight, strong, auto locking



The suppliers were given the opportunity to make some further comment about their range. Here is what they had to say:

The **Avenger** range is manufactured by Manfrotto for De Sisti in Italy. Their stands are world renowned for quality, reliability and long service life.

Blue Water is a highly respected American rope manufacturer that strives to produce the highest quality products possible. Their commitment to this level of quality is evident by their leadership in becoming the first American company in the industry to achieve the ISO 9000 quality system certification. Blue Water static ropes have 4 times more resistance to cutting and abrasion than ropes made with strand cores. They also have superior handling characteristics & the softer flex means they do not stiffen excessively with age & are easier to knot.

Bonwick Ladders - An excellent choice for lightweight temporary access to overhead rigs. Must be used with a fall arrest system. Can be fitted with an invisible pull down system. Custom lengths and stainless steel versions available.

Brown's Precision Welding not only manufactures a range of trusses to suit all common industry applications - we also provide custom design and manufacturing of any specialist metalwork for any application.

CLS - Truss, Stands, Ground Support and Clamps made by us in Australia to meet Australian Standards. New Products For 2003. - 300mm Box Truss Ground Support Towers - 6m Heavy Duty Winch Up

De Sisti is one of the world leaders in TV and Film lighting and rigging systems. The recently constructed Channel 7 TV studios

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at the Docklands in Melbourne is fitted exclusively with De Sisti rigging and lighting products. Customised versions available to suit specialised requirements.

Doughty are growing rapidly towards being the largest one-stop supplier for rigging equipment. Products include clamps, stands, safety wires, scrim, staging, music stands, pulleys, winches, spigots, weights, tubes, wheels, grip accessories and connectors. A full colour 60 page catalogue is available on request.

The **Jands** motorised and manual pile wind winch units have a safe working load of 350kg. The motorised unit has a 3 phase motorised gearbox complete with brake. The manual unit has a automatic load actuated brake. Each unit holds up to 5 wires standard or 6 as a special.

Lightmoves - Circuit tube is a cost effective, safe and extremely user friendly solution for all manner of rigging installations where distributed power is required. Circuit Tube provides all of the functionality of lighting bar, with the advantage of a comprehensive, safe, power distribution system. The system comprises special 48mm diameter tube that has power outlets inserted along its length according to our client's requirements. The power cable is installed inside the tube, where it cannot get damaged. Circuit tube is supported along its length using standard pipe clamps every 1500mm. When installed in this manner Circuit Tube can support 100kg/m, and has a maximum point load of 100 kg.

Maillon Rapide - Maillons are not karabiners as they do not rely on a hinge pin. The sides become solid once the locking sleeve is fully wound. They are



VMB TE 071 Purpose - Telescopic tower to support lighting systems 5.3 metres, Construction: zinc steel, Other: TUV Rated for 200kg load POA

<< **VMB TE 076 Pro** Purpose - Telescopic tower to support lighting systems 6.5 metres, Construction: zinc steel, Other: ALS safety system 200kg lift TUV POA

VMB TL 075 Purpose - Telescopic tower to support lighting systems 7 metres, Construction: zinc steel, Other: TUV Rated for 300kg load with locks POA

Wild Stuff Spreader Bars Purpose - Suspending performers, Construction: Alloy/Stainless steel, Other: Lightweight, custom made From \$143

PERMANENT or TOURING HARDWARE

De Sisti 8500 Light Duty self climbing hoist Purpose - 140kg rated hoist for TV studio and film work, virtually silent operation., Const: Steel/aluminium, Other: DIN15560 standard, TUV tested. Internal power/data/video cabling P.O.A

De Sisti Cranky Pole Purpose - Telescopic tube suspension system for lowering lights from ceiling to floor, Construction: Steel/aluminium, Other: Hand winch or cordless drill operation. 40kg SWL from \$1,250

De Sisti Pantograph Purpose - Pole Operated or motor controlled heavy duty pantograph. 30kg SWL, Construction: Steel/aluminium, Other: Internal 240v power distribution, dual safety cables from \$2,800

De Sisti Telescope Purpose - Motorised telescope with up 14m lift, 50kg SWL, Construction: Steel/aluminium, Other: DIN15560 standard. TUV tested. Internal power/data/video cabling P.O.A.

Doughty Doughty Six Track curtain tracks Purpose - Fully modular curtain tracking system, Construction: steel and aluminium castings, Other: Walkalong or Line operated, Overlap and motor drive options available from \$98 per metre

Doughty G1642 Baked Trolley Purpose - Barrel Trolley for 48-51mm pipe. 75kg SWL, Construction: Lightweight rugged aluminium construction, Other: Easy rolling action, compact dimensions, 29mm spigot receiver \$270

Doughty G1660 Pantograph (2.2 - 5m) Purpose - Spring Pantograph, 12 or 20kg rating for single spotlight, Construction: Tensile steel and aluminium casting/extrusion, Other: Adjustable weight loading, 360 degree light rotation from \$1,068

Doughty T29800 Girder Clamp Purpose - adjustable clamp for I-beam RSJ attachment, Construction: steel and aluminium castings, Other: 100-150mm adjustment, 250kg SWL \$104

Jands Jnd-MP 48CH manual pile wind winch Purpose - To raise and lower scenery and lighting battens, Construction: steel, die cast aluminium disks, Other: advantageous where a clewed system is impractical \$8,095

Jands Jnd-MP 48CM motorised pile wind winch Purpose - To raise and lower scenery and lighting battens, Construction: steel, die cast aluminium disks, Other: advantageous where a clewed system is impractical \$12,245

MTS Motorized Light Hoist Purpose - For spotlights, audio and video equipments, Const: Professional pole hoist, payloads up to 150 kg (optional 250 kg), Other: Acoustic noise less than 65 dB (A), over-travel less than 2" \$11,910

MTS Motorized Pantograph Purpose - For flexible positioning of spotlights, audio, video eq., Construction: Rectangular aluminium, Other: from 0.8 to 7 m, payloads up to 60 kg from \$6269

MTS Motorized Telescopes Purpose - For precise positioning of spotlights, audio and video eq., Construction: High-precision rectangular aluminium, Other: from 0.9 to 12 m, payload 60 kg \$8,503

MTS Motorized Trolley Purpose - For horizontal positioning of pantographs and telescopes, Construction: steel, Other: Four rubber wheels, three-phase motor, payload up to 150 kg \$1,654

SAFETY EQUIPMENT

Blue Water Cords Purpose - 2.75mm to 8mm accessory cord, Construction: Nylon, Other: Kermantle construction for maximum strength, durability and low stretch. \$0.90 - \$2.55/m

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Blue Water Kernmantle Ropes Purpose - 8.6mm to 16mm ropes, Construction: Nylon, Other: Black static or dynamic, superior strength, high abrasion resistance \$3 - \$11/m

Blue Water Slings Purpose - General purpose slinging, Construction: Nylon/Spectra, Other: High strength & abrasion resistance, CE standards, variety of lengths \$8.30-\$87

Blue Water Tapes Purpose - 14mm to 50mm tape, Const: Nylon, Other: Flat or tube, variety of colours \$1.80-\$4/m

Brown's Precision Welding Safety Wire Purpose - Safety accessory, Construction: Steel wire, Other: \$14.80

Doughty Lifting Chain Purpose - Side welded galvanised long link chain, Construction: steel/aluminium, Other: 33m link length, 0.70Kg/m, SWL 250kg \$22

Doughty Rated Carabiner Purpose - Screwgate locking carabiner for safety wire/rope attachment, Construction: steel/aluminium, Other: SWL 6000kg, TUV tested \$44

Doughty Safety Bond Purpose - General purpose, supplied with Batch Test Certificate, Construction: steel/aluminium, Other: Up to 400kg SWL rating, soft loops (+ thimble optional) \$8

Doughty TV spec safety bonds Purpose - Manufactured to BBCTV 168A specification, Construction: steel/aluminium, Other: 75kg SWL, fitted with large soft loop and carabiner \$48

Omega Pacific Alloy Karabiners Purpose - Light duty rigging, Construction: Alloy, Other: Auto or manual locking gates, large range of sizes and colours \$18 - \$43

Omega Pacific Steel Karabiners Purpose - Heavy duty rigging, Construction: Steel, Other: Auto or manual locking gates, strong, available in black \$29 - \$70

Omega Pacific Steel Ladder Hooks Purpose - Heavy duty rigging, Construction: Steel, Other: Auto or manual locking gates, very large opening \$77 - \$84

Omega Pacific Steel Scaffold Hooks Purpose - Heavy duty rigging, Construction: Steel, Other: Auto or manual locking gates, very large opening \$82 - \$90

Petzl Black Navaho Complete Harness Purpose - Work positioning and fall arrest harness, Construction: Polyester/Alloy, Other: Extremely comfortable, gear loops, adjustable leg loops and shoulder straps \$546

Petzl Fall Arrestors Purpose - Safety when ascending or descending, Construction: Alloy, Other: Lightweight, personal, gentle on rope, fixed or removable \$95-160

Petzl Lanyards Purpose - Flexible connectors, Construction: Polyester/Nylon, Other: Impact absorbing, adjustable, fixed lengths, stitched eyelets \$7-385

Petzl Pulleys Purpose - Hauling, redirection, span ropes, Construction: Alloy/Steel, Other: Lightweight, strong, reliable. FSWR and nylon versions available. \$20-260

RSI Ascenders Purpose - Ascending fixed ropes, Construction: Alloy / Steel, Other: Very strong, used by Emergency Services. \$133- \$155

RSI Pulleys Purpose - Load management, Construction: Alloy / Steel, Other: Heavy duty pulleys. Varying sizes. Oilite bushings. \$80 and up

Wild Stuff Slings Purpose - Specialise rigging, Construction: Nylon, Other: Fixed length, adjustable and custom made From \$10

Wild Stuff The Oxford Harness Purpose - Comfortable aerial performance harness, Construction: Nylon, Other: Corset style harness, conceals under costuming, hip pickups for tumbling \$385

Wild Stuff The Taylor Harness Purpose - Comfortable aerial performance harness, Construction: Nylon, Other: Corset style harness, conceals under costuming, hip pickups for tumbling \$550

useful in positions that get a lot of heavy wear and the delta shape is designed to take a three way load. Available in steel, alloy and stainless steel. Excellent security for attaching to performers harnesses.

Omega Pacific specialise in karabiner manufacture producing high quality karabiners at reasonable prices. They use only the best heat treated aircraft quality aluminium and steel and the quality control program proof tests every karabiner to a minimum of one half of its rated strength.

Petzl - More than 60 years of experience back up every Petzl product. Their passion for research and development have allowed them to continually develop new products and to perfect techniques for their use. Quality and security are the foundations of the Petzl philosophy. Since 1995, the guarantee of their philosophy has been ensured by the application of very stringent ISO 9001 quality assurance standards.

Wild Stuff harnesses were used by most aerial performers during the Opening Ceremony of the Sydney 2000 Olympic Games and are travelling the world with numerous Australian physical theatre groups. The Taylor and Oxford harnesses are comfortable, lightweight flying harnesses that give the wearer freedom and fluidity of movement and the opportunity for horizontal, vertical or other fixed positions with more stability and minimal performer effort required. Custom harnesses and rigging software is a speciality of Wild Stuff.

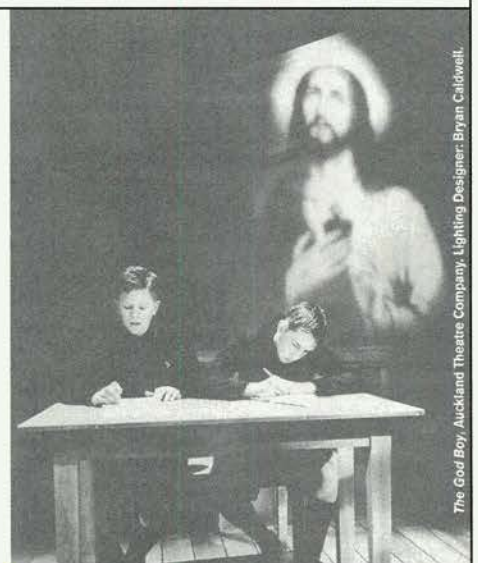
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The God Boy, Auckland Theatre Company, Lighting Designer: Bryan Caldwell.

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SELECON



Lighting keeps up in new broadcast centre

The Seven Network get it right, as Australian firm provides turnkey automated system

By Julius Grafton

Australia's Seven Network recently built their new TV broadcast centre right next door to Colonial Stadium (now known as Telstra Dome) in Docklands on the southern edge of Melbourne. For the TV network it was the chance to consolidate all broadcast control into one new complex, ready for digital TV. Now all programming is routed through the place, local content from – say – Adelaide is piped in, commercials and promos are added, then the completed package is zapped back to South Australia for transmission from the towers.

While most attention was focussed on the remarkable challenge of digitising and routing an entire nation's worth of material to and from one place, the lighting fit-out at the new centre also manages to match the gee-whiz factor. 7's Melbourne Lighting head, Robert Coia gave me the guided tour last month. He was the network's lighting liaison person when the planning teams started conceptualising the broadcast centre some years back.

Viewers will identify the open-plan news

bulletins from the centre where the on-camera newsreaders are seated in front of the actual newsroom – which has the usual movement and colour one would expect, with the added fun that the staff need to actually look presentable. Rob's challenges included the fact that the newsroom would be full of natural light by day, so electric blinds were specified to regulate Mr. Sunshine. Conversely lights are necessary too, so a couple of trusses are strategically placed to allow lighting through the newsroom. "I had to work out what I wanted to do – whether to have natural light, or tungsten. Daylight looks blue-ish on TV, and I've got to be careful what hits the talent".

