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## MAGAZINE

Now featuring the **VERY BEST** from



Defining  
the Future of  
Recording



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**technicians survival manual**

Juliusmedia 

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### DigiPage - 8 or 16 Zones

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# SONY

**Sony Australia Limited**

A.B.N. 59 001 215 354

Head office: 33 Talavera Road,  
North Ryde NSW 2113

Sydney (02) 9887 6666

Melbourne (03) 9264 0221

Brisbane (07) 3334 4000

Perth (08) 9202 2555

Adelaide (08) 8234 3777

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# CX

the lifestyle magazine  
for technicians!  
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VISION • STAGING**

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and maybe win a career in  
Entertainment Technology!  
**\$10,500 competition**  
• See page 51

## PRICE - NZ SAME AS OZ!

We have increased the cover price in Australia to \$6.00 - and now sell for the same dollar price (NZ\$6.00) in New Zealand. Now the west island, south island, and north island are joined as one!

## OUR COVER GIRL

**Natacha Curnow** does a bit of everything. She's an actor, and sings backup with Elton Jack. She specialises in giving cheek to lighting operators. Notice how she is adjusting the gain on channel 11, while tweaking the pan or stereo return two? Who says girls can't do three things at once!

## CX ON NEWSSTANDS!

With the next issue we will throw an extra truckload onto the print run and put your magazine onto the newsstands. CX was born 'subscriber only' and has done very well as a direct, paid circulation magazine.

With the addition of EQ content, we expect to garner some healthy extra sales - EQ is a circulation leader on USA newsstands. So why not?

Look for us in early July, and tell your friends! Meantime, subscribe - save up to 25%, and we pay for postage. You could win in our \$10,500 competition. See page 51!

Subscribers usually get their copy before the newsstand copies go on sale.

Call 1-800-635-514.

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**Sydney team wins Athens Olympic Audio job**

Sydney 2000 was such a successful Olympic audio event, it's hard to believe that the Sydney team won the Athens 2004 job. This is our News Report from the world's best audio news site, and how Scott Willmetts won the job.

By Scott Willmetts, Editor

Remember your first Olympic audio job? The 2004 job was the first for the Sydney team, and it was a big win. The team was led by Scott Willmetts, who had been working for the Sydney team for several years. The team was successful because of the quality of the equipment and the expertise of the staff. The team was able to provide a high level of service to the client, and this was the key to their success.

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**CX** is the only magazine that provides you with the latest news and information on the audio industry. Visit our website at [www.cxmagazine.com](http://www.cxmagazine.com)



**Front End**  
The search for a better signal path can be a long, windy road.

**If** you're looking for anything but noise, there's no doubt in your mind that you need a better signal path. It could be anything from a preamp to a power amplifier, or even a combination of the two. The key is to find the right path for your needs. This is the search for a better signal path. It could be a long, windy road, but it's worth it. The search for a better signal path can be a long, windy road.

**EQ**

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# Ashton®

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## Ashton HP15

700 watt (program) enclosure that features 15" die-cast aluminium speaker and a 2" compression driver (Kapton voice coil). Freq Response: 55Hz - 17.5KHz

**RRP \$499**

## Ashton PTE15

Powered enclosure with 15" speaker and 1" compression driver. 250 watt RMS @ 4 Ohms, 3 channel mixer (on board) and extension speaker available (TE15) Freq. Response: 62Hz - 17.5KHz

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## Ashton EQ31

31 Band EQ (mono) with outstanding features and quality including RCA, XLR & TRS 1/4" inputs and outputs. THD - 0.0005%, Freq. Response 10Hz - 30KHz (dual 15 band model available EQ15)

**RRP \$249**



## Ashton AWM100HT

True diversity wireless mic system featuring a high quality dynamic microphone, balanced and line outputs (receiver) and dual on board battery chargers. (guitar system and headset/lapel also available)

**RRP \$399**

## Ashton HP50

A High quality headphone perfect for monitoring. The HD 50 has been designed to eliminate external noise with a closed ear for maximum insulation, making them ideal for use in noisy venues. Also delivers a wide frequency response for a truer sound and are extremely comfortable.

**RRP \$69**



See the full range at  
[www.ashtonmusic.com.au](http://www.ashtonmusic.com.au)



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ABN 62 098 850 036

**Mail:** Locked Bag 30, Epping  
NSW 1710 Australia.

**Office:** 10 Bridge street,  
Rydalmere NSW Australia

**Call** 1-800-635-514  
or +61 2 9876-3530

**Fax** +61 2 9876-5715

**Email** mail@juliusmedia.com

**Web** www.juliusmedia.com

**Editor** Julius Grafton  
julius@juliusmedia.com  
direct +61 2 9638-5955

**Sales** Louise Brooks  
louiseb@juliusmedia.com  
direct +61 2 8268-4426

**Sub Editor** Anton Jarvis  
**Graphics** by Zapman

**Admin** Janelle and Jenny

**Facility Manager:** Steve James

**Front desk** Suzanne

**Web** by ThinkFirst

**Computers** by Apple

**Networks** by Brendan King

**Print** by Superfine

**Repro** by Omicrom Comms




**Executive Editor:** Greg Rule

**Editor:** Mitch Gallagher

**Managing Editor:** Debbie Greenberg

**Technical Editor:** John Krogh

**Group Copy Chief:** Kevin Owens

**Editor at Large:** Craig Anderton

**Contributing Editors:** Gerry

Bassermann, Dan Daley, David Frangioni,

Chris Gill, Steve La Cerra, Jerry

McPherson, Gary Mraz, Lisa Roy

Art Director: Doug Gordon,

**Staff Photographer:** Paul Haggard

**Publisher:** Valerie Pippin

The Music Player Group

**Vice President:** Louise Rogers

**Group Publisher:** Valerie Pippin

**Editorial Director:** Michael Molenda

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## EQ with CX

### Viva EQ!

This issue marks the start of a new partnership with EQ Magazine, whose content we are now including within CX. It plugs an obvious gap in our coverage, which extends back 14 years if you include our predecessor magazines, Channels and Connections.

EQ is the most successful recording genre magazine in the world today. It is reader driven, and derives more revenue from newsstand sales than any other magazine of kind worldwide. This is reflected in their coverage - they have a relatively large team, these people are real practitioners who live and breath the medium, and they are not afraid to say it like it is.

For CX this represents a dividend to readers, courtesy of the recent sale of ENTECH out of Juliusmedia. The proceeds of that sale have gone directly back into the business, to build and expand our new College, and now to expand and improve your magazine!

We sold ENTECH to ETF, a company controlled by PBL - Australia's largest media group. They own Network Nine, for example. We have a new partnership with ETF, assisting them with future ENTECH shows. Along the way, they've been very supportive of CX, and I would like to thank Ben Ashton for his wise media insights.

You'll notice on the cover it says 'the very best of EQ', and that's what you'll find inside. We've added pages, and will continue to improve and refine your magazine. My philosophy is to test the boundaries, and to continue to improve your publication.

Like always, we love hearing your impressions and getting your feedback!

### How does EQ fit with CX?

More than ever before, people working in entertainment and on events need a basket of skills. Live Sound people need to make, edit and play out recorded audio tracks, cues, and music. People locked in a timeless darkened studio need to venture out and do it all live. And people programming moving lights need audio, vision and staging skills to keep the money flowing in.