Less obvious to viewers is the café with see-through windows above the news studio. 7's designers decided to allow public access to the café, so bullet proof glass was installed and now it seems anyone can order a mug of Milk and watch TV news in action. Rob needed to control the daylight there too, so more curtains were specified for the café

Melbourne Lighting head, Robert Coia pictured above in the News Studio. Balancing tungsten and daylight is the challenge.



Haycom Staging provides leading edge Audio Visual equipment and services to the event production industry. Having experienced significant and sustained growth nationally over the last 5 years, we are looking for new members to join our Sydney team

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Role Criteria:

- Proven track record in technical management
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- MS Office, Rental Systems & CAD
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The candidate will possess high levels of self-motivation, ambition and persistence in order to achieve rewarding results.

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Role Criteria:

- Min. 2 years experience in an Operations role
- Excellent Organisational skills
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- Good leadership skills
- Ability to work calmly under pressure
- Experience within industry preferred
- Computer literacy including:
- MS Office & Rental Systems

Role Responsibilities

- Daily crew management
- All resource management including:
- Fulltime & freelance crew scheduling
- Vehicle Scheduling
- Cross-hire organisation

Senior Technical Crew

- 4 years technical experience in the Audio-visual industry
- Computer literacy
- Current Driving License
- Good communication skills
- Good leadership skills
- Well presented

To apply call Stuart Fianza-Gregg on **(02) 9667 4633**, alternatively fax your resume to **(02) 9667 4644**.
No agencies. Applications close 30th November.

WHAT'S INSIDE:

The News Studio features a fixed pipe grid, with droppers to suit. Lighting for the Product Studio comprises a wide range of luminaires including:

- Magis 300/500/650 PO fresnels
- DesiLux Fluorescent PO video luminaires with DMX on/off control
- Giotto PO twin compartment Cyclorama units
- Duccio 4 compartment Groundrow units.

Several zoom profiles are also part of the package of luminaires in both studios.

The Product Studio also utilises a similar range of DeSisti luminaires including:

- Magis 300/500/650 PO fresnels
- DesiLux Fluorescent PO video luminaires with DMX on/off control
- Giotto PO twin compartment Cyclorama units
- Duccio 4 compartment Groundrow units.
- Leonardo 1Kw PO fresnels
- Leonardo 2Kw PO fresnels

DeSisti self climbing hoists (below)

outer windows.

It's in the main studio (named the Product Studio) that the real deal happens with light. After initially delivering a concept based on bare minimum outlays, Rob changed tack and managed to convince the network to go with a fully automated self climbing hoist system, and along with a host of other design features through the complex it means there is no actual full time Lighting Technician on site. "The technical director has control, but we come in as required", Rob told me. Getting the studio fitted with self climbing, powered hoists, means one tech can re-rig and re-focus for a show.

Sometime after the rough outline of the facility was in place, Rob called on some local suppliers for expressions of interest. Coemar DeSisti Australia (CDA) chief Peter Kemp is no stranger to studio lighting, after all the DeSisti brand are part owners of his business, which is controlled by Peter with Coemar assuming another minority shareholding.

The DeSisti connection that would prove the solution, and Rob started to like the concepts that CDA were coming up with.

Peter Kemp is a lighting careerist, he started sweeping the floors at Strand when he left school. He has weathered several decades of lighting sales and distribution since, and is one of the most knowledgeable lighting people in Australia as a result. He managed to bring a high-tech solution to 7, when they initially wanted a fairly basic lighting installation.

"We ended up future proof" says Rob. "I convinced management to almost double the lighting budget. It was all about ideas, I got plenty from Peter, from Richie (Mickan, CDA technical manager) and from Dan Ditmann. And it was (the installation) mainly safety

driven."

Dan Ditmann is a former Compulite designer who moved to Australia from Israel in pursuit of a new life five years or so back. He met Peter Kemp beforehand, as CDA are distributors of Compulite in Australia. Dan set himself up as an independent service and design agent from the CDA premises. He's one of those guys who knows why and how things work at an IC chip level, but has a human interface instead of a propeller.

While the elements of the 7 job were being defined and debated within the network, Peter and Dan worked on the design of new dimmer racks which would be made in Melbourne under the TechART brand. TechART was already a brand, but this job would entrench it. The dimmers would be offered to 7 as part of the CDA proposal.

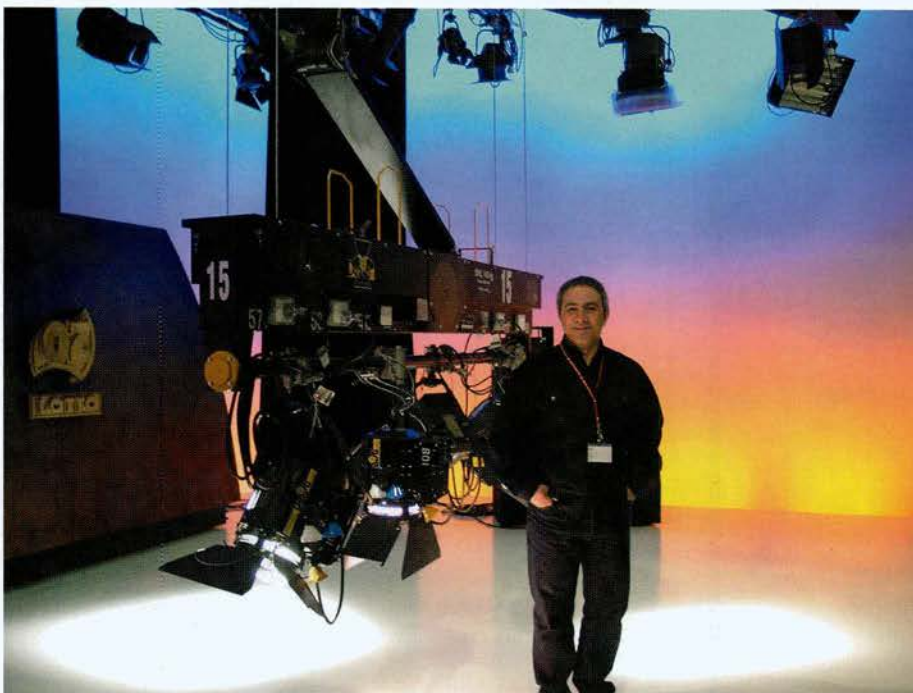
After some considerable validation of the systems, product types, operational and financial outcomes, Rob Coia and the 7 project manager Andrew Anderson put the work out to tender as a turn-key installation including all wiring. As is usual with lighting contracts in this part of the world, a sizeable raft of contenders materialised, with the final contract awarded to CDA. It included control systems, dmx distribution, luminaries, cabling, and 23 racks of dimmers – ranging from 12 to 24 channels, and 2.5 to 5kW capacity.

David Lee was appointed on-site Project Manager for CDA, he was Lighting Director at Channel 7 in Brisbane (BTQ 7) for many years. DeSisti set about manufacturing the self climbing hoists. The 42 hoists have a 140KG load rating, 3 dimmed 2.5kw outlets, one dimmed 5k outlet, a switched 20 amp outlet, and tielines for video, Ethernet, dmx and audio. Peter Kemp flew to Italy to check the hoists were properly labelled and prepared before they were shipped to the site in Melbourne.

To put the job into perspective, the News studio is wired for 3 x 250 amps, and the Product Studio for 3 x 400 amps. CDA did all wiring, which presents to the dimmers in the neatest arrangement I've seen for quite some time.

CDA ended up responsible for the design and construction of the fixed lighting grid in the news studio, including rigging safety lines and design and construction of the steel structure for the lighting hoists in the product studio. They also designed the data system including DMX & Ethernet, curtain tracks for both studios, cyclorama support structure, and all data & power wiring including 3 phase outlets and mains emergency shut off system.

It was probably the crowning achievement for the lighting team who worked on it, and it is now an extremely modern and efficient example of good design.



Controlling studios

Control in both studios is courtesy of Compulite Micron 4D/ME (Moving Ethernet) consoles in each studio. Already used extensively in the Australian TV scene by the ABC, Channel 9, and in the now migrated Channel 7 studios in Brisbane, Compulite were the consoles of choice for the operators at 7.

The Micron features full tracking back-up, DMX merging, and Remote control, with the added ability to handle all the dimming in the studios. Additionally, they allow moving light control (Compulite are, of course, the makers of the original Animator consoles – one of the first ever dedicated moving light consoles).

The modern age (and the console's abilities) also dictated a full CAT5e and DMX distribution system is part of the installation, allowing the full potential of the control system to be utilised.



FOOTNOTE:

At presstime the Victorian IES presented a Commendation Meritorius Lighting Award for the work at Network Seven.

Dan D'tmann (TechArt) above, and Peter Kemp (below) with one of the Compulite Micron 4D/ME consoles



MARKET REPORT



Thinking about switching to digital mixing or considering an upgrade? Our featured report this month gives you the choices in this burgeoning pro-audio area. Digital mixing is here to stay and the overall mixing flexibility and per channel features suggested here are remarkable.

While there are clearly different sectors depending on application, it is possible to walk away with an all-in-one audio control solution that can simplify live or permanent audio environments, whilst consolidating signal paths—often with a rack worth of outboard built in.

As ever, contact the listed company for further details. All prices are inclusive of GST unless otherwise indicated.

Some distributors of these consoles supplied additional brand and model information which we include here:

Allen and Heath - Big-budget broadcasters and studios have been enjoying the benefits of digital mixing for a while, so we thought it was about time gigging musicians, schools, small churches and AV hire companies got a piece of

DIGITAL LIVE CONSOLES

Allen & Heath ICON DL10CO Standard Inputs: 6 Mic; 2 Stereo, Standard Outs: 2 Aux; 2 Sets stereo out, Options: , Ch Features: 4-band EQ; Fully para. mids; Comp/Gate, Physical Desc: 19" Rack mount; Optional 300w/ch. amp, Other: 100 faders; Digital FX; Recallable sessions & more \$3,495

Euphonix Max Air (pictured above) Standard Inputs: 96 Channels; Analogue or any digital format, Standard Outs: 32 Mix busses; 24 Matrix/Group outs, Options: , Ch Features: 4-band Fully parametric EQ; Comp/Gate + more, Physical Desc: 100kg (Approx.), Other: Snapshot recall; Over Specified Redundancy From \$250,000

Euphonix System 5 Standard Inputs: Unlimited channels in any format, Standard Outs: 48 Mix busses; 48 Matrix/Group outs, Options: , Ch Features: 4-band Fully parametric EQ; Comp/Gate + more, Physical Desc: , Other: 5.1; 7.1; 96kHz; Instant recall + more From \$500,000

Harrison by GLW LFC Standard Inputs: Digital; 24-bit (48K or 96K); Max channels: 576, Standard Outs: Maximum of 32 mix/aux sends, Options: Ea. channel either input or output, Layering avail, Ch Features: Dynamic comp/limiter; Hi/Lo-pass ++, Physical Desc: 1828 x 1016mm, Other: 24 bit I/O, 40 bit internal signal processing Prices start from US\$150K

Innova SON Compact Standard Inputs: 40 Analog. mic/line; Optional AES digital inputs, Standard Outs: 12 Mono/stereo; 6 aux (group/aux), Options: Up to 72 inputs w/ digital m/core , Ch Features: Comp/Limiter; Gate; 4-way Para. EQ, Physical Desc: (W x H x D) : 1150 x 215 x 760 mm; 40kg, Other: Full snapshot automation; Virtual memory point From \$ 95,000

Innova SON Essential Standard Inputs: 48 Analog. mic/line; Optional AES digital inputs, Standard Outs: 20 Mono; 6 aux (group/aux); LCR, Options: Up to 72 inputs w/ digital m/core , Ch Features: Comp/Limiter; Gate; 4-way Para. EQ, Physical Desc: (W x H x D) :1700 x 200 x 740 mm; 60 kg, Other: Full snapshot automation; Virtual memory point From \$145,000

Innova SON Grand Live (pictured below) Standard Inputs: 72 Analog. mic/line; Optional AES digital inputs, Standard Outs: 20 Mono (group/aux); LCR, Options: AES Digital in/out cards, Ch Features: Comp/Limiter; Gate; 4-way Para. EQ, Physical Desc: (W x H x D) :1700 x 200 x 740 mm; 60 kg, Other: Full snapshot automation; Virtual memory point From \$174,000



Innova SON Large Scale Standard Inputs: 144 Analog. mic/line; Optional AES digital inputs, Standard Outs: 46 Subgroups; 24 Mastering busses, Options: 2 Stage boxes can be connected, Ch Features: Comp/Limiter; Gate; 4-way Para. EQ, Physical Desc: (W x H x D) :1700 x 200 x 740 mm; 60 kg, Other: Full snapshot automation; Virtual memory point From \$274k

Ramsa WR-DA7 Standard Inputs: 32 Input, Standard Outs: 6 Aux send/return; 8 Buss; L/F. Out, Options: 4 Slots: ADAT/TDIF/AESS/ADDA/SMPTE, Ch Features: 4-band Parametric EQ; Gate/Compressor/Limiter, Physical Desc: 698 x 245 x 602mm; 21kg, Other: 100mm Motorised faders \$13,198

Soundcraft 324 Live Standard Inputs: 16 Analogue; 16 Digital TDIF, Standard Outs: 4 Aux.; 2 FX; 4 Groups; 4 Matrices; L/R/M Busses, Options: Additional 16 mic/line input; TDIF Interface box, Ch Features: 3-way EQ; Auto system for live, Physical Desc: (HxWxD) 160 x 715 x 537mm; 14.4kg, , Other: MIDI Event list capable; 16 MIDI Cont/controllers \$12,995

Brand	Distributor	Phone	Web	Live	Studio
Allen & Heath	Technical Audio Group	+61 2 9519 0900	www.tag.com.au	0	1
AMS Neve	Syncrotech Systems Design	+61 2 9879 0800	www.ssd.com.au	0	5
Behringer	Behringer Australia	+61 3 9877 7170	www.behringer.com	0	1
D&R	Syncrotech Systems Design	+61 2 9879 0800	www.ssd.com.au	0	3
Euphonix	Technical Audio Group	+61 2 9519 0900	www.tag.com.au	0	1
Harrison by GLW	Acoustisearch	+61 3 9568 4022	www.acoustisearch.com	1	2
Innova SON	Production Audio Services	+61 3 9415 1585	www.productionaudio.com.au	5	0
Mackie	Australian Audio Supplies	1800 502 015	www.ausaudio.com.au	0	1
Ramsa	Ramsaudio	+61 2 9477 7377	www.ramsa.com.au	1	0
Sony	Sony Australia	+61 2 9887 6674	www.sony.com.au/proaudio	1	1
Soundcraft	Jands	+61 2 9582 0909	www.jands.com.au	1	1
Soundtracs	Amber Technology	+61 2 9452 8600	www.ambertech.com.au	0	4
Tascam	Teac Australia	+61 3 9672 2400	www.teac.com	0	1
Yamaha	Yamaha Music Australia	1800 805 413	www.yamaha.com/prcaudio/index.htm	1	6
Zaxcom	Lemac Film & Video	+61 2 9438 4488	www.lemac.com.au	1	1

Next month's Market Report: Big PA Boxes. Contact daniel@conpub.com.au if you would like to be listed. It's free!

Digital Audio Consoles

Yamaha PM1D Vs. 1.5

(pictured right) Standard Inputs: None, Standard Outs: None, Options: Up to 144 Ins & 64 Outs, Ch Features: Comp/Limiter; Gate; 6-way Para. EQ; Delay, Physical Desc: Control surface + independent I/O rack housings, Other: Snapshot automation; Digital FX; Manager software *Systems start at \$200,000 (approx.)*

Zaxcom Cameo LRC II

Standard Inputs: 8 AES/EBU/Analog.; 1 Aux, 1 Ext. Slate, 6 Tape return, Standard Outs: 6 Mix; 1-2 Aux; 1-2 Com; 8 DA98; Monitor o/p, Options: , Ch Features: , Physical Desc: W=14"; L=12"; Height=4" Front - 5" Rear, Other: 12v Nominal @1.75A power consumption \$26,950



DIGITAL STUDIO CONSOLES

AMS Neve Logic MMC Standard Inputs: Depends on config., Standard Outs: On Application, Options: On Application, Ch Features: 'Logicator' touch sensitive controls Surround, Physical Desc: On Application, Other: On Application \$200,000 and up



Behringer DDX3216 (pictured left) Standard Inputs: 12 Mic; 4 Stereo; 1 S/PDIF, Standard Outs: 4 Multi outs; Stereo masters Stereo C/R; 1 S/PDIF, Options: 2 Slots: 16ch. ADAT; 16c. TDF; 8ch. AES/EBU per card, Ch Features: Comp/Limiter; Gate; 4-way Para. EQ; 4 FX per ch., Physical Desc: H-W-D: 163 x 438 x 572; 13.5kg, Rack mount kit inc. Other: 2 Option slots for 32 channel I/O \$3,752

D&R Cinemix Standard Inputs: 32 Dual line modules; Digital automator, Standard Outs: 5

Returns; 3 Blanks/stems, Options: Comprehensive options, Ch Features: Patch bay; Film style routing, Physical Desc: 32 Frame: 300 kg, Other: 6 Wide dedicated main buss \$73,000

D&R Octagon Standard Inputs: 24 Dual line; 4 Stereo dual line, Standard Outs: 48 Buss digital routing; 12 Aux. per chan., Options: Comprehensive options, Ch Features: Mono thru surround routing; 2 Signal paths per mod., Physical Desc: 60 Frame: 400 kg, Other: Full surround mixing options \$135,000

D&R Sirius Standard Inputs: 16 Mic; 12 Stereo lines; 12 Digital in, Standard Outs: 12 Digital outs; 24 Mono outs; 64 Buss, Options: 12 Faders; 16 Sencs, Physical Desc: 19" 16 FU; Industrial PC: Modular work surfaces, Other: \$56,000

Euphonix System 5M Standard Inputs: Unlimited channels in any format, Standard Outs: 48 Mix busses; 48 Matrix/Group outs, Options: , Ch Features: 4-banc Fully parametric EQ; Comp/Gate + more, Physical Desc: , Other: 5.1, 7.1, 96kHz, Instant recall + more *From: \$500,000*

Harrison by GLW Series Twelve Standard Inputs: Max. 768 channels; Digital 40-bit floating point, Standard Outs: 32 Aux sends; 48 "stem" busses; 32 Mix busses, Options: All channels configurable, Ch Features: Comprehensive digital dynamic processing, Physical Desc: Built in sections, Other: Patented motorised automated joystick panners *Prices start from US\$255K*

Harrison by GLW ST2 Standard Inputs: Up to 768 channels per digital core, Standard Outs: Total 176 busses: 96 "stem" busses; 32 aux.sends, Options: Wide variety of control surface options, Ch Features: Comprehensive digital dynamic processing, Physical Desc: , Other: Full, 40-bit digital signal processing *Prices start from US\$275K*

Mackie D8B (pictured right) Standard Inputs: 12 Mic/line; 12 Line; 3 Stereo line; Talkback, Standard Outs: 12 Aux sends; 12 Inserts; AES/EBU & SPDIF; Main L/R, Options: Analog.; Lightpipe; AES/EBU/ADAT/TDIF, Ch Features: 4-band Para.; Comp/Gate; Effects; 12 Aux. sends, Physical Desc: Standalone; W-H: 955 x 688mm, Other: 4-bank



Layered console: Apogee UV22 \$27,995



Sony DMXR100 (pictured left) Standard Inputs: 30 A/D; 6 AES/EBU, Standard Outs: 8 Aux; 3 Groups; St. PGM & 5.1, Options: 4 Slots: TDIF/ADAT/MADI/ Analog.IO/SRC/Insert, Ch Features: Comp/Limiter; Gate; 4-way Para. EQ, Physical Desc: 197 x 267 x 690mm; 55kg, Other: Smooth faders; Digital routing \$36,000

the action. The **Allen & Heath Icon DL1000** 4-buss digital live sound console fits the job. It is a 'gig in a box': A compact mixer with digital gates, compressors, EQs and FX built in, that also recalls all your settings for the next day. Now for the price of a regular mixer you get a powerful digital system with a rack's worth of quality extra gear inside. The DP1000 300w/ch power amp is optional.

The amazing new Logic MMC is the spiritual successor to the famous **AMS Neve Logic 2** console that features power from the award-winning DFC console alongside multitrack music excellence. With 24-bit / 96kHz operation and a brand new suite of state-of-the-art I/O, the Logic MMC restarts the technology clock, now and is ready to power the next decade of hi-end audio business applications. The real-life performance of the classic Logic 2 is still to be matched a decade on, and with the Logic MMC the bar has been set even higher.

The **Behringer DDX3216** provides 32 digital channels, each with fully parametric 4-band EQs, compressor, and gate. The 1st 16ch also feature: A delay unit; extremely flexible routing due to integrated patchbay; 17 ALPS motorised 100mm faders with 16 configurable level meters; 4 integrated digital effects & 4 internal FX sends; 16 busses and 8 aux sends; & static and dynamic automation (total recall). The DDX3216 includes a large easy-to-read LCD display, extensive MIDI, a rack mount kit, 12 ULN mic preamps, additional compressor/limiter (pre/post) and EQ for main mix. Finally, its intuitive user interface gives the console an analogue feel.

D&R Electronica specialises in the design & production of quality, made-to-measure audio consoles for a variety of applications. D&R's package of product ranges from small disco mixers for high-end installations to large-scale film post-production mixers requiring over a hundred inputs.

In the ever changing nature of live audio there are situations where one day a console is used for front of house, and the next it is feeding a mix live to air. This is one of the reasons why **Euphonix** has gained loyal clients at live production venues over the past fourteen years, where its systems are used in front of house, live to tape and live to air. The CS Series and System 5 can handle these applications with ease. Both systems include SnapShot Recall which allows entire console settings to be recalled at the touch of a button for instant reconfiguration, useful for changes between scenes or acts.

The LPC-D from **Harrison** is a groundbreaking mixing console jointly developed by Harrison and Showco designed to provide a comprehensive solution for theatre and sound reinforcement applications. The Series Twelve system uses remote control technology that integrates three major components that together provide literally any type of console configuration for any application. The Series Twelve incorporates full digital control and total automation of analogue or digital signal processing.

The **Innovason Compact Sy40** is a new "live" digital mixing console from Innova SON which boasts 40 input channels and 27 mix buses. Housed in the same chassis as the Compact Live and Actor, the Compact Sy 40 offers far greater mixing capabilities and enhanced functionalities for the same number of faders: 32 (including 8 stereo) for the 40 input channels, 12 stereo for

the mix buses, 3 for the LRM/C masters and one fader for automation control. When linked to the Stage Box, the Sy40 can handle up to 72 inputs and 48 out. These features combined make the Sy40 the most logical, flexible and user-friendly digital mixer for any live show.

The **Ramsa WR-DA7** is ideal for use in both live and studio environments. With 32 inputs plus 8 busses (with moving faders) it gives you the flexibility you need, and 24-bit A/D-D/A converters ensure that the mix sounds great. Also available is a Meter Bridge and Tandem Cards so you can run two mixers together for a total of 64 digital channels. Full specifications are available at www.ramsa.com.au **ON SPECIAL:** Ramsaudio have a limited number of DA7s at \$4290.00 including GST. For more information or a brochure contact the number listed.

The **Sony DMX-R100** uses the latest digital technology to address the challenging & creative needs of modern audio production. This compact 48ch mixer has a comprehensive feature set that includes 25 motorised faders, a sophisticated control panel with touch-screen control, a fully integrated package of automation, a digital routing matrix and machine control. The DMX-R100 delivers superb sonic performance via its state-of-the-art processing technology, and combined with its stunning sound performance, operability and flexibility, meets the creative needs of producers, artists and engineers in applications ranging from music studios to post production & audio pre-mastering.

With all **Soundtracs** digital production consoles, a prime design function has been to ensure rapid operation and a completely intuitive user interface. With field-proven reliability, outstanding audio performance, flexibility and an automation system widely regarded as an industry standard, this design priority has made Soundtracs a leader in large-format digital consoles. This is reflected by hundreds of international installations that also include many multi-console customers.

Tascam's DM-24 digital mixer raises the standard for affordable digital mixing. The DM-24's impressive audio quality results from 24-bit, 96kHz audio processing, and its ease of use and flexibility combines highly flexible routing, extremely powerful built-in automation, built-in professional-quality effects, dynamics processing and parametric equalisation. To make the DM-24 the ideal companion for serious recorders like the MX-2424, TASCAM engineers used a custom 32-bit floating point processor to ensure true 24-bit performance throughout the digital signal path. The DM-24 also features highly-configurable gates, fully-parametric 4-band EQs and compression on each channel.

The new **Yamaha DM1000** digital production console is a direct sibling of the flagship DM2000, in a very compact rack mountable body. While it shares key features such as 96 kHz audio, Surround Monitoring, Studio Manager, and DAW Control with the DM2000 and O2R96, the DM1000 is designed especially for commercial production needs such as post-production, audio for video, and broadcast. Being rack mountable, it can also be used in any application, including live sound reinforcement. Yamaha's DM2000, DM1000, O2R96 and O1V are all equally suited to live, broadcast and studio applications and are currently being used in all of these applications across Australia.