A fabulous example, and a very motivational story, is inside this issue. Scott Willsallen is a young Australian who is now in Athens, overseeing the design of audio for the Opening and Closing Ceremonies of the 2004 Olympic Games.

Scott is very well grounded. He knows the stellar velocity of his success will count for little when he eventually returns home later this year. He expects to return to a

variety gigs, mainly centred on consulting and commissioning installation audio.

The kicker is that during his time as a freelance technician, Scott has gone on tour - programming moving lights!

So before any knockers out there start saying things about CX abandoning its traditional readers, have a think about just what it is that many CX readers actually do to earn a living!

—Julius Grafton

### EQ Executive Editor writes:

Time flies. It's hard to believe that a year has passed since I came onboard for the "new EQ" project.

Having spent the previous 13 years with Keyboard magazine, I knew this would be an excellent opportunity to work more closely with Mitch Gallagher, Craig Anderton, Dan Hernandez, and other EQ staffers whom I'd admired and respected from across the corporate divide.

With Keyboard tech editor John Krogh added to the roster, the new EQ crew secretly went about crafting the cover-to-cover redesign that would launch on June 1, 2003. What an incredible year it was working with this brilliant team (listed on the masthead at left), and watching EQ transform into a powerful new force in recording-technology publishing.

Today, I'm pleased to announce that EQ is in the most dynamic position of its 14-year history. No other American magazine devotes itself so wholly, passionately, and aggressively to the bleeding edge of recording technology. With a silver Ozzie Award now in the trophy case for Best Redesign, a MaggieZine Choice award, and a beehive's worth of positive buzz coming from readers and manufacturers, we've all enjoyed the progress this magazine has made over the past 12 months, and the solid foundation on which it now stands.

So on that note, with my year-long project leading EQ through its redesign now complete, it's time for me to sign off and move on to my next endeavour. By the time you read this, my family and I will have relocated from San Francisco to Los Angeles, where I'll be working with Roland as the editor of Roland Users Group magazine.

It has been an honour and pleasure serving the EQ community for the past year. I depart knowing that the magazine is in excellent hands, and that what's planned for future will delight you even further. I'm wishing you all much peace, love, and righteous recording sessions.

—Greg Rule



### AKG's C 414 moves into the next Generation

A studio standard and reference microphone for recording use, one of the most famous AKG microphones went through several engineering metamorphoses.

First introduced in 1971 as the "C 414 comb", it was relaunched in 1976 as "C 414 EB", upgraded to digital-level performance as "C 414 EB P-48", entered the installed sound market in its "C 414 B-ULS" version, and the "C 414 B-TL II" became a favourite mic of studio engineers.

The unmistakable twin-trapezoidal shape was often copied.

Now AKG has created a new generation of C 414 microphones. The new C 414 is slightly (approx. 10%) bigger than its predecessors. The rounded edges also reduce unwanted reflections. The rugged die-cast body is enamelled in noble grey-blue.

A fifth polar pattern has been added to the original set of four selectable patterns. Besides cardioid, hypercardioid, figure eight, and omni, the new generation also provides a wide cardioid. It boasts higher sensitivity than on earlier models (+6 dB).

---Audio Products Australia  
---www.audioproducts.com.au.

### DEQX announces Speaker, Room and Recording Correction Preamp

Australian audio developer DEQX has announced the official launch of its DEQX Calibrated PDC-2.6P two-channel Preamp (pictured below).

Based on its PDC-2.6 speaker and room correction processor, the new model's preamp features include remote-control based analogue volume control and 100 memory parametric equalization for correcting recordings.

In the new PDC-2.6P Preamp model, Burr Brown analogue volume controls follow DEQX's 12MHz DACs to maintain full audio resolution at low listening levels.

The remote control provides minimum phase equalization with high and low shelving and a variable parametric band that can be centred at any frequency in semitone increments. Bandwidth is adjustable from a single semitone to 4 octaves. Source selection using the remote is from four stereo inputs: unbalanced (RCA), balanced (XLR), digital AES/EBU (XLR) and digital S/PDIF (RCA).

DEQX CEO, Kim Ryrie, explains that "DEQX Calibrated correction provides amplitude and phase correction of the full audio spectrum (but especially in the mid to high frequencies), with minimal latency. If you can imagine a graphic equalizer that has about four thousand bands that actually corrected phase at all frequencies rather than making it worse, you've got an idea how different DEQX is to traditional EQ."

Both PDC models also provide phase and delay-corrected crossovers for subwoofers or (up to) 3-way active speaker designs, using DEQX's linear phase crossovers and phase correction technology. The DEQX PDC units provide both speaker and room correction, using near-field measurements for speaker correction, and listening position measurements for room correction.

"Phase correction in the critical mid and high frequency ranges cannot be attempted using room-correction measurements because these contain room reverberation effects that render mid to high frequency phase information meaningless. For speaker correction DEQX corrects the native behavior of the source instrument itself."  
---www.deqx.com



### The-Fun-Company unveils E.GO show control system

The-Fun-Company celebrated the prototype preview of their E.GO show control system at the recent Frankfurt ProLight&Sound show.

The first product from this new company proposes to be the next hot item in integration and control of lighting, video, and audio.

"No limits, no restrictions, just more than enough" is what they promise

E.GO's modular concept currently offers three different modules that may be clustered into one or more control surfaces of any combination and quantity.

The modules, named Designer, Performer, and Fader, each contains a dedicated user interface and a processor unit. This means that there is a processor running the full E.GO software inside every module - making each module a self-contained control system. If two or more modules are clustered together to work as one control surface or a system, each module can automatically take on the task of a fully tracking backup.

"The modular solution allows every user to select the combination and arrangement of modules that is optimal for the current working situation, allowing very flexible and efficient operation even in the largest installations", explains company director Lennart Knauf.

Unique details like the backlit wheels with color rendering are among the features that made tradeshow visitors take notice.  
---www.the-fun-company.com

### Olympic Broadcast Lighting Contract

John Pappas from Pappas Media will head a contingent of Australians travelling to Athens to light the American Broadcaster NBC's coverage of the 2004 Summer Olympic Games, after successfully securing a labour contract with NBC's Lighting Design contractor; New York based Lighting Design Group.

Pappas, who is well known throughout the television lighting industry, had previously worked with the Lighting Design Group on the Emmy award winning coverage of the Sydney Olympics in 2000.

Negotiations which started 12 months ago will see both John, and Richard Neville of RSNLX in Sydney, travel to Athens in July. They will be based in NBC's studios at the Broadcast Centre in Athens for the duration of the two month contract.

### Brown's and Enttec launch new products at Entech

Brown's Precision Welding displayed their new 500mm ALLOY STACKING TRUSS, which allows 8 sections of 3 metre truss to be stacked on a dolly, which is easily manoeuvrable by one person.

Visitors to the stand could see the truss in use, as it formed the truss arch that reached from Balanced Technology's stand to the ALIA stand, and also a small stack of 1m sections were on hand to demonstrate how it goes together.

The 500mm Alloy Stacking Truss generated a buzz among venue personnel and hire and





production companies, all of whom could see the space saving benefits for their own facilities, not to mention the reduced transport costs.

Enttec's Nicolas Moreau was on hand to launch the DATAGATE, the latest in Enttec's range of DMX over Ethernet equipment, and possibly the most versatile DMX/Ethernet tool on the market today.

The Datagate is essentially a DMX Splitter, a DMX Merger, and a DMX to Ethernet node all wrapped up into one package. It has an Ethernet port, which acts as an input or an output, and 8 DMX ports, any of which can be configured as an input or output.

The Balancec Technology stand (pictured above) also featured the re-birth into the Australian market of the LittleDMXter from Goddard Design, as well as its little brother, the MiniDMXter. Other featured products were the Littlite LED range, and the Bullsseye Followspot Sight, neither of which had previously been shown at ENTTECH.

—www.balancec3tech.com.au

**Big screen interaction**

Possmedia were a new exhibitor at Enttec. They own the completely new "No-Gap" technology which is designed to Multi-cube installation where several large screens are fitted together to produce enormous screen viewing functions.

Since 2002 Possmedia Limited has been showcasing interactive monitors with Micro-Gem screen technology both within and outside Korea and received excellent response at the recent Singapore Electronics Trade Show, which has now been repeated at Enttec.

The advantage of their Micro-Gem screen is specifically its wide viewing angle (160°), non-glare and non-scratch attributes which provide the foundation for PC connected electronic blackboards.

E-One Electronics is the exclusive distributor for Possmedia Limited for Australia and New Zealand and exhibited Possmedia's 80" and 100" Rear Projection Monitors and Electric Pen software at Enttec.

—www.hojungpdp.com

**High End Systems Introduces Catalyst DV v1.0 Media Server**

High End Systems is now segmenting their Media Server products into Catalyst Pro and Catalyst DV offerings.

In 2003, HES introduced the Catalyst Pro v3.0 Media Server, featuring four video layers and twin outputs.

Now designers also have the option of the Catalyst DV v1.0 Media Server and Software (pictured below) which offers three crossfadeable video layers and one output, sized for many new budgets and projects.

The Catalyst DV v1.0 Media Server and Software has RS232 and RS422 serial control capabilities, allowing it to control a multitude of video switchers and playback devices.

scenery" the user has unlimited lighting control, props, backdrops and signage.

—www.highend.com

**MC2 Audio Unveils E45 Amp**

The E45 high powered 11kg amplifier is aimed directly at the touring market, and follows the successful introduction of the E25 and E15 last year. E45 is rated at 2250W / channel into 4 ohms, built in a 2U chassis.

The switchmode power supply is capable of delivering high peaks without any perceptible bass 'sag' at very low distortion and is kept within its safe operating area by the new, sophisticated MC2 'intelligent' limiter.

These qualities make it ideal



Catalyst DV v1.0 Media Server gives the user the ability to apply more than 80 visual and color effects to digital media. It can be used with the HES DL1 Digital Light fixture or any other video output device.

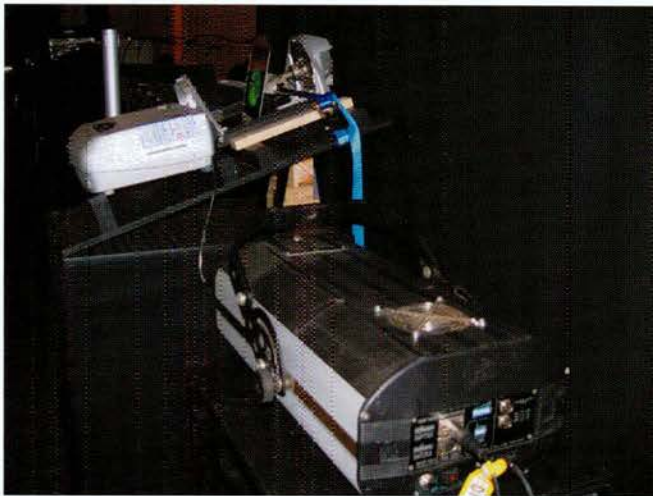
Instant access to more than 64,000 file locations means there's no waiting for forwarding or rewinding to a piece of content. Loading content on to a Catalyst Media Server is as easy as "dragging and dropping" the file into the library system. DMX control of digital media and video allows the user to tie lighting and video cues to one control desk for unified control of lighting and video.

By accessing moving light images and features, projecting video content or creating "virtual

for driving high power PA systems, including subwoofers, packing high power into a compact size.

Main features include a digital power supply with a large power reservoir, proprietary-designed progressive switching rail output, MC2 Audio proprietary current driven output stages for ultra high-definition sound, full power delivery over the entire audio bandwidth, lightweight aluminium construction, all-new low distortion limiters with adjustable threshold points for extra speaker protection, optional 24dB/Octave Linkwitz Riley crossover cards and full DC, short circuit and thermal protection. The amplifier is also protected by a 5-year warranty.

—www.mc2-audio.co.uk



### Reader Idea!

"I've designed a 'Caytons Catalyst' or 'Mouse-a-yst' if you like!" writes Peter Roberts, Technical Planning Manager at the Adelaide Convention Centre.

"I've used it on the opening night party for Mamma Mia here at the ACC, as well as in the V8 Super-Car Ball / Premier's State Dinner."

The gizmo is based on the removable mirror head from a Golden Scan II Peter made a cradle to take the mirror head and a Sony PX10 projector lining up the projector lens with the mirror.

Basically, you can use the GS II as a static light alongside the projector and head if you like, but then you can run any source you like through the projector. It's basically for those times when you'd like to project video images on the ceiling or side areas, and add some movement to the image as well.

### Old idea, but good

Joakim at Gobotech writes: "I was surprised at the response we got from placing a dichroic filter in an ordinary E00W flood light. Simple and cheap, people were queuing up to see it and the comment from a well known importer/distributor was..... I wish we had thought of that!"

—www.gobotech.com.au



### Pro Tools 6.4

Pro Tools is now flavoured with software version 6.4, Digidesign's answer to the professional music and post communities' need for greater flexibility and specific post production workflow solutions.

Pro Tools 6.4 updates Pro Tools HD and Pro Tools LE systems running on Windows XP and Mac OS X.

Pro Tools HD customers can purchase the upgrade from Pro Tools 5.x or 6.x software for \$150 US. Pro Tools 6.4 comes with all new Pro Tools systems and is a free upgrade for registered owners of Pro Tools LE 6.0 or higher.

For more information or to download the Pro Tools 6.4 software upgrade, visit: —www.digidesign.com

### Firewire Music Networking

With the launch of Yamaha's mLAN tools for Mac OS X v10.3.3, mLAN has been updated to provide enhanced support for Core Audio and Core MIDI.

mLAN is available for Windows XP, Mac OS 9 and Mac OS X and provides connection and control of musical networks over IEEE 1394 FireWire.

This allows products from a growing number of musical instrument and pro audio companies to connect together in local area networks for music production.

The continuing expansion of support for mLAN by hardware manufacturers, software developers, micro processor

design companies and OS platform vendors, underscores that the music industry recognizes the need for an open networking protocol for FireWire as opposed to single-ended, peer-to-peer solutions.

Once the new Apple OS update is installed, users can then visit [www.mlancentral.com](http://www.mlancentral.com) to download the mLAN tools for Mac OS X from Yamaha and, if necessary, download firmware updates for current mLAN products. —www.mlancentral.com

### Digidesign ICON Integrated Console

Digidesign has launched ICON, promised as the first truly integrated console solution of its kind. Most interestingly, it is now shipping.

"ICON is the result of an enormous effort by many members of the Digidesign team along with leaders in the mixing community," says Dave Lebolt, Digidesign general manager.

"This collaboration has allowed Digidesign to offer the only product that combines all of the advantages of a large-format digital console with true 'from-the-ground-up' connectivity to the leading digital audio workstation."