Soundcraft 328 XD (pictured right) Standard Inputs: 16 Mic/line; 5 Stereo; 16 Digital (ADAT Optical, TDIF), Standard Outs: 6 Aux/Chan; 8 Groups; 16 Direct; 2 Lexicon units, Options: Up to 42 inputs @ mixdown, Ch Features: Dynamics processing all inputs, groups & main mix, Physical Desc: (HxWxD) 160 x 715 x 537mm; 14.4kg, , Other: 3 Para. EQ; MIDI; Timecode; Flying faders \$15,995

Soundtracs D4 Standard Inputs: Up to 320 Analog., AES/EBU, ADAT or TDIF In, Standard Outs: 124 Busses config. as Group, Aux., Surround , Options: I/O Config. is user selectable, Ch Features: 6-band Para. EQ, Comp/De-Ess/Gate/Exp, Mono/Stereo, Physical Desc: H-W-D: 1090 (inc stand) x 972~4172 x 981, Other: Automation; 80 x 8 Monitor matrix; Networking From around \$350,000

Soundtracs DPC-II Standard Inputs: Up to 160 Analog., AES/EBU/ADAT or TDIF In, Standard Outs: 40 Busses config. as Group, Aux., Surround , Options: I/O Config. is user selectable, Ch Features: 6-band Para. EQ; Comp/De-Ess/Gate/Exp; Mono/Stereo, Physical Desc: H-W-D: 1076 (inc stand) x 962~3677 x 1093, Other: Automation; 40 x 8 Monitor matrix; Option Digital FX From around \$250,000

Soundtracs DS-3 Standard Inputs: Up to 96 Analog.; AES/EBU/ADAT or TDIF In, Standard Outs: 32 Busses config. as Group, Aux., Surround , Options: I/O Config. is user selectable, Ch Features: 4-band Para. EQ; Comp/De-Ess/Gate/Exp; Mono/Stereo, Physical Desc: H-W-D: 1044 (inc stand) x 1327 x 912, Other: Full console automation; 32 x 6 Monitor matrix From around \$150,000

Soundtracs DS-3B Standard Inputs: Up to 96 Analog.; AES/EBU/ADAT or TDIF In, Standard Outs: 40 Busses config. as Group, Aux., Surround , Options: I/O Config. is user selectable, Ch Features: 4-band Para. EQ; Dynamics; Mix Minus; Filters; M/St., Physical Desc: H-W-D: 1044 (inc stand) x 1327 x 912, Other: Automation; Networking; Digital touch screens From around \$200,000



Tascam DM-24 Standard Inputs: 16 Mic/line; 24 TDIF; 8 ADAT; 2 AES/EBU/S/FDIF , Standard Outs: 8 Bus w/ 6 Aux sends; 4 Assignable s/r as inserts, Options: 2 Slots: AES/EBU/TDIF/ADAT; Analog. & cascade, Ch Features: Gate; Expand; Comp.; 4-way Para. EQ, Physical Desc: Comprehens. interface w/ LCD screen & LED encoder, Other: Fully 24-bit, 96kHz w/ 32-bit floating processor \$7,000

Yamaha DM1000 (pictured left) Standard Inputs: 20 XLR + 2Tr Digital , Standard Outs: 12 OMNI; XLR outs; Digital out, Options: 2 Slots for opt. expansion cards (analog. & digital), Ch Features: Comp/Limiter; Gate; 4-way Para. EQ; Surround, Physical Desc: 23" x 8" x 17"; 42Lb, Other: 24-bit 96K; Up to 48 channels; Multi FX \$10,000 (approx.)

Yamaha DM2000 Standard Inputs: 24 XLR; 2Tr Analog; 2Tr AES & SP/DIF; Cascade, Standard Outs: 8 OMNI; 2 tr An & 2xDig; Stud,Lrg & Sml; Mon; Master, Options: 6 Slots for opt. expansion cards (analog. & digital), Ch Features: Comp/Limiter; Gate; 4-way Para. EQ; Surround, Physical Desc: 900 x 821 x 257mm; 43kg, Other: 24-bit 96K; Up to 96 channels; Multi FX \$39,995

Yamaha O1V (pictured right) Standard Inputs: 12XLR+4TRS; 2tr Analog.; SP/DIF, Standard Outs: 4 OMNI; 2 tr Analog & SP/DIF; Monitor; Master, Options: 1 Slot for opt. expansion cards (analog. & digital), Ch Features: Comp/Limiter; Gate; 4-way Para. EQ, Physical Desc: 520 x 430 x 148mm; 12.5Kg, Other: "Firewire" DAW front-end capabilities via Mlan opt \$4,445

Yamaha O2R96 Standard Inputs: 16 XLR+8TRS; 2Tr Analog; 2Tr AES & SP/DIF; Cascade, Standard Outs: 8 OMNI; 2 tr An & 2xDig; Stud&Cont room; Master, Options: 4 Slots for opt. expansion cards (analog. & digital), Ch Features: Comp/Limiter; Gate; 4-way Para. EQ; Surround, Physical Desc: 697 x 667 x 239mm; 34Kg, Other: 24-bit 96K; Up to 56 channels; Multi FX \$20,995

Zaxcom Cameo SV Standard Inputs: 8 AES/EBU/Analog; 1 Aux, 1 Ext. Slate, 6 Tape return, Standard Outs: 6 Mix; 1-2 Aux; 1-2 Com; 8 DA98; Monitor o/p, Options: , Ch Features: , Physical Desc: W=14"; L=12"; Height=4" Front - 5" Rear, Other: Optional Oak console \$26,950





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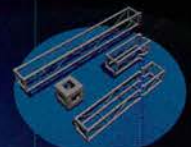
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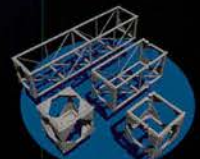
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Crown Reinvents IQ and Launches Three New PIP Modules



Crown International's primary focus for AES this year was the rollout of its totally redesigned IQ Network, previously known as the IQ System. The simultaneous introduction of Crown's 'IQwic' software and three PIP modules - the IQ-PIP-Lite, IQ-PIP-USP3 and IQ-PIP-USP3/CN - notably bolstered the launch of this new platform.

The IQ System was originally introduced in 1988 as a means of enabling professional audio equipment, particularly Crown amplifiers, to be controlled and monitored via a remote computer.

Until now, IQ's system communication has been based on a proprietary two-wire current loop. After many demands from the industry, this has been replaced with a 100Mbps Ethernet structure. Crown have called it the "TCP/IQ" protocol and it boasts a large increase in comms speed (100Mbps rate versus the very slow 38.4kbps) and the ability to add more components to a network.

Furthermore, Crown announced that TCP/IQ can be integrated into the present CobraNet digital network. This means that IQ components incorporating CobraNet now have a single network connection containing both bi-directional digital audio as well as bi-directional control and monitoring information for the amplifier and its related IQ functions.

In light of these developments, Crown has created a new PC software interface known as IQwic, short for IQ Windows Intelligent Control. Aside from supporting both TCP/IQ Ethernet and CobraNet, IQwic offers all of the features and functionality of the most recent IQ for Windows v5.1 software - including its 'drag and drop' methodology - then adds to it a new 'system view', which not only shows the products and their performance, but product interconnections as well, including easy CobraNet audio signal routing between products. Like Crown's previous software offerings, IQwic is available for free download to users via the web: www.iqaudiosystems.com

IQwic will support IQ2 and older products just as well as the new ones. So, if someone already has Com-Tech 10 Series or Macro-Tech 02 Series amplifiers in an installation and wants to add CTs Series with TCP/IQ to a new wing, the IQ Network has a gateway in place that will consolidate the two different technology platforms so they appear within IQwic as one system.

In addition to IQwic, three new amplifier modules incorporating Crown's new TCP/IQ protocol are being announced. The most basic of the three, the IQ-PIP-Lite, allows for network control and monitoring of analog audio.

Equipped with 10 internal presets, the

module boasts Crown's Smart Amp feature set, which includes energy-saving auto-standby mode, an input compressor and four output limiters - peak voltage, average power, clip eliminator and thermal limiter. Real-time speaker load monitoring and comprehensive system error reporting are also included, as is an AC Mains Voltage Monitor when used with Crown's new CTs Series amplifiers. Connectors include RJ45 Ethernet ports for 100Mbps communication, an amplifier output audio listen bus, and both input and output auxiliary ports. The Lite is also backwards compatible in that it can function in standard PIP1 amplifiers by utilizing Crown's USP2 Adapter.

The second new module, the IQ-PIP-USP3, incorporates all of the Lite's features then adds extensive DSP capabilities, even more so than its predecessor, the IQ-PIP-USP2. Taking advantage of Analog Devices' SHARC floating-point processor chip (providing well over 1500dB of internal dynamic range!), the USP3 uses the same critically acclaimed filters found in Crown's popular IQ-USM 810 digital mixer/processor/router and offers a total of 64 assignable filters (versus only eight per channel on the USP2). A generous 2.1 seconds of signal delay per channel (instead of 600ms) is now available in 20 microsecond increments.

Furthermore, the USP3 is equipped with a variety of useful signal generators, including pink and white noise, adjustable sine wave and dual uncorrelated generators for noise masking.

Lastly, the IQ-PIP-USP3/CN builds upon the USP3 by offering CobraNet connectivity. On the CN version, two RJ45 connections (one primary and one secondary) are used to bi-directionally deliver TCP/IQ, CobraNet audio and the CobraNet Listen Bus all over the same Cat5 cable. Unlike its predecessor, the USP2/CN, the USP3/CN module is additionally equipped with two balanced analog inputs, as well as a choice of automatic input configurations, including analog override, CobraNet override, analog input only mode, and analog to CobraNet audio network. As with the USP3, pricing on the USP3/CN will be close to that of the USP2/CN.

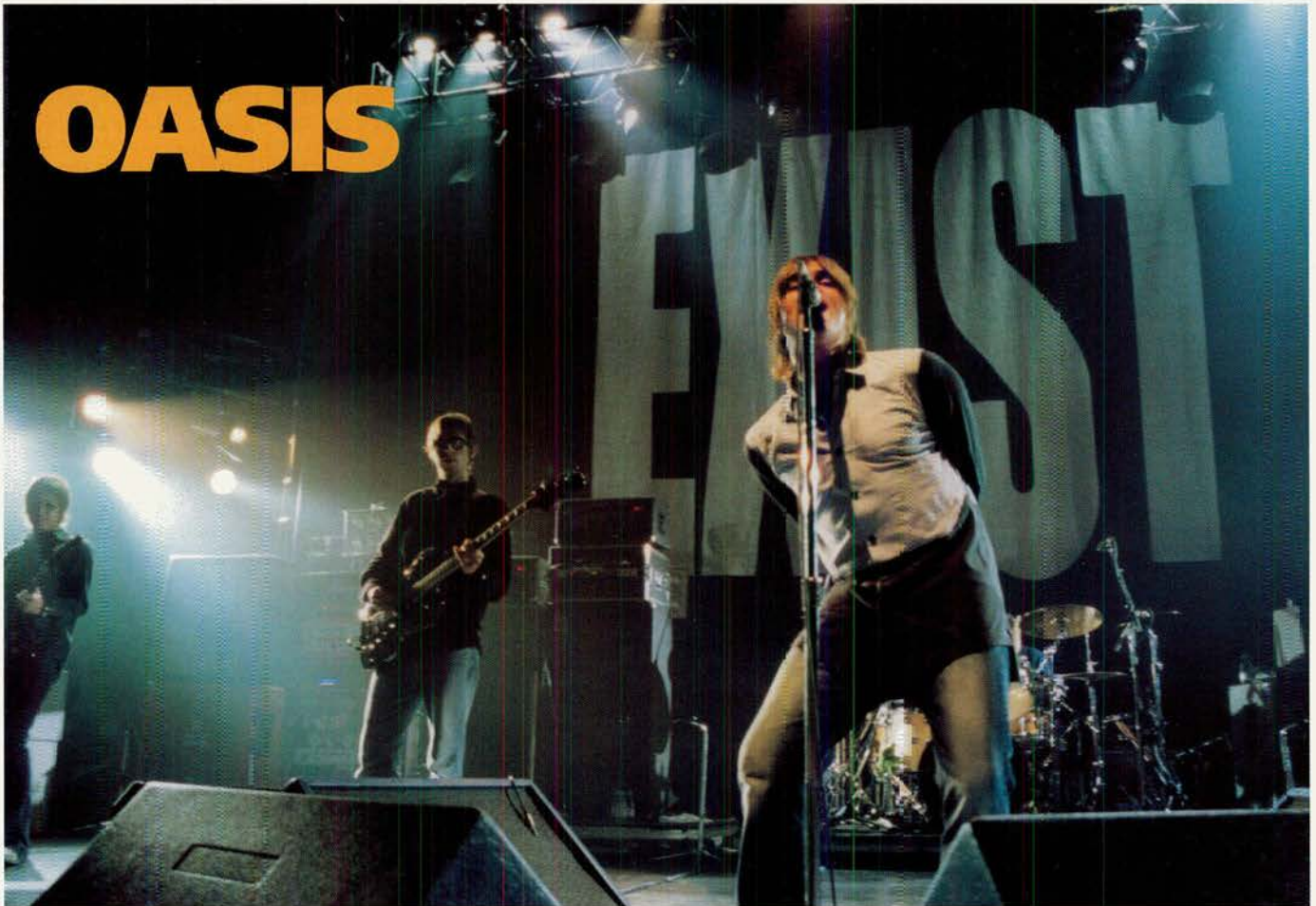
Significantly, all three of these new modules are loaded with their own TCP/IP stacks, separate from the CobraNet TCP/IP stacks, which allows for direct Internet connectivity without a computer.

By using this type of setup, a restaurant or retail environment could have nothing but audio products in its rack hooked to an Internet switching router. With no computer on site, the system would be virtually tamper-proof. Meanwhile, the installer could have secure access to the system from anywhere around the world via the Internet.

Local distributor Jands Pty Ltd have indicated that the three new PIP cards will be available by the end of the year.

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The story of how Bruce Johnston came to be front of house engineer for one of the greatest bands of all time is now folklore in Australian rock and roll history. Five years ago, during Oasis' last tour of Australia, everything "fell apart" and several key members of the crew abruptly left the tour. With a couple of shows in Australia and a month of dates in South America to go, the band needed someone with TurboSound Flashlight experience who could fix a show the next day.

Five years later, a 10 month worldwide tour brought Oasis and Bruce back to Australia to play at the LIVID Festival as well as a handful of sold-out club dates around the major cities. I caught up with Bruce in his hometown city of Melbourne for a gig he had been looking forward to for a long time.

This time Bruce has only been away from home for seven weeks, but the time before that it was 12 weeks which he described as "bad".

"I've got a four year old child and being away that long makes a difference. In the old days it didn't matter as much, but it does now," Bruce said. He now has an arrangement where he manages to come home for a week or two every six weeks mainly because the band can't tour too long without time off or else they "explode".

Between having a young family and being Managing Director of Melbourne-based company Johnston Audio Services, Bruce manages to keep his feet on the ground.

Johnston Audio Services General Manager Larry Ponting pointed out that Bruce has come a long way from a guy with a pub PA in the back of a truck. Bruce attributes his success as a by-product of his job.

"In the beginning my success was due to the lack of

PA's. When I started in the 80s there were only a handful of PA companies, and the PA's back then weren't really made for sound guys. There weren't a lot of products, not like now where there are millions of products.

"Back then I was just looking for a PA to take out with the bands that I did, plus being a capitalist at the time I thought why can't I make more money out of it. So I ended up building a PA, but I was always bigger than my PA, and I was always doing the bands that couldn't use my PA. But it's finally happened, it has taken 20 years for my PA to catch up with me, but it has caught up. I'm finally using my own PA with a big band, and it's been a long time coming."

The PA that managed to catch up to Bruce is his Alpha Nexo system which he has owned for around 12 months. He bought 32 stacks so that he can supply a system for an arena or split it into two 16 stack theatre systems.

"I did a lot of festivals overseas with Oasis using Nexo PA's and I had quite good results especially for big rock guitars. We had also been using line array systems like V-DOSC that sounded great, but they were never that real hardcore rock sound."

Bruce had been looking for a new box to replace his inventory of old Meyer and X-Array systems. "After using them overseas I decided they would be ideal as the new box for home. Nexo were keen to get them out here so I got a favourable deal. It's been good though – it really suits this band because it's a clear box, but it's a good rock box.

Bruce said he doesn't intend to go into arena style touring but he needed to have a big enough system if a Nexo type band comes to Australia.

By Mandy Jones



Bruce Johnston

"Generally I want to stick to theatre tours. That's where all the action is at the moment, well, for me anyway."

For the Oasis theatre dates, Bruce used a 16 stack configuration of 8 systems aside with 4 extra-sub lows aside. Although there are several suppliers with Nexo systems in Australia now, Bruce is the only one with the Alpha Nexo system which features the M3 top box, B1 bass and S2 sub low box.

"I would much rather have a boutique product – something that's a little bit different to everybody else. But Nexo has gained a lot of ground in Europe to the point that it's quite a popular box there, and it's working its way through America. I see it on all the riders now so everyone knows about it."

To drive the Nexo system, Bruce only uses German built Camco amplifiers which he describes as "incredible".

"They are the first amplifier where I can actually hear the difference. I think if you put those amplifiers in any PA it would make it sound fantastic. They are 3000 watts a channel so they're quite a powerful amp. The PA runs with the Nexo processor as well so you're pretty much guaranteed the same sound wherever you go in the world".

Bruce had to sub-hire a Midas XL4 from Oceania in New Zealand because the few in Australia were all out on other gigs. Effects and processing included 10 channels of Drawmer gates, 12 channels of dbx compression, PCM80, H3000 harmoniser, a TC delay and a couple of SPX 990's.

"There's nothing really special there. It's just straightforward requirements for a rock band. I don't need all that valve stuff, and anyway, I wouldn't be able to tell if it was even working, it's too loud!"

Bruce manages to keep it down to between 110dB and 112dB at the desk, but says they like it loud. Even their "formidable" monitor system is louder than most.

"Liam's personal monitor system is four double 15" wedges and a double Flashlight, then the band have their own double EAW wedges so it's a pretty loud rig."

Not surprisingly, Oasis aren't in-ears boys.

"In-ear systems have turned up and they've just looked at them and told them to go away. To them, that's nancy-boy stuff!"

Microphone-wise, Bruce finds that standard Shure mikes work best: Beta 57's on vocals, 414's on overheads, and some 52's and 91's. The band have a 'relationship' with Shure and Bruce said the days of them going through new vocals mikes each gig are over.

"They (Liam and Noel Gallagher) have settled down. They've grown up quite a bit, and they've come to realise what they have. They just want to keep having fun playing live so they don't mess about."

Even though Noel and Liam know a lot about audio and even produce their own albums these days, Bruce said they steer clear of what he does and let him make the decisions about live audio.

He believes the reason why they like what he does is because of his pub rock background.

"I'm a rock mixer. And I've never told them any bullshit. If I've had a terrible show when I go backstage I'll say it was a disaster and they appreciate that. Nine times out of ten they'll say it was their own fault anyway!"

"But I think they're up on it because they've never come out and told me how to mix, so I must be doing what they like. Their friends would have told them by now – that's how sound guys really get judged isn't it? By the band members' girlfriends!"

Lighting

Mikey Howard has been LD for Oasis for the last 10 years. A faithful LSD Icon and Vari*lite user, Mikey wasn't too thrilled at having to use Martin gear in Australia. His design for the stadium version of this tour was made up of Icons, Vari*lite 2416 washlights and lots of generic lights. For the theatre dates in Australia his huge rig was reduced to 12 Icons, 12 Martin Mac 2000's and 28 Martin Mac 600's.

"I don't like Mac 600's as a washlight. Coming from Vari*lites and LSD washlights it's a different ballgame."

But Mikey was impressed by the Mac 2000's.

"The 2000's are alright actually ...surprisingly."

Mikey began to explain the concept behind the design came from Dali-esque inspiration, but when he realised I was buying every word of it, he took it all back.

"No, actually it's meant to be a photographic studio. The original design was obviously a lot bigger and it had lots of 10k's and theatrical lighting, and big strips hanging down to look like photographs drying."

The concept was born from a discussion he had with Noel after Noel decided he didn't want coloured light or moving fixtures used at all. Noel showed him some pictures of what he wanted it to look like, and Mikey had to come up with a way to make the use of white light throughout the show interesting. It was decided that white light would be used for the first eight songs and then there would be an explosion of colour from that point on.

"That was why I needed as many different types of light as possible: 10k's, 5k's, Icons, Washlights so we could get different bulb temperatures to make it look different.

"You don't get the same effect on the smaller scale. We had side screens and back screens so everything's black and white and then everything turns to colour at the same time. So it's this big fucking moment but you don't get it here because it's too light at the start and there's not enough width."

Mikey said while he likes doing club shows, the design would have benefited from time to reprogram his Icon console for the smaller rig.

He said his lighting crew on the tour had been fantastic and in particular wanted to mention his crew chief Scottie "The Drape Queen" Sanderson, and local crews Simmo, Derek and Chris from Chameleon and Dion from Bytcraft.

(left to right) LD Mikey Howard with 'Simmo' and Scottie Sanderson from Chameleon



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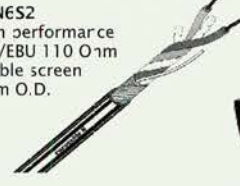
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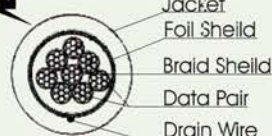


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Projector

By John Grimshaw

We took three DLP projectors, and put them through their paces simultaneously to see what we would find.



Above is the back panel of the Sim2 projector. Unfortunately, this projector does not offer component input on the 15pin HDD socket. Even if it did, it would need to incorporate some sort of self detecting and switching for when the input source changes.



The Plus projector's inputs are simple and discrete, providing for far more flexible input options in a more compact space than either of the other projectors



The Mitsubishi has dual inputs for both composite, S-Video and RGBHV. Only one of the two 15 HDD inputs can take component.

WE START:

Initial Setup - set focus and zoom for same sized pictures, and remove and electronic keystoneing...

Mitsubishi's XD200 was a simple setup, though because my initial test signal was a Y/Pr/Pb component 1080i HDTV signal using the Australian standard of 50Hz, this projector had a problem. As it is only designed to cope with 1080i at 60Hz, it could not successfully lock onto the signal. Changing the signal to SDTV, the projector became confused and had to be restarted - after which it displayed the standard definition digital signal properly.

During initial setup of the Plus projector, the HDTV digital signal was detected and displayed correctly without any user intervention. Presuming that the projector was left in this mode, the input signal was switched without replugging (thanks to the Kramer matrix switcher that is used in the test suite) to a RGBHV 1024x768 source - and the projector quickly reset, recalibrated and output that signal correctly. Impressive - most projectors and plasmas require a manual change in the setup to make this change.

The Sim2's very slow and quiet electronic focus tricked me into thinking that the focus was not changing, but persistence prevailed. This is actually a very good feature, making precise focus control from the remote very easy. The component input vision was connected to the projector, but the unit does not auto-detected the source, so the first trip into the Sim2 menus was started. Fifteen minutes later, when I had figured out how to use the menu system (this is a long time for me!), I manually selected the input signal and type, and the image appeared.

THE TESTING:

All projectors were tested with moving images from composite broadcast, Y/Cr/Cb from DVD and Y/Pr/Pb from SDTV and HDTV, and RGBHV in 800x600 and 1024x768 - and compared against the reference monitor. A series of contrast and colour tests are performed to calibrate each projector for the best possible image, matching (if possible) the reference monitor.

Brightness and Contrast...

The Mitsubishi needed very little adjustment from the factory defaults to produce a good image. Blacks are surprisingly deep, but the whites are noticeable less intense than the Plus. The Plus projector itself needed a little fiddling to get the best picture, but the time was worth spending as the display of extreme greys was easily

Shootout

Sim2 HT200 Plus U2-X2000 Mitsubishi XD200U

achievable. The Sim2 is by far the darkest projector of the three (but that was expected), and it took a far amount of fiddling to make the best balance of brightness and contrast. This projector would quickly 'bleed out' the light greys if the brightness was pushed even just a little, but persistence is worth the final result.

The closest contrast match to the reference monitor was achieved by the Sim2.

COLOUR BALANCING

Again, the Mitsubishi factory defaults were close to the required colour balance, which was good because the direct RGB level control did not have a great range. One interesting point, this projector is able to display very nice, deep saturated reds – certainly better than the other two projectors being tested.

The Plus projector was able to be setup to the required colour balance, and very fine tuning of the input source is possible by easy-to-use RG&B level controls. A significant good point for the Plus projector is that each of the input signal types were able to remember their individual picture and colour settings, even between the different types of component video and RGBHV that were sent to the same input. This is a great feature to have on a projector of this size because you would be able to balance the image output regardless of the input – without having to manually select memory positions, or even worse manually adjust the picture settings.

The Sim2 also has direct control over the RG&B levels, once you work out the menus. Though dark, a very nice picture could be displayed. Each of the three projectors were able to display the 256 grey scale ramp (and in RG&B) very accurately with no visible 'lumps' in the ramp. The Plus projector showed the smoothest ramp from black to RGB or white, with the Mitsubishi seemingly accentuating the dark end of the ramp a bit. (this would have the effect of losing a bit of definition in darker movie scenes).

The closest colour match to the reference monitor was achieved by the Plus.

PIXEL PRECISION

Pixel Precision and Sharpness – phase and timing checks in native resolution, scaling checks at high and lower resolutions...

The Mitsubishi achieved quite well in these tests. The display of tight pixel grids showed that the default set-up needed adjustment for the best picture, but the visual 'noise' generated by this test could be mostly eliminated. The scaling testing was not surprising – the scaling was not very smooth, and obviously

was taken care of by simple processing.

I was quite impressed that the automatic setup of the Plus projector was able to achieve a very similar picture to the Mitsubishi before manual adjustment. After manual adjustment, the picture was as close as perfect as you can get before switching to a DVI source. The result of imaging scaling produced slightly better images than the Mitsubishi, but not by much. In terms of sharpness of the image, the Mitsubishi seemed to have slightly better quality lens optics than the Plus.

The Sim2 needed quite a bit of adjustment to correct the image from the auto-set up, but a reasonably clean image was achievable. In scaling, this projector out did the others despite the fact that it had a lower resolution native image. This must be due to the fact that it has a built-in Faroudja chip set (called DCDi), which takes care of the scaling requirements for the projector.

The Mitsubishi achieved the sharpest overall image, the Plus had the best precision control over pixel placement, and the Sim2 and the best scaling ability.