ICON provides full command of the mixing and production process. In addition to supporting mixes up to 24-bit/192 kHz in 7.1 surround, ICON is backed by Pro Tools recording and editing software. Every element of a session is recallable, enabling operators to switch out even the most complex sessions in

minutes. The integrated console features touch-sensitive controls, a wide range of visual mixing feedback, dedicated centre section and per-channel control over all processing functions and routing, global automation capabilities, and full studio and control room monitoring.

ICON is a completely custom-configurable audio production environment, rather than simply a typical digital console. Options include expandable analog and digital I/O, integrated remote mic preamps, industry-leading Development Partner effects processing plug-ins and software options, seamless Avid picture support, and comprehensive synchronization and machine control options.

For the full information on the new ICON integrated console, visit the Digidesign Web site at: —www.digidesign.com

### Digi promise live console to challenge PM5D

While the ICON console wowed punters at NAB – and was offered for immediate sale and shipping, Digi were trying to sow dark clouds in the minds of people preparing to order the new Yamaha PM5D digital live console.

"We have a serious live console solution", insisted the Digi-drone, who also insisted on not being named.

"I can't tell you much more, except to say that anyone thinking of buying a live digital console should try to wait". Will it be mini market, we asked?

"No, it is up there in the 100k price area", replied D-D. "Will it



need a Mac or a PC hanging off it, we asked? D-D: "I really can't comment any further".

With that, the drone scuttled back to the sanctuary of DigiDesign's palatial HQ and refused to answer any question, even when asked for directions to the nearest pub. "If I tell you any more, then I'll have to kill you", he said.

### LSC Appoints UK Distributor

Australian lighting control manufacturer, LSC Lighting Systems, has appointed Lighting Logic Ltd. as UK distributor for its full range of innovative products.

Kent-based Lighting Logic was recently formed by sales and installation industry stalwarts Mick Cocker and Matt Miles, both of whom are already familiar with the LSC brand, having specified it on many previous projects.

### Soundweb for Auckland's Skycity

SKYCITY in Auckland recently took delivery of a new background music system, supplied through Jands Electronics NZ.

The system is based around three BSS Soundweb 9088MM DSP network devices, along with a 9008 output expander and a 9000 hub — as well as three 9010 'Jellyfish' remotes.

Amplification is provided by 13 Crown CTs 2000 amplifiers using PIP Lite cards and running Crown IQ software.

As the leading entertainment centre in Auckland, SKYCITY Auckland has music covering its casino, four-star hotel and Sky Tower. The main requirements for Daniel Nel, the Entertainment Operations manager for the complex, was flexibility in the design and the possibility to upgrade the signal processing easily; it also had to sound good.

As part of the upgrade the number of sources was increased from 2 to 12. The positioning of Soundweb SW9010 'Jellyfish' remotes around the venue allows the easy source selection in different zones, and allows managers to select more specific musical styles for their areas. There are also paging inputs from the SKYCITY theatre, so that



technical staff can make announcements to the theatre foyer.

Home Automation Specialists (Auckland) Ltd were responsible for the installation, along with the system design and programming, assisted by Jands NZ Technical Resource Group (TRG).

### Dream Centre Church installs L-ACOUSTICS speaker systems

The Dream Centre Christian Church at Carara, Queensland, recently purchased L-ACOUSTICS XT & MTD coaxial speaker systems which were installed and commissioned by Dave Williams Sound Advice from the Gold Coast.

Technical Director Michael Hickey says "When the decision

was made to proceed with a PA upgrade for the Main Auditorium a simple brief was issued to source a system that will produce a warm, rich sound that is clear, crisp and consistent and distribute it evenly throughout the expanse of the 2000 seat auditorium."

"After extensive research, many A, B and even C comparisons, everyone unanimously agreed the search was over when the L-ACOUSTICS system was introduced to us for the first time. Intelligibility of the spoken word and live music plays a vital role in the worship services at the Dream Centre."

"The vocals are now more defined, instruments are transparently reproduced and more musical. We have also gained greater volume in the room resulting in a more vibrant, dynamic atmosphere without the harshness. This now means that those located in the back of the auditorium can enjoy and feel a part of the event as much as those up the front."

The Dream Centre Complex is used as a multi-functional facility for hosting events as well as regular Sunday church services. This diversity places a high demand on the PA. —www.randomaudio.com.au



### Zimbabwe Pop Idols

The picture below proves that even with an absolute idiot head of state, intent on driving all white people out of his country, life can be almost normal in Zimbabwe.

This is a concert for South Africa's Pop Idol - again proving that life can be very similar, all around earth!

The people at HK Audio sent the picture, Devan Audio Engineering used HK Audio product for the audio.

It's a nice photo, huh?

### Robe Show Lighting intensifies push

Czech Republic-based moving light manufacturer Robe Show Lighting has launched 6 new products.

The Colo-Wash 1200E AT is the most eagerly awaited addition to ROBE's moving light range. This powerful moving head wash light comes complete with a





CMY color mixing system; variable CTO; 2 colour wheels - each with 6 easily replaceable slots for colors and effects; a combined dimmer/shutter and many more features. The ColorWash 1200E AT (pictured above) has a zoom range of 7 - 50° depending on the lens type used.

The electronic ballast enables features like flicker-free operation, extended lamp life and power-saving mode. The large LCD display - highly successful on Robe's ColorSpot 1200 AT profile fixture, makes the operation of the ColorWash 1200E AT quick and easy. An Ethernet connection offers additional connectivity.

ColorWash 1200E AT is an ideal tool for large theatres, live and television shows, and for all types of installations from multi-purpose venues to large clubs, and is the ideal complement to the ColorSpot 1200AT, which has already proven popular for both production companies and installers in Australia.

An electronic ballast version of Robe's popular ColorSpot 575 AT sees an expansion of features including flicker-free operation, enhanced light output, extended lamp life, power-saving mode for economy and reduced weight. The same large LCD display - first featured on the ColorSpot 1200 AT - enhances the fixture's user-friendliness. An Ethernet

connection is also available with the 575E version.

Robe's new DJ Roller 250 XT utilizes the same housing and functions as the DJ Scan 250 XT with the addition of a mirror barrel. Completing the range of ROBE's DJ Scans, this fixture comes with a color wheel (15 dichroic colors, UV effect filter, 3 multi-color filters and open white), a gobo wheel (9 rotating interchangeable gobos + open position) and a mechanical shutter and dimmer.

Finally, the ColorMix 575 AT extends

ROBE's range of innovative static color change fixtures to full-power. Features include full and ultra-smooth CMY color mixing, a color wheel with 4 colors and 3200K, 5600K and UV filters + open, separate shutter and smooth dimmer.

—ula.com.au

### New Lighting Control for FX

FX introduce a range of small lighting consoles. These units offer a built-in range of chasers that can be audio activated if required, or controlled via the built speed control. There is a whole range of consoles ranging from 16 to 48 channels with a number of inbuilt chasers and programmable scenes.

Two types of dimmer packs are also available, one with inbuilt faders for control from the actual dimmer pack and the other without faders. The packs can be wall or truss mounted and incorporate LCD scenes with selectable inbuilt functions.

Dimmer packs can be controlled via any standards DMX output controller / console.