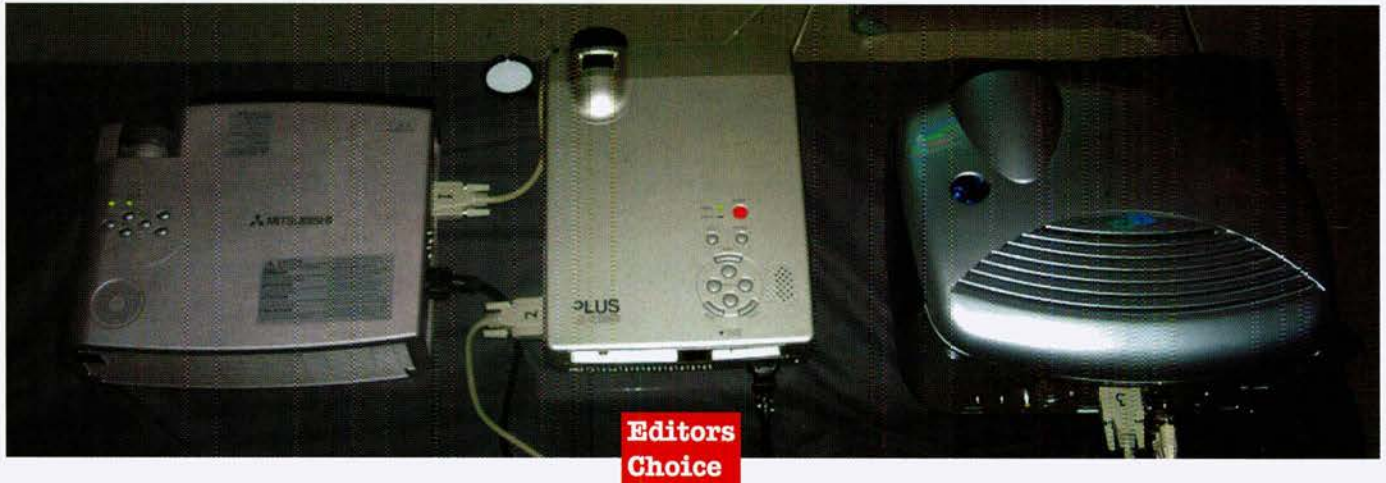
MOVING IMAGES

This is the easiest test, because after all of the previous adjustments, the images on each unit should be the best possible for this setup. The Mitsubishi had the worst contrast, making the overall image appear a little 'greyer' despite the fact that it had the best blacks display. The images on the Plus looked far superior to the Mitsubishi in this instance. The biggest surprise was with the Sim2. Despite being the least brightest projector of the three, this unit is clearly designed to show off moving images very well – again the result of some very good onboard video processing.

The Moving Images Results...

The Sim2 is clearly not the best choice for a data projector. However, situations that require moving images could make this a viable alternative because of the quality of the images. The most disappointing thing about this projector is the menu interface – don't expect to be able to just pickup the remote and adjust the picture. However, it does have a unique feature for this end of the market – a sealed light engine. This is great for smoky and dusty environments which can result in a shorter life for other projectors. This feature also provides extremely low fan noise. The only other projector brand I can think that seals the light engine is Barco – at six times the price. I think that the Sim2 delivers a great "movie" picture, but is a little over-priced.

The multiple inputs of the Mitsubishi make this a good



projector for situations where switching between numerous sources without a dedicated switcher is important. Also this projector is surprisingly quiet, unlike the Plus which is quite noisy by comparison. However I think that because this projector is just not quite as good as the Plus on so many fronts, the Mitsubishi does not represent good value for money at this price. Another disappointment for the Mitsubishi projector was the light leaking out of the fan vent (see picture below right).

AND THE WINNER IS....

In this shootout, the Plus wins hands down on picture quality. You can add to this an array of additional features - a well designed remote, compact flash card slot for presentations without a PC, DVI-I input, picture freeze and mute and even onboard help.

I liked the way this projector worked - quick and easy to use, and it could switch input types very quickly. For all round performance it is certainly the best one of the three tested here - and the best under \$10k I have seen this year.

Connections would like to thank the following companies for equipment used in this review:

- DisplayMate - software for display evaluation www.displaymate.com
- DGTEC Set Top Box from Anderson Audiovisual +61 2 9586 3230
- Pioneer Plasma PDF-433 MVE (reference monitor) from Pioneer 1800 060 852
- Kramer VP-4x4 Matrix RGB switcher from AV Technology +61 7 5531 3111



Light leaking from Mitsubishi vent

MODEL	Sim2 HT200 DMF	Plus U2-X2000	Mitsubishi XD200U
Resolution:	800x600 (4:3 mode), 848x430 (16:9 mode)	1024 x 768 pixels	1024 x 758 pixels
Imaging System:	1x 0.9" DMD (DLP)	1x 0.9" DMD (DLP) RGBW colour wheel	1x 0.7" DMD (DLP) RGBW colour wheel
Lens:	f=(not specified), F=2.7-3.3	f=35-42mm F=2.4-2.7	f=25.2-28.4mm F=2.5-3.0
ANSI Lumen:	800 (specified) 257 (measured)	2000 (specified) 1038 (measured)	1800 (specified) 974 (measured)
ANSI Contrast:	300:1	650:1	350:1
Weight:	8kg	2.5kg	3kg
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STUDIO NEWS

Central Coast Rehearsal Studios - New Equipment - E.V eliminator Sytems X 4 & New Desk. Latest Project - Rooms 1 & 2 are going through a complete Rebuild at this stage With E.V eliminator Sytems Fitted

Damien Gerard Sound Studios - New Equipment - Neumann TLM103 for Pro Tools Suite, clean, quiet and transparent, good for any source. Line 6 Guitar POD, great for that extra guitar sound or idea that can't be found on the Amp and very fast to use. Latest Project - Monstrous Blues Album for Highbeam Records, huge sounding stoner rock band a la soundgarden so tonnes of drums /amps / mics and inputs, extra pre amps etc.

Nu-Town Studios - Latest Project - After 18yrs on King Street, Nu-Town is moving! As of the 23rd of Dec' we'll be on another planet not far away.

Indent Music - New Equipment - Pro Tools HD, Soundelux U99, Lexicon PCM91 Metropolis Audio. Latest Project - One of the biggest projects the post production team at Metropolis are currently working on is a series of soundscapes for the Warrambool "Flagstaff Hill" Maritime Museum. This massive undertaking requires everything from theatre soundtracks to snippets of dialogue which will be played in the people movers that transport the maritime

(continued over)

CHARTS



Kasey Chambers

If I Were You

Produced by Nash Chambers.
Published by EMI Music Australia



Shakaya Cinderella

Produced by Reno Nicastro, Khesrow Rasta and Partrick Crowley. Mixed at Megatrax Digital Studios (Cairns)

NSW

ARTIST	PRODUCER	ENGINEER	SESSION
A# Sharp +61 2 9153 9988 Jeff Cripps (jeff@asharp.com.au) www.asharp.com.au			
D4	Jeff Cripps	Jeff Cripps	Soundtrack
The Crop	Jeff Cripps	Jeff Cripps	Movie Soundtrack
Up Close And Dangerous	Jeff Cripps	Jeff Cripps	Movie Soundtrack
Abortus	Jeff Cripps	Jeff Cripps	Album
Damien Gerard Sound Studios +61 2 9555 1710 Elia Green (dgss@optusnet.com.au) www.damiengerard.com 2' 24 TRACK/PRO-TOOLS Big live room with isolation booths.Also pro-tools mixing/mastering room with vocal booth, ideal for voice over sessions.			
Grow Your Own	Marshall Cullen	Russell Pilling	Album
Monstrous Blues	Monstrous Blues	Russell Pilling	Album
Choirboys	Mark Gable	Russell Pilling	Album
Angeline	Chris Cook	Russell Pilling	Album
Damien Gerard Sound Studios +61 2 9555 1710 Marshall Cullen (dgss@optusnet.com.au) www.damiengerard.com Studio A - 2' 24 track with Pro-Tools,Neve & Tube Pre's, RED STAIRS ROOM- Dedicated Pro Tools Suite with vocal booth, All formats catered for.			
Elephant Tracks	Label	William Bowden	Mastering
Choirboys	Mark Gable	Russell Pilling	Album Tracking
Monstrous Blues	Band & Russell	Russell Pilling	Album
Flee The Capital	Marshall Cullen	Russell Pilling	EP
Post for Film and Television			
B.E.L.T	Leslie McFaddon	Kristian	6 part audio book
Ether PL	Thomas Ashelford	Russell	Cover version w/overs for Doco
Creative Response	Sophie Seeger	Kristian/Ben Gardner	Mothers day audio card
Norma Murphy	Norma Murphy	Russell/Ben Gardner	Bowling Club jingle
Eargasm +61 2 9356 2844 Mark Beckhaus (info@eargasm.com.au) www.eargasm.com.au Full Pro Tools equipped. Specialising on in-house productions by producer/engineer Craig Portails.			
Diesel	Craig Portails	Craig Portails	Album
David Campbell	Craig Portails	Craig Portails	Album
30 Odd Foot Of Grunts	Craig Portails		Album Tracks
Omc	Craig Portails	Craig Portails	Album Tracks
Electric Mountain Studios +61 2 9280 3766 Greg Clarke (electric@tig.com.au) Located in Surry Hills			
Long Way To The Top	Billy Thorpe, Greg Clarke, Mark Opitz	Greg Clarke	Audio Post for DVD/CD/Video/Broadcast
Milkbar Recording Studios +61 2 9516 4559 David Sykes (info@milkbarstudios.tv) www.milkbarstudios.tv One stop shop for all your multiformat, surround sound, recording and mixing requirements			
Rebecca Cartwright	Tony Cvetkovski	Tony Cvetkovski	Single
Hanging Tree	Anton Hagop	Anton Hagop	Album
Vaig	Sammy Kannis	Adam Ellis	TVC
Jeremy Gregory	Sammy Kannis/Jeremy Gregory	Mick Seage	Demo and single
Nu-Town Studios +61 2 9516 3306 Greg Hopping (nutown@yahoo.com) Digital / Analogue, recording, production and programing suites.			
Groovy Dee	Sofie Loizou	Sofie Loizou	Single
Senani	Sofie Loizou	Sofie Loizou	Single
Leoni Walters	Mark Worrall	Mark Worrall	TVC
Sound Level Studios +61 2 9552 3200 John Soane (admin@soundlevel.net) www.soundlevel.net 16 Track Paris / 24 Track DA 88			
Log	Log	Jordan Brebach	Album Tracks
Reb Baker	Reb Baker	Jordan Brebach	Album Tracks
You Am I	You Am I	Jordan Brebach	Album Track
Studios 301 +61 2 9698 5888 Steve De Fina (steved@301.com.au) www.studios301.com.au Recording & mixing studios for all genres of music			
Melissa Tallon	Dave Nicholas	Dave Nicholas	Album/Tracking
Gerling	Magoo	Magoo	Album Mixing
Ulf Kaiser	Todd Dearly	Todd Dearly	Tracking
Frenzal Rhomb	Phil McKellar	Phil McKellar	Single Mixing
Hillsong Church	Brent Clark	Brent Clark	String Recording
Troy Horse +61 2 9319 1799 Mickey Levis (rock@troyhorse.com) www.troyhorse.com Analogue Studio/Protools/Mastering			
Kinderschmerzen	Band	Scott Saunders	Tracking
Kool Skools Project	Golightly/Worrall	Golightly/Worrall	Multimedia Cd's
International Languages	Int. Lang.	Danny Golightly	Recording/Mastering
Poochie	Bronson Agressive	Bronson Agressive	Album
Velvet Sound +61 2 9267 2915 www.velvetsound.com.au Studio A: 48ch Amek, Pro Tools HD3 & MCI 2", Vegas Room: Control 24 & Pro Tools HD3			
Lavaland	D.C	Daniel Clinch	Tracking
Disco Montego	Waldo Fabian	Daniel Clinch	Single Remix
Blacklight	Brent Clark	Brent Clark	Tracking
Parker	Dave Reynolds	Adrian Grigorieff	EP
Wirra Willa Studios +61 2 9605 1203 Will Rout (tribal@zip.com.au) www.tribalrecords.com.au 24 trk & 6 digital sys,DM80,8 synths,Pulsars,Cubase,SX,Acid pro,Sampletank,Drumagog,Vsampler, Waves,Db,TC,Antares plugins,Valve Procs,Classic mikes.			
Suella	Suella	Eddy Barila	Recording Album
Sharit	Swadesh	Will Rout	Mastering Album
Larry Gerace	Larry	Eddy Barila	Recording Album
Henry Gee	Henry	Eddy Barila	Backing Tracks
Crystal Mastering +61 3 9326 2318 Joseph Carra & John Ruberto () Mastering Suite			
The Androids	Henwood/McKenzie	John Ruberto	Mastering
H-Block	Band	John Ruberto	Mastering
Walken	Band	Joseph Carra	Mastering
Brewster	Brewster/Ransom	Joseph Carra	Mastering
Edensound Mastering +61 3 9682 9066 (mart@edensound.com.au) www.edensound.com.au Focusrite "Blue" Mastering Suite at Metropolis Melbourne			
John Farnham	Ross Fraser	Martin Pullan	The Last Time - Single
Chrissa	Laurence Maddy	Martin Pullan	Adios - Album
Dave Hughes	Peter Grace	Martin Pullan	Album
Francesca	David Grice	Martin Pullan	Way of the World - Single

VIC

TRACKING GUIDE

Indent Music +61 3 93812636 Dave (studio@indentmusic.com.au) www.indentmusic.com.au Pro Tools HD/Cccontrol24 setup with good pres and mics. We have 5 iso rooms so we can record the band down live and keep the vibe.

Red Circle	Band	Band	Album
Dolly Blitz	Band/Dave	Dave	Album
Honey Spiders	Band	Dave	Drum Tracking

Metropolis Audio +61 3 9696 2111 Nikki Jones (info@metropolisaudio.com.au) www.metropolisaudio.com.au Recording Studio, Bands & Music + Post Production for TV, Film & Radio.

Dave Graney	Adam Rhodes		Film Soundtrack
Wannabies	Robbie Adams		Film Soundtrack
Foo Fighters	MCM - 'Live at the Chapel'	Brian McMahon	Live Record & Mix
Paul McDermott	Hadyn Buxton		Record

Pony Music +61 3 9702 3244 Geoff Mison (info@ponymusic.com.au) www.ponymusic.com.au ProTools TDM on Mac G4, Tascam TM-D3000 digital console, large tracking and control rooms.