A new addition is the Dimmer Bar - (below) - a self-contained rail with inbuilt dimmers that also supports your light fixtures. The dimmer rail is mounted on top of

your normal stands and your light fixtures can be permanently attached to this, if required, or fitted to the bar when setting up. In this way, set up and transportation are made very simple indeed. Control can be from the inbuilt function or via any DMX controller / console.

—Coemar De Sisti Australia

—www.cdaust.com.au

### Fostex FR-2 records uncompressed to both CF and PCMCIA hard drives

Fostex Company are shipping the new FR-2 Field Memory Recorder.

Fostex expect the FR-2 to provide the answer for many sound recordists who are looking to change their analog tape and DAT recorders but have been reluctant due to the lack of uncompressed portable digital recorders at a similar price point.

leading Fostex PD-6 and Fostex DV40 DVD-RAM recorders.

Of foremost interest, however, is the choice of media offered, as confirmed by Hiroaki Kawahata, Team Leader International Sales & Marketing: "We wanted to offer maximum flexibility to the user and Compact Flash was the ideal solution due to its wide availability and computer compatibility" states Kawahata. "However, in order to offer maximum flexibility in terms of recording time, we've also provided support for the new breed of PCMCIA hard drives that offer 5GB of storage space equating to about 434 stereo minutes at 16 bit 48kHz".

In addition all features required of a portable location recorder are present including high-quality balanced microphone inputs with switchable phantom power and high pass filters; AES/EBU or S/P DIF digital input/output; USB



FR-2 address this very elegantly by being able to offer uncompressed recording at sample rates from 22.05kHz for extended recording time through to 192kHz.

The BWF file format is utilised which has become the de facto standard for non-linear location sound recording and offers excellent compatibility with most 3rd-party software editors.

Other professional features such as a pre-record buffer (up to 20 seconds depending on bit rate and sample frequency) and an automated scene/take file naming routine are borrowed from and were first seen in the market

connections for both a PC/Mac and external keyboard; along a large LCD display giving easy access to functions and essential information at all times. As well as external power, the FR-2 can run off eight AA-sized rechargeable NiMH batteries which are readily available worldwide due to today's popularity of consumer digital cameras.

Of final note is the optional retrofitable timecode card expected during the 3rd/4th quarter of this year: adding a fully featured timecode reader & generator to the FR-2, the appeal widens significantly.

—www.syntec.com.au



# MIDAS VERONA

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MAGICAL MIDAS SOUND

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### 100w & 300w Multi-Par Units

Multipar 100w and Multipar 300w are available in both black and polished finishes and are supplied with a set of 4 lenses as standard and have available a 4-leaf barn door as an optional accessory.

These units are extremely versatile and are the perfect choice for small bands, video and digital photography where the flexibility of the lens system and their low power consumption make them ideal.

—Coemar De Sisti Australia

—www.cdaust.com.au



### TAG IS 20!

Twenty years ago in a spare bedroom in suburban Hurstville the first 'AR Audio Engineering' letterhead was slipped proudly into an old 'golf ball' typewriter. As they say; the rest is history.....

Today TAG is one of Australia's leading full-line suppliers of professional audio equipment for the sound reinforcement, commercial installation, broadcast and recording markets.

Founded by Anthony Russo, AR Audio Engineering commenced trading as a product distributor, installation contractor and retailer.

Installation activities included the audio for such prestige projects as Sydney Olympic Stadium Athletic Tracks #2 & #3, Sydney Town Hall, Queen Victoria Building, Heaven Nightclub (Adelaide), The Art Gallery of NSW and Bao Shan Steelworks (China). TAG sold the division to Greater Union in 1996 - a masterful move, as that company was hungry to acquire installation firms. It also purchased the installation business of Freedman Electronics, which then morphed into Rode Microphones.

Meanwhile, back at TAG, retail



sales were terminated at around the same time, leaving TAG free to concentrate solely on national distribution.

Over the years TAG has developed a very strong portfolio of brands starting with ATC in 1985 and followed by Martin Audio in 1993, QSC in 1994, Allen & Heath and Marantz Pro in 1995, Euphonix and Klotz in 1999 and FBT and HHB in 2003.

'We've been tremendously fortunate with our portfolio of suppliers,' Commented Anthony Russo. 'Each is pushing the technical envelope in many ways but each maintains a strong customer loyalty and a clear market focus.'

Another stroke of good fortune came in early 2002, when TAG HQ moved to a purpose built section of the old Starkeys Ginger Beer factory at Bridge Road Stanmore. Situated just a few minutes' drive from the Sydney CBD, these 100-year-old buildings experienced a number of reincarnations, before taking their current shape as a design, media and technical entrepot.

An entrepot is not something that garlic prawns are served in.

As part of the 20th Anniversary activities TAG has launched the 'TAG World Map of Audio' competition.

### Win an overseas trip: Knowledge test and a taxi fare the key

What does QSC stand for, and how much is the taxi fare from Darling Harbour to Stanmore? And is that Steve Devine with a donkey?

These questions and many more are the key to winning the TAG World of Audio Competition. TAG is a leading pro audio distributor, headed by Tony Russo.

They have a very sharp eye for



superior marketing and this competition is evidence.

The prize is a return trip for two to any TAG supplier world wide - like FBT in Italy, HHB in London, Euphonix in the USA and so on. The winner chooses which. To win, people need to try to match 20 pictures with 20 sets of names - easy in the case of the 'Eric' the Donkey (we are assured it wasn't harmed in the making of the photo) and a scousey in the case of the picture of Peter Ratcliffe and Colin West. Because they are the only other couple pictured.

A quick poll at the CX offices resulted in 17 out of 20 matches - yes, there are three people there we couldn't identify. The next part of the competition needs 20 answers to questions that have answers somewhere on the www.tag.com.au website. Questions like: 'At SMPTE 33 TAG announced a strategic partnership with which coffee distributor?'

The big decider, if anyone on earth can get the 20 people pictures and the 20 questions sorted is to guess the taxi fare from the city to the TAG HQ at Stanmore. The scenario is that at 6pm, the competition and you will embark on the taxi ride. You need to guess the fare to within 10c. Our guess is \$23.10 - but it depends whether the driver goes through Cleve Point or down Harris street and right into Parramatta Road. The CX staff panel were divided on this one.

One competition, and a lot of discussion. Enter via the website, before July 30.

—www.tag.com.au

### Madzin amps up iPod

Recently, CX issue #2 nude singer boy Frank Madzin was in Melbourne for a promotional tour with Amity Dry, the pop singer launched to stardom by the hit TV series The Block.

During rehearsals, his production team experienced infuriating problems with the CD containing Amity's backing music. 'Tracks were skipping all over the place - we were heading for a disaster,' he recalls.

Exercising all the cool-headed calm he's learned through years of making sure the show goes on, Frank exorcised his CD demons by acquiring an Apple iPod. It is pictured above.

'We transferred the backing tracks across to the iPod and we've never looked back. Amity's show was a great success and the iPod was a revelation. It works perfectly in our demanding live-production environment and has quickly become an indispensable tool of the trade for Madzin Productions. With an Apple iPod, we can take a whole live show in our pocket and deliver pitch-perfect audio quality every time.'

Madzin Productions now has several iPods, each with 30 gigabytes of hard drive capacity - enough to hold 7,500 songs.

Before heading out to an event, staff use Apple's cross-platform iTunes 4 digital music software on their Windows-based PCs to load up the iPods with all the music they need, including sound effects and backing tracks. When technicians head off to the gig, they have everything they require in a handy pocket-sized digital format. Cool, huh?



# A New Dimension In Digital Live Sound

The PM5D series Digital Mixing Consoles now take the digital revolution to the next level. They are smaller relatives of PM1D, offering state-of-the-art digital performance for a significantly broader range of SR applications that require a more dedicated control surface than the DM2000. What's more, they offer a system solution that can enhance the entire sound production process from input to output through integration with digital systems such as the DME64N and AD8HR.

PM5D – a new dimension in digital live sound has begun.



The image shows two Yamaha PM5D digital mixing consoles. One is in the foreground, angled towards the viewer, showing its full control surface with numerous sliders, buttons, and a small LCD screen. The other is in the background, partially obscured, showing a similar setup. The background also features a large, glowing sphere and a stage with lights, suggesting a live performance environment.

**PM5D**

DIGITAL MIXING CONSOLE

Yamaha Music Australia Pty. Ltd., P.O. Box 268, South Melbourne, Victoria 3205. ABN 84 004 259 527  
T 1800 331 130 F (03) 9696 4579 E [aust\\_pasupport@gmx.yamaha.com](mailto:aust_pasupport@gmx.yamaha.com) [www.yamahaproaudio.com](http://www.yamahaproaudio.com)



### NetCIRA Audio Distribution System

Following successful launch exhibitions in the U.S.A., Singapore and Europe, NetCIRA, a division of Fostex Co., Japan, are pleased to announce the first of what will be many distributors who have taken the decision to represent the new and revolutionary network audio solutions brand in various territories around the world.

Australian & New Zealand installers and contractors will be able to obtain NetCIRA from Syntec International Pty. Ltd (Sydney), a distributor having a long history with the Fostex Company.

Stancing for Network Commercial, Industrial & Residential Audio, NetCIRA network audio products distribute 64 channels of high-quality audio over standard Ethernet switches & CAT5 cabling in a real-time format, making it ideal for both live audio and fixed installation solutions.

NetCIRA are pleased to welcome the above to their family of partners look forward to servicing the exciting network audio marketplace together.

The product range includes the MS-8, a hybrid master/slave 19" unit and a number of ES slave-only modules. The MS-8 can either be an 8 channel master transmitter or slave receiver on any of the 64 channels depending on what optional card is fitted to the unit. These currently consist of AES/EBU on XLR; balanced

analogue on XLR; unbalanced analogue on RCA; ADAT Lightpipe; and balanced analogue on screw block terminations including an 8 way programmable general purpose input or output. The MS-8 also features an RS232 port for all manner of remote control applications.

The ES-1 and ES-2 are low-profile 1 and 2 channel slave receivers respectively that have outputs on both RCA and screw block terminations.

These units are designed to cost-effectively deliver network audio to many points in an installation and can have both the individual channel and level controlled remotely via either the LR-1 Local Remote Control option; or indeed via the NetCIRA system network as a whole through a computer linked to the primary master unit.

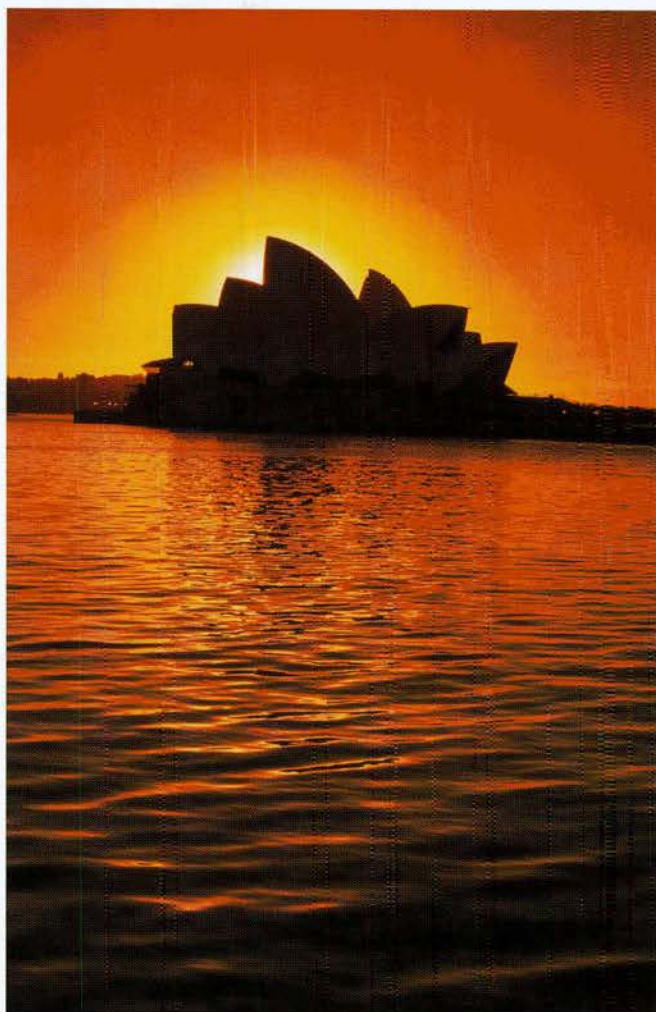
The ES-1A and 2A are amplified versions of the former products providing up to 20 watts output, while the ES-1PRO and ES-2PRO provide a higher-quality DAC with XLR outputs and a remotely switched power output for, say, active monitor control.

Over 60,000 of these devices can co-exist on one NetCIRA network.

Finally the SI-1 and SI-1H are ceiling speakers featuring Fostex's HP cone technology which can be combined with the ES-1A & ES-2A to provide superior quality distributed audio at a very cost efficient level.

—www.syntec.com.au

—www.netcira.com



### Sydney Opera House orders two more Euphonix Consoles

Two years after installing the Euphonix System 5 in the Opera Theatre the Sydney Opera House has announced the addition of two more consoles a second System 5 for the Concert Hall and a Max Air for the Drama Theatre.

David Claringbald, Technical Manager, Sound and Audio Visual for the Sydney Opera House said: "We have been fully justified in our initial choice of System 5 for the Opera Theatre. The console has been solidly reliable in what is probably the busiest theatre venue in the world and its capabilities have proven to be just as expansive as we envisaged.

"These two new consoles will enable us to bring rapid show turnaround, instant recall of settings, increased ergonomic efficiency and superb sonic

performance to the Concert Hall and Drama Theatre."

In the Opera Theatre 'Fernox Mixing' has become an irreplaceable part of the production process and this will now be available with the new consoles. Sections of the console control surface complete with TFT screen, faders and assignable controls can be carried anywhere in the venue enabling an audio operator to sit in the stalls with a show producer and his creative and technical staff and make adjustments according to their comments and instructions.

"To receive a repeat endorsement from a client as prestigious as the Sydney Opera House is a tremendous honor," said Russell Waite, Euphonix Vice President International Sales. "It confirms that our technology is second to none when we are able to satisfy the requirements of such demanding and unique applications."

# We only MIX with the best...

## YAMAHA PM1D Digital Audio Mixing System

The PM1D system offers extraordinary power and flexibility in terms of programmability and repeatability. In addition to a sophisticated analog-style control surface, all parameters can be accessed and edited via a familiar computer interface, with graphic readout for easy, efficient operation. The PM1D also offers vast processing power and unmatched performance in all areas so you won't need any external processing gear.