Drivaside	Band	Geoff Mison / Andre Gulbis	Tracking
C.E.P.	David Lord	Geoff Mison	Single
Nurnberger	Band	Geoff Mison	Single

Spring Studios +61 3 9529 7779 Harry (springstudio@compuserve.com) 2 monitor rooms, good mics, nuendo 24 bit recording, and live recording

Kavisha Mazzella	Harry Williamson		Album
Steve Magnusson	Harry Williamson		Album
Joel	Harry Williamson		Mastering
Melbourne opera - tosca	Harry Williamson		5.1 Recording & Mix

Studio 52 +61 3 9417 7707 Carly Byrne (info@studio52.com.au) www.studio52.com.au Three high quality recording studios specialising in complete CD packages including artwork, multimedia and mastering requirements

Plunja	Trevor Carter	Jared Scott	Album
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Toyland Recording Studio +61 3 9482 2111 Adam Calaitzis (adamcal@ozemail.com.au) www.toyland.com.au Live Bands, voiceovers, Sweetening, Music Editing, Mastering. Neve and Telefunken Mic pre amps

Contrive	Band	Adam Calaitzis	Album Tracking
Bloodduster	Jason Fuller	Adam Calaitzis	CD Mastering
Ted's Camera Store	Chess Winters	Adam Calaitzis	TV and Radio Ads
Beds for Backs	Bob Knowls	Adam Calaitzis	Radio Ads

True Form Recording +61 3 9391 0907 Neil Gray (trueform87@hotmail.com) 24 Track Digital, Classic Analogue Console and Outboard, Est.15yrs.

Scott Wilson	Neil/Scott	Neil Gray	Mix Album Tracks
Fallopian Tube	Neil/ Band	Neil Gray	EP

Pandamonium Records +61 7 4051 3386 Todd Macalpine (studio@pandamonium.com.au) www.pandamonium.com.au Hard Disc based facility specialising in band recordings at reasonable rates. Great sounding large live room.

Killer Bees	Bob Vidler/Todd Macalpine	Todd Macalpine	Album
Mains	Todd Macalpine	Todd Macalpine	Overdubs

Select Sound/Coral Sea Studios +61 7 4031-1760 J. Wexler (selectsound@austarnet.com.au) Cairns' only acoustically designed facility - albums and video post available full 24ch digital Pro Tools

Andrew Namok	Brett Tyrell	Nigel Pegrum	Album
Andrew Namok	Brett Tyrell	Nigel Pegrum	Video Clip
CCA Furniture	WIN Television	Nigel Pegrum	Jingle
Indigeneous Australia	Mark Mannock	Nigel Pegrum	Album Series

Disk-Edits +61 8 8340 1377 Carlie (sales@disk-edits.com.au) disk-edits.com.au Audio Mastering & Post Production

The Gels	Rising Star Music	Peter Kolomitsev	Mastered & Manufactured Album
Ntt - Kick'n Back This Christmas	Ntt Entertainment	Peter Kolomitsev	Mastered & Manufactured
Ticklish Allsorts	Chris Johns Management	Neville Clark	Mastered Album
Dorinda	Natasha Boyar	Neville Clark	Mastered Album

Post for Film and Television

American Psycho 2	Oasis Dvd	Peter Kolomitsev	Dvd Audio Preparation
Story Telling	Oasis Dvd	Neville Clark	Dvd Audio Preparation

EarSight 0407 970 425 Steve Fieldhouse (earsight@senet.com.au) ProTools Mix Plus TDM Facility for tracking, editing, mixing,remixing and soundtracks Found Objects Steve Fieldhouse/Chris Lambert Steve Fieldhouse/Chris Lambert CD Album Tracking and Mixes

Mixmasters Productions 0411 302 777 Brett Taylor (brett@mixmasters.com.au) www.mixmasters.com.au SSL 4000e / G+, 32 I/O Pro Tools, Studer A-800 2", Outboard And Mic's to die for, no compromise.

Gone To Earth	Chris Dickie	Chris	Album
Vegans In Leather	Andy Wallace	Andy	Album Mix
Jessie Dean Freeman	Jessie	Brett Taylor	Album

Bonsai Recording Studio +61 8 9246 4408 Tom Thorpe (bonsai@iinet.net.au) Protocols based studio - albums, demos, jingles, AV, multimedia.

Mr. Marshmallow	Tom Thorpe	Kids' CD	
Scott Arnold-Eyers	Tom Thorpe	Album	
CampaignMakers	Tom Thorpe	TVC	

Pocket Universe +61 8 9272 2118 Erik Kowarski (erik@perthwa.com) pocketuniverse.perthwa.com Friendly, low-stress recording room (trio max.) with high end mic's and preamps. Pro Tools since 1995. Specialising in acoustic/ folk.

Brendan Woods "Cashman's Diary"	Erik Kowarski	Erik Kowarski	Album
Sean Roche "Thank You For The Days"	Sean Roche	Erik Kowarski	Album
Foster's Best- Aust. Pub Songs Vol. 2	Erik Kowarski	Erik Kowarski	Album
Kilkenny's Best- Irish Pub Songs	Erik Kowarski	Erik Kowarski	Album

Poonshead +61 8 9339 4791 Sam and Rob (mail@poonshead.com) Audio Production, Recording, Mastering

Seahorse Radio	Rob Grant	Rob Grant	Album - Mixing
Flux Capacitor	Rob Grant	Rob Grant	EP Mixing
Adam McCarthy	Rob Grant	Rob Grant	Single
Monsoon	Rob Grant	Rob Grant	Mastering

Witzend Studios +61 8 9336 1888 Alan Dawson (witzend@highway1.com.au) 16 Trk Analog + 24 Trk Digital, automated console.

Aluvium	Alan Dawson	Alan Dawson	Album
Hart of Yoga	Hansa	Alan Dawson	Album
Sally Hegotule	Alan Dawson	Alan Dawson	Album

VIC

STUDIO NEWS

patrons from one venue to the next. Additionally, Metropolis Post Production have been occupied recording and mixing radio & Television for a wide range of agencies and their clients, as well as documentaries and short films.

Spring Studios - New Equipment - Valve compressor and preamp, uTec ceramic condenser mic.

Studio 52 - New Equipment - Alesis HD 24 recording systems. Latest Project - Album production for Plunja has just begun, they have just been signed to Roadrunner Records

Toyland Recording Studio - New Equipment - Studio Projects VTB1, Telefunken 395a Discrete EQ.

True Form Recording - New Equipment - Recent equipment additions include an SPL DE-Esser, 2nd FMR "Really Nice Compressor", a pair of DB Tube Condenser Mics, which are great for overheads and guitar amps, and an ART "Tube Preamp System" stereo mic pre.

Mixmasters Productions - Latest Project - Film Score "The Tracker" Produced At Mixmasters, Engineered Mick Wordley / Brett Taylor Nominated For Aria "Best Sountrack" Award

Bonsai Recording Studio - New Equip - Protocols HD2, video/dvd suite with Final Cut Pro and DVD Studio Pro.

QLD

CHARTS



Bachelor Girl

Drowning Not Waving

Produced by Bachelor Girl. Mixed by James Roche at The Song Cafe, Melbourne



Nikki Webster

Crazy 'bout Your Smile

Produced by Chong Lim, Mixed by Steve MacMillan, Mastered by Michael Costa/Stream AV

SA

WA

Venue crippled by council lunacy

How a great idea became a disaster.

Story by Winston Mears

The mayor pushed hard, and the new Bigville multi-purpose performing arts centre was opened to general acclaim. Council elected another mayor in the months before opening, and he didn't have the performing arts vision. So they didn't carry through the original plan. They promoted a manager from some dull department to manage the place.

Susan was delighted at the new job, and appointed Mal as Operations manager. He set about hiring a Technical Manager, FOH manager, and general staff. Opening week arrived, a leading state drama company ran a season that Bigville purchased outright, and the losses started.

Somewhere between mayors, the budgets and understandings changed. Council now wanted the centre to cover its own costs. It was incorporated as a stand alone company, after all.

Susan reviewed operations and made sure all hirers, since the centre wouldn't take the risk on too many shows after the opening, wore as much cost as possible. The venue hire contract made hirers responsible for any loss or damage or failure of the venues equipment. A touring dance show were staggered to be presented with an account for lamp failures during their week.

The fittout had come up way short on essential technical items, so Bigville started hiring audio and lighting to top up every season. Accountant Mary was stretched from day one, with no overdraft and only operational income to meet wages and utility accounts. The air conditioning was reset to 27 degrees to try to reduce the hourly running cost of \$39.

A local sound and lighting company stopped supply after seven months due to non payment of account, as did the supplier of toilet paper. The bar was paying cash on delivery.

Becky the receptionist broke down in tears when Jock from the sound and lighting company called for the fifth time in as many hours. He was incensed that Mary wouldn't talk to him about the very overdue account for over ten thousand dollars. Becky left her desk, never to return. The stress of fielding continual calls demanding money was too much.

Council realised the centre was in trouble, and reluctantly made one off grants to meet wages and other accounts. The low point arrived one morning when a hirer faxed a lighting plot that required 119 blue gel. They didn't have it. Susan told Mal to use something else, Mal went and purchased a sheet of gel with his own \$26.

Jock finally received a letter from expensive uptown solicitors acting for Bigville. It was extremely rude and lengthy. He could receive half what he was owed, or they would contest

liability. They would require copies of purchase orders, proof of delivery, and independent expert opinion as to the value of services supplied. This would be tested before a court. He may be liable for all their costs, plus his own, if he lost.

Taking half the money, Jock signed a release that prevented him talking about his experience with Bigville. He called his competition anyway, and advised them the place was a bad credit risk. Some already knew, having had the same experience. He found out to his chagrin that those who had bluffed the lawyers by suing anyway had been paid in full.

The smell of stupidity and incompetence drove hirers away.

Finally council promoted Susan to the recycling program, and appointed a professional team from within the performing arts community. The new director took on the job on the express understanding that a regional performing arts centre would never be profitable. Today, the place runs like it should have at the start. •



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Sound Forge 6

If you work with digital audio on a PC, you'll be well aware of the Sound Forge program. For those who don't, it's an industry standard (for PCs, at least) digital Audio Editing program from Sonic Foundry, and ver. 6 is the latest update.

The user interface is a deceptively simple one that you can customise to suit your own requirements. Basically your sound file opens as a graphic rendition of peaks and valleys, plus a level meter on the right, and a series of drop down menus for various commands and processes. You can set any of these up as toolbars that can be placed permanently in the workspace or docked to any side of the screen. And it uses standard Windows key commands – Ctrl C, Ctrl V and so on – so you can get to work straight away without having to learn a whole new way of doing things. Since I'm also a graphic artist, I like to think of it as CorelDraw or Illustrator for audio!

It will open and edit, stretch, squeeze, apply effects and do just about anything to any kind of audio file – WAV, MP3, AIFF and a whole heap more. You can even import a video file like an AVI, edit its audio track and then re-export it.

If I had to describe the benefits of version 6 in one word, it would have to be – Speed.

I bought ver. 4 in the US a few years ago, then upgraded to 4.5 for Direct X support. I already thought it was a fast program, but I was amazed at how much faster the same processes are in version 6. The reason for this is what they call non-destructive editing. Instead of re-rendering the file each time you make an edit, as it used to, it now just makes a note of the part you don't want and re-draws the file. So much faster. And if you change your mind, then Undo or Ctrl Z will instantly redraw the file the way it was. If you've used other editing programs, or previous Sound Forge versions, I think you'll be blown away by the sheer speed of getting things done.

And when you do click Save and the file renders itself with all your edits, it does so in the background, while you can get straight onto the next file with no waiting.

As well as importing and exporting any digital audio files, Sound Forge 6 will easily capture analog audio from any source – tape, vinyl, microphone, instrument, TV. As a previous version user, I liked the fact that the Record window now has the Monitor box ticked by default, so you can see your recording levels at a glance. There is no provision for real-time adjusting the recording level in the program, and personally I prefer to leave the Windows volume controls well alone once they're set, so a way of controlling the input level externally (like a mixer) would be useful.

You can also extract audio from CDs, edit as necessary, and then re-burn to a CD once you're finished, all without leaving the program.

The choice of things you can do with the audio is mind-boggling. There are 35 audio effects, including DirectX Plug-Ins, so that

whatever you need to do can be done – 3 different EQs, lots of Reverbs, Delays, Choruses, any number of Compressor/Limiter/Normalize/Volume presets, as well as Time

Compress and Expand, and all infinitely adjustable. The new Preset Manager lets you save all your favorite and most used preset settings so they are available ready to go next time. A great time-saver.