## PM5D

### Professional Live Digital Console

Combines the advanced features and design of the DM2000 with the operating style of the PM1D to create a new category of live performance digital mixing consoles. Offers 64 input channels (48 mono + 4 Stereo analog inputs + 4 internal stereo returns) of dynamic 96 kHz audio with 32-bit internal processing. All onboard true 24-bit/96kHz A/D and D/A conversions.



## DM2000

### 66-Channel Digital Production Console

66 channel, 30 buss 24-bit/96 kHz digital mixer. Onboard A/D & D/A, 36kHz effects, advanced surround facilities, extensive integrated DAW and machine control, computer and memory-card based data management.



## DM1000

### 48-Channel Digital Production Console

48 channels of 24-bit/96 kHz audio, plus all the additional effects and processing you'll ever need. There's a comprehensive range of 96 kHz compatible stereo effects with 32-bit internal processing.



## O2R96

### Digital 24-bit / 96kHz Mixing Console

With more than 5 times the processing power of the original O2R there's 56 channels of 24-bit/96kHz audio plus a comprehensive range of 96kHz compatible stereo effects with 32-bit internal processing.



## O1V96

### Digital 24-bit / 96kHz Mixing Console

40 channel, 24-bit/96kHz operation. Mixer functions and effects are all inherited from the top-of-the-line DM2000. Cutting-edge digital mixing and processing performance is now within your reach.

For more information contact:  
**Yamaha's leading  
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With over 15 Years experience

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yamaha@soundcorp.com.au





### Yamaha debut PM5D

Suddenly the middle of the market for large format digital live audio mixing consoles just got interesting.

Until now there has been a gap between smaller consoles like Yamaha's excellent DM2000 (selling around A\$60k), and their PM1D - which tickles the till at about a third of a megabuck. Now the PM5D has arrived, with a pricepoint that starts at around 75k.

Most interestingly, Yamaha have developed two flavours of PM5D - the standard ship will sit in battle against all mid format analogue consoles, with 48 mono and 8 stereo inputs as standard.

But it is the optional 'RH' model which will steal most sales, with a pricepoint around 100k. The 'RH' stands for RH

actually stands for Recallable Headamp. The PM5D-RH actually has the recallable headamps built in (a recallable version of the PM5000 headamp).

The idea of Remote Headamps can be realised with the standard PM5D - because you can hook up remote headamp boxes and control their gain remotely from the console.

Basically the two options allow you to either go with the PM5D-RH (with built-in recallable headamps derived from the headamp design of the PM5000) OR go with PM5D (with built-in manual set headamps derived from the DM2000) and optionally purchase Yamaha's new AD8HR (Remote Headamp boxes derived from PM5000 headamps) - so you can run them at stage or whatever.

One neat point re the AD3HR Remote Headamps is that they have a parallel AES/EBU output on them - making it easy to feed to FOH and Monitor consoles.

Yamaha have flagged a whole family of interface options for the PM5D, and the ability for two consoles to join with bi-directional control - or four consoles to work in master/slave mode.

One option is a product called Artist 1D - a fibre optic snake interface for PM1D and PM5D. It overcomes the somewhat bulky cable set from control surface to mix engine, replacing that with a fibre optic cable.

PM5D made its worldwide debut at ENTECH. Also on show was the new PM 5000 (traditional) concert mixing console, which impressed many with its relatively demure footprint.

The PM5D should find customers in the growing charismatic church market, where very large stage settings soak up channels, and require a lot of in-ear monitor sends.

Hillsong Church in Sydney was a lock launch customer for the PM1D console, and many churches have expressed desire for a similar solution.

The large digital live console market has relatively few players - DiGiCo, Yamaha, Innovason and Euphonix mainly feature.

Live Sound installers and production companies are keenly waiting for products like the PM5D and similarly featured consoles. There is a lot of demand under 100,000 dollars.

Surprisingly DigiDesign have announced plans to enter this market later in 2004..



# TAG WORLDMap of AUDIO COMPETITION

**1 Match names and faces:**  
Twenty pro audio industry luminaries and twenty names – match the right name with the right face.  
(Investigate [www.tag.com.au](http://www.tag.com.au) for trigger images).



Cliff Blackburn	Lanny Scarpolino	Vic Leto	Michael Olanoff
Kerry Nicholson	Matthew Kline	Neil Campbell	Warren Eades
Bryan Powell	Kevin Davidson	Paul Mciss	Iain Everington
Alistair Dewar	Steve Connellan	Gen. Robert Ferguson	Mike Lasa
Lindsay Hall	Michael White	Steve Devine & friend	Colin West & Peter Ratcliffe

**WIN** the prestigious TAG globe trophy and then take a friend to collect it from one of TAG's worldwide suppliers - You chose which and TAG picks up the bill! FBT in Italy, QSC in LA, HHB in London, Marantz in Tokyo, etc, etc.

Plus thirty runner-up prizes.

Just answer the questions below, identify the industry luminaries, estimate the taxi fare and you could be on your way. Or investigate [www.tag.com.au](http://www.tag.com.au) and follow the prompts. (Note. Competition closes 30th July 2004).

**2 General Knowledge:**  
Twenty questions to test your knowledge about TAG and the products TAG distributes.  
(Investigate 'The Perfect Blend' catalogue and [www.tag.com.au](http://www.tag.com.au) for clues).

1. What nationality was the Martin in Martin Audio?
2. Name the 2002 Entech Award winning 'Best Analogue Mixer (Live Production)?'
3. Which Klitz cable is known as the 'Mack Truck of Star Quacs?'
4. Who am I? I weigh just 9.5kg and deliver eight channels of computer controlled 130w power
5. How many multipin connectors does a standard Klitz concert microphone system have (ie. LV40-8-100)?
6. What do the letters QSC stand for?
7. Which DJ mixer resulted from the personal obsession of Andy Rigby-ones?
8. Who am I? I record 4 hours of E-track uncompressed 24-bit/96kHz audio offer three separate output mixes, download via USB and measure just 332x106x224mm.
9. Which international cricket team did TAG infiltrate during Christmas 2002?
10. Name the 2002 Entech Award winning 'Best Concert Speaker?'
11. Who am I? I have 16 Mic and 2 stereo inputs, digital effects, 4 band EQ, individual -48v and two 500w amplifiers?
12. What is the minimum number of faders required to access a 300 channel Euphonic System 5?
13. The name Allen & Heath was borrowed from a defunct company that had manufactured what?
14. Who is TAG's Chairman of the Board?
15. Who am I? I record direct to Compact Flash card and download via USB.
16. Where did the spinning globe atop the SMPTE and ENTech TAG trade show stand originate?
17. Which studio monitor can be ordered in 256 different colours?
18. Who am I? I'm a 2-channel DSP device with crossover, parametric EQ, tone and noise generation, delays, compression, limiting and 1 bolt to the back of an amplifier.
19. Oscar winners for Sound Mixing in 2003 (Black Hawk Down) and 2004 (Lord of the Rings) were named on which console?
20. At SMPTE 03 TAG announced a strategic partnership with which coffee distributor?

**3 Estimate the Entech to TAG taxi fare.**  
On Tuesday 3rd August 2004 at 6PM Victor Sutherland (Chartered Accountant and competition auditor) will take a taxi ride from the Darling Harbour Conference Centre (UBD Map 3 A6) to TAG office at 43-53 Bridge Road, Stanmore (JBD Map 3 E K7). Estimate that fare to the nearest 10 cents.

**Your Contact Details**

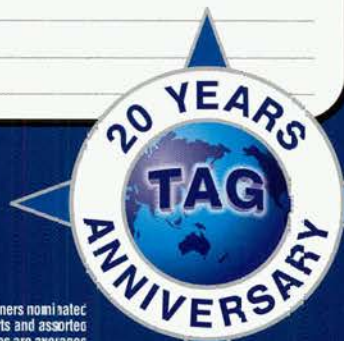
Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone No.: \_\_\_\_\_

Email: \_\_\_\_\_

**Mail/Fax your entry or enter at [www.tag.com.au](http://www.tag.com.au)**  
(Mail: TAG, 43 Bridge Road, Stanmore NSW 2048, Fax: (02) 9519 0600)



Terms and conditions: 1. Competition Closes: Friday 30th July 2004. Winner announced Monday 16th August 2004. 2. First Prize: Two return airline tickets to the international airport closest to the winners nominated TAG supplier, \$A200 domestic travelling money and two nights accommodation at a convenient hotel. (Important Note: There can be only one winning entry) 3. Ten Best Runner-Up Prizes: Tee shirts and assorted merchandise. 4. Next Twenty Best Runner-Up Prizes: Set of Pro Audio Music Wanted playing cards. 5. Judging: Answers to each question are awarded a percentage correct score. The three percentages are averaged for a final result. 6. More than one Winning Entry? In the event of more than one winning entry, the winning entries will be entered into a final draw with the ultimate winner being drawn from a hat by Mr Victor Sutherland. 7. Competition Judge and Auditor: Victor Sutherland (Chartered Accountant and Auditor) will audit the competition entries. Victor Sutherland's decision is final. No correspondence will be entered. 8. Competition Restrictions: TAG employees and their immediate families are precluded from entry. Only a single entry is permitted from each competitor. Entries only accepted from Australian residents.



### Meyer Sound Announces SIM 3 Audio Analyzer

Meyer Sound has announced SIM 3, the latest version of its system for measuring the performance of audio systems.

Initially released in 1986, SIM, the first system available for performing source independent measurement, immediately won a TEC Award that same year, while the SIM System II FFT analyzer, released in 1991, received the prestigious R&D 100 Award from R&D Magazine in 1992.

SIM System 3 (pictured, top) represents a major advance, greatly increasing power and adding features while shrinking the physical package and significantly reducing the price.

SIM 3 aids equalization by displaying transfer functions: the difference signal resulting from comparison of the input to and output from a system. The ability to view transfer functions is the core innovation that has earned awards for SIM analyzers.

Basing the analysis on comparison allows any signal to be used as a reference. During a performance, the music that the audience is hearing can be used as the reference for equalizing the sound system, while traditional test signals such as sine sweeps or pink noise still can be used, if desired, for initial system setup when an audience is not present.

SIM 3 can be a true real-time system. Many audio analyzers perform their analysis on a "snapshot" of the signal, and changes that occur while the snapshot is being analyzed are lost. SIM 3 uses all data in its analysis and misses nothing.

The SIM 3 hardware consists of the SIM 3 processor and one or more audio switchers.

—www.meyersound.com

### DPA debut for first Cardioid Headband Microphone

DPA Microphones has launched its first-ever cardioid headband microphone, the DPA 4088.

Drawing on the Danish manufacturer's miniature microphone technology, the 4088 was developed in response to demand from customers who perceived a gap in the market for a high-quality, extremely discrete cardioid headband microphone.

"Our customers strongly indicated that they were in need of a cardioid headband that would have a comfortable and secure fit and would be able to handle that loud stage sound experienced in some live shows and television," says Craig Parrish, sales and marketing manager at DPA Microphones.

"The DPA 4088 opens up new opportunities in the live performance market to us, and we are extremely excited to be working with a product which has been carefully designed to meet the requirements of this market."

The capsule is a pre-polarized first order pressure gradient transducer, hidden in a small and lightweight housing with dimensions just slightly larger than DPA's omni capsules. The bass response is designed for optimal linearity at 2-3 centimetres distance from the sound source.

—www.d2a.com.au



### ENCO Appoints TAG

One of the world's leading digital audio delivery (DAD) specialists ENCO has appointed TAG as exclusive Australian agents. Widely used in the USA, the most common use of ENCO software is as a replacement for on-air tape and CD playback systems in radio and TV station.

In its simplest form the ENCO systems provide a digital cueing and delivery of material stored on hard drive. In addition to playback the ENCO DAD systems offers fingertip access to easy-to-use editing, random access playback buttons, and powerful organisational and library management functions.

Operating on standard and commonly available computer hardware and network architecture the ENCO DAD systems provide a wide range of flexibility and scalability from single stand alone workstations providing simultaneous automated on-air and production capabilities, to multi-workstation networked systems servicing larger facilities. The system runs up to global wide area networks permitting the transparent sharing of data between geographically diverse

sites, to satellite or internet based networks permitting the management of any number of unmanned down-link or remote sites from a single host location.

"We are delighted to have TAG on board as our Australian partner" commented ENCO VP, Sales & Marketing Don Backus "TAG's strong commitment to 'getting it right' for their customer is exactly the approach that has served us so well in other parts of the world."

Far from an unknown quantity in Australia ENCO DADpro32 is already in use at Seven Networks new digital broadcast centre in Melbourne.

Used for on air music and voice-over replay in the production control rooms Seven have networked two systems together so that audio clips and user setups created on one system can be seamlessly recalled by the other.

This networkability also extends to third party audio systems such that audio clips from voice over booths or audio post can be transferred to the ENCO DAD for rapid replay to air.

Retail prices of the ENCO DAD starts at \$1,495.



**NO  
STOPPING**

9am  
Tuesday  
June 1st



9pm  
Wednesday  
June 2nd

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

Yes, it's that time again when Lots of Watts holds their huge 36-hour June Sale. From 9am Tuesday June 1st, right through to 9pm Wednesday June 2nd, come and grab a bargain on ex-demo stock, ex-hire equipment, and traded equipment. And while they're in the spirit of things, they'll even have some new stock on sale!

**The Lots of Watts 36-hour June Sale. From 9am June 1st to 9pm June 2nd.**

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### More Symphony of Lights

The Hong Kong tourist spectacular we reported last issue includes lighting on 7 prominent buildings with which Coemar De Sisti Australia were involved.

For those who missed it, the government funded a massive lightshow across 30+ buildings, with more to come. It runs every night, and costs \$100m plus.

Peter Kemp, Coemar De Sisti Australia's M/C, became involved in the project some 18 months prior, advising on design and product specification on a range of buildings. Subsequent to initial briefs and designs, Peter began a series of trips in Hong Kong of Space Cannon products – CDA being the Australian and Hong Kong Space Cannon distributor.

Sydney-based Laservision Macro Media were the creative and technical consultants for the implementation of the show. Peter worked closely with Simon McCartney, Laservision's creative director, offering advice with the initial design ideas. Enhancing the project, Laservision engaged Sydney's internationally-renowned Lighting Designer,

John Rayment who provided the show's critical artistic design.

In July 2003, the Hong Kong government issued a tender for three government buildings (Hong Kong Convention & Exhibition Centre, Queensway Government Building, and the Hong Kong City Hall).

Approximately 18 contractors bid on the government tender with Wing Hing E & M Building Services Ltd being the successful bidder. As part of this winning bid, several of the originally specified products from prominent manufacturers were substituted with Space Cannon products.

After winning