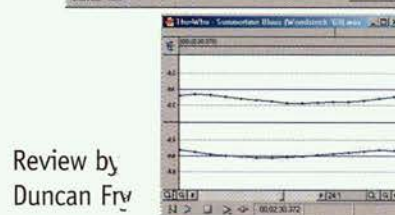
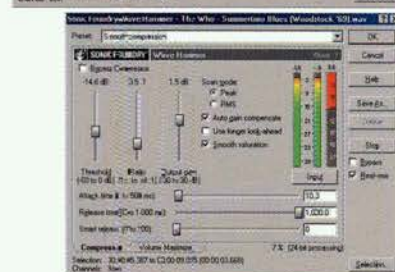
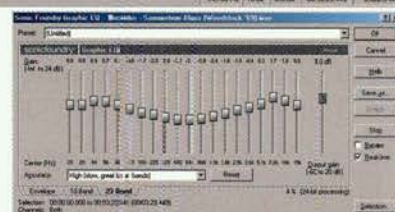
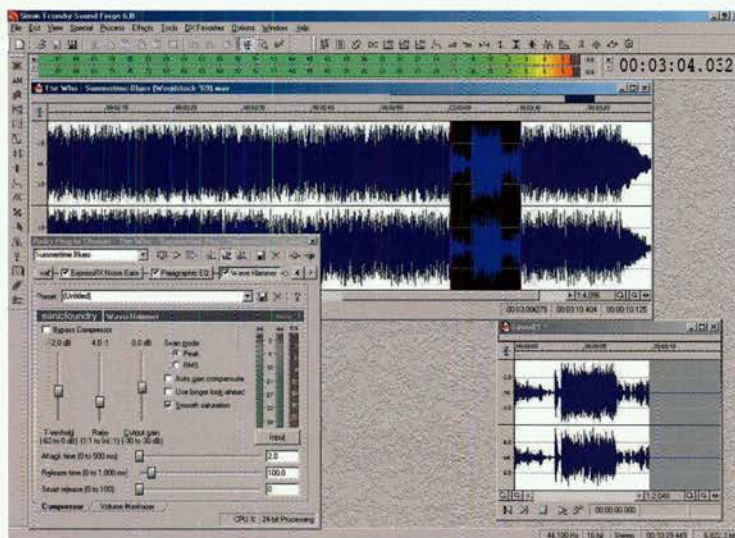
As a tiny example of what can be done, I imported an MP3 into Sound Forge 6. Now a lot of MP3s are a bit cubious in quality, and this one was no exception. Flat sounding and dull. First I opened up the Graphic EQ and put a mild version of the classic car stereo 'smile curve' over it. Sounding better already, but the vocals were a bit lost. The Para-Graphic EQ tool enabled me to tweak the mid/highs at exactly the right frequency to add a slight edge that pulled them back out in front.

The tempo also dragged a little – maybe it had come from a turntable running slow – so a slight time and pitch adjustment brought it back to a B.P.M that matched my recollections.

I liked the guitar solo in the song, so I thought I'd repeat it after the next verse. The new ultra Zoom In function lets you get right down past 1:1 to the sample level of 24:1 for super-accurate editing, so it was a simple matter of placing a marker (by typing M) before and after the solo, double clicking in between them: to select the area, copying then pasting it in its new position. Well, maybe it took a little longer than that, but not much, and the edit is inaudible. Anyone doing dance mixes would love this program!

After that, I normalized it to -14dB on the RMS setting, and the difference between the original track and the edited one makes it hard to believe they come from the same source. I could have used the Wave Hammer mastering tools for final tweaking, but the sun was starting to come up, the birds were singing, and I felt I had to get some sleep. Time flies when you're having fun!

The program comes bundled with Vegas Video 3 Limited Edition. Don't let the word Video put you off – this is a multi-track audio recorder second to none, and as a bonus it also is an excellent video editor. Dragging an audio or video file into its workspace places it on a track, and right clicking on that track lets you open it (or a copy of it) in Sound Forge. So the two of



Review by
Duncan Fry

them work very closely together. Since it's a multi-media world we live in, pretty soon you'll be editing video as easily as you edit audio. I've always felt that putting tasteless new audio behind TV commercials might be a bit of fun – maybe now I'll try it!

So would I buy it? You betcha. If you earn your living editing audio, or just enjoy doing it, I think you'd save a lot of time and truly deliver the goods by using Sound Forge 6. If you have an earlier version, it's well worth the upgrade. If you're using something else, well, I know we all get attached to the program we first learnt on, but the quality and speed of Sound Forge 6 makes the learning curve worthwhile. And enjoyable!

You can download a demo version from their website if you want to try it out, or if you don't believe me!

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Connections

New magazine to replace Connections

The December issue of Connections will be the last. After ten years of monthly publication, this magazine will be replaced in March with a new bi-monthly, called CX Magazine. For more info, go to www.juliusmedia.com

Qualified Success?

As I write this the review is underway of the 'Entertainment Training Package' – the national qualifications for backstage personnel. But this article is less about the Package and more about the issues surrounding the assessment of one aspect – design, a controversial area from the first generation of qualifications both here and others worldwide.

From 1987 to 1997 I had the honour to chair the aetti, the first body in the UK to develop national vocational qualifications for backstage personnel. This responsibility included design and so we dutifully consulted both the Society of British Theatre Designers and the Association of Lighting Designers. These organisations both contained people who ran and/or taught the established degree design courses so not surprisingly they were suspicious of the idea that creativity could be assessed in competence-based terms. Nevertheless they worked to help us produce qualifications for the 'technical' aspects of design – such as research, drafting and presentation – but would not address the issue of creativity.

Together we developed the drafts in more detail than we had originally thought possible and also addressed the then emerging implications of safety legislation. Sadly, the Government's aim of producing a national standard for design throughout all industry lost the support of the entertainment sector which was not, rightly, interested in 'dumbing down.' So, although there have been other flirtations since, the UK still relies mainly on its world-class degree courses. There too, the lack of Government funding, coupled with the burden of assessment paperwork, has deterred many organisations from implementing vocational qualifications however well intentioned, Australia please copy.

Whilst at the aetti the lighting people produced some very thought-provoking views, in one case suggesting that LD's could be more creative if they didn't need to be as technical. This suggested that, to compensate, the electricians needed to be more creative to interpret the LD's ideas. The equivalent perhaps is in costume design where a selection of swatches and a drawing is the initial point of communication – set design too relies initially on the model and often on a rendering. How can LD's communicate their ideas which are intangible – as intangible as the quality of the sound a designer in that field is aiming for? LD's can talk of paintings, films and other shows, and now provide computer generated renderings, but these wouldn't tell an electrician about the rig. This division of labour, between the technical and the creative, occurs more in opera and ballet when painters, ignorant of theatre techniques, are often engaged to design but need a good support system to interpret and realise their ideas. These art forms have a history of distinguished people producing in some cases seminal work and the theatre is the better for their input, but, as an aside, it would be interesting to see more painters (and sculptors too) work in rock-and-roll and straight theatre.

In the UK I taught on two lighting design diploma

courses, at one of which the venerable Francis Reid was the external assessor. Mr Reid has written well of his views on competence-based assessment and his criteria remained shrouded in some mist, more instinctive than prescriptive. Francis spent a day with the students and then delivered his verdict. I don't recall a single one that was inaccurate. Of course, there were clear technical issues, but overall the key points about his designers were a sense of adventure and a feeling that this person would be good to work with.

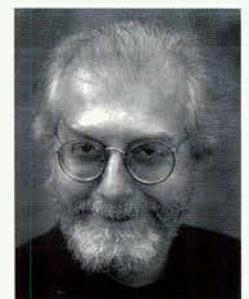
So, in design there are technical aspects, different for each discipline, that need to be understood and communicated by the designer and which could be assessed as a measurement of that person's practical ability. But meanwhile we remain puzzled about assessing the effect of the end result and the person who produced it. Design is an organic process and much successful design depends on instinct which cannot (and shouldn't) readily be explained.

I think the ability to create relates to making something from nothing. But, as an LD, I rarely start from this blank, I have a script a venue, a set and a director with ideas. Therefore, my ability to be creative is focussed in other ways, in my case on getting the best out of a limited rig, schedule and budget. But I can't do this unless I have a good technical knowledge, so, to reproduce me (!) the training and assessment would need to provide these elements. I have a natural flair for organisation and that is stronger in me than my creative instinct – but nevertheless I still have 500 shows worldwide under my belt. However, I know other LD's who are brilliantly creative but not very organised – how would the same vocational qualification address both of us?

Knowing oneself is invaluable in all walks of life – I've written before in Connections about understanding whether one is a morning or a night person. Another factor, and it relates especially to creative people, is whether you need to be with other people when working, or, whether you need to be, or can happily be, alone and undisturbed. This also applies to consultants who often work alone, and to composers, writers and so on. Of course, every piece of work eventually needs a team to realise it (or at least to display it) and here the creative person needs to take the team with them on a journey. Each can bring something to the experience but equally, each can cause the design to be compromised and therefore both designer and the team are walking a tightrope.

The creative process is essential to theatre, without it the technology remains literally second place and possibly second rate too. So, we need to be very careful when qualifying the notion of creativity (and performance too – another very controversial area). Meanwhile anything we can do to help nurture designers is good news, anything we can do to help deliver more cost effective and safe designs is good news. Anything we do to put design into a straight jacket is bad news.

"The creative process is essential to theatre, without it the technology remains literally second place and possibly second rate too."



The Who 1968

An old fart remembers...speak up, sonny

It's funny how coincidences occur, isn't it?

I received a phone call a couple of weeks ago from a guy who had read my Hunchback of Festival Hall*** story, and wanted to know if I had any more information on early shows.

Then the other day I received an email giving me details of a book on The Who and Small Faces tour of Australia in 1968, called A Fortnight of Furore, and I thought - crikey, is it really that long ago? Thirty five years and I remember it like it was yesterday. Of course, things have a way of evening themselves out, because on the other hand I can't remember anything that happened yesterday!

I was a real Who and Small Faces fan in those days, and as soon as the tour (The BIG SHOW) was announced I decided to throw caution to the winds and go to all 4 Melbourne shows, two per night at 6 and 8.45 pm. My total cost for all four was \$18 - \$4 per ticket plus booking fee! You couldn't park your car for that amount now, but I suppose it's all relative - my weekly gross wage at that time was the princely sum of \$60!

I managed to get seats in the front or second rows, and furtively took some photos with a borrowed camera and a fast black and white film that required no flash. The best ones I had blown up into 10x8s, which I stuck in a photo album and promptly forgot about.

The phone call sent me hunting through the fabled Fry Archives of Trivia to dig out the photos, and when I looked at them for the first time in probably 30 years I was immediately transported 'back to the future'.

It was a really old-fashioned concert package - rather like an early TV variety show, with a support band, a singer, and two headline bands, all doing a short bracket each. All it needed was a dinner suited compère with a top hat and cane doing a soft shoe shuffle and it could have been lifted straight from Pommie TV.

The support band was The Questions, who would probably have sunk without trace had it not been for their singer - they later became Doug Parkinson In Focus! Next came Paul Jones, ex-Manfred Mann lead singer doing his first (and last?) solo tour, with The Questions as his backing band.

Stevie Marriott from the Small Faces wore a typical late 60's frilly body shirt, rather like the one Kramer's girlfriend tries to get Jerry Seinfeld to wear. There was nothing frilly about his voice, though; it was spot on despite the lack of monitors. He and the band ripped through a selection of their greatest hits, playing a Gretsch semi-acoustic, and both bands used the same amplifiers - two Marshall stacks for the guitar (one of them a custom job in purple vinyl!) and a single stack for the bass. Sorry keyboard players - I can't remember what the Small Faces' Hammond plugged into, and it's not in any of the photos.

Interestingly the Marshalls were all PA heads. An odd choice I thought at the time, but in retrospect these were the days before the normal amps had a master volume control, so using a PA head was the easiest way to overdrive the output tubes

Pete Townshend wore an odd choice of clothing - a

sparkly white jacket, another of those frilly shirts and cream moleskins. And unless he had four identical outfits, as far as I could tell he wore the same thing for each show! Must've smelled really great backstage. Like The Small Faces, The Who played their greatest hits, plus some lesser known tracks. If you've heard the new CD re-release of Live At Leeds, then you've got a fair idea of the songlist. Despite the lack of monitors, and the very considerable onstage volume, Daltrey's vocals were superb, and even the harmonies cooked nicely.

Pete was playing a light metallic blue Strat, which he dutifully whacked into the stage during My Generation, but in one of the accompanying photos here you can see he's playing a Les Paul TV model, which was Stevie Marriott's standby guitar.

This photo is from the final show, and the Strat had suddenly broken in two during Shakin' All Over.

Apparently, in order to not lose too much money from smashing them, his roadie would just glue the neck and body together, not attaching the screws - so when Pete smashed it the guitar would just come apart into two halves and could be re-glued for the next performance.

There had to be a limit to how many times that could be done, and that night we reached it - the glue hadn't cured completely and the guitar just folded in half!

The roadie brought it back onstage for the next song, screwed together properly this time, and I remember Pete saying to us "Tonight I'm really gonna smash it!"

Which he did, slamming it into the stage like a man possessed, smashing it to bits and throwing the pieces into the audience at the end.

Immediately afterwards his roadie came out on stage and tried to get the bits back from the crowd, but fat chance! One guy dashed out with the complete pickguard and pickups under his jacket; I wonder whatever happened to them. For myself I managed to souvenir a piece of the guitar body off the stage - the top horn of the Strat where the strap attaches.

I had it for many years, and then one day I was telling someone about it, and he said - "Hey, I know a guy who'll enclose it in a slab of clear epoxy so you can display it on your mantelpiece"

Great idea, I thought, and gave it to him the following day - naturally I never saw him again!!!

Trying to tape the final show on my portable Phillips cassette recorder and juggling the camera proved too complicated, and the level was stuck on 11 all night, resulting in total distortion.

Kind of like my ears were for a few days!



*** www.dunk-world.com/hunchback.htm

A Fortnight of Furore, by Andrew Neil. UK8.99 plus UK3.00 postage, available from Helter Skelter Books. e-mail: helter@skelter.de.non.co.uk



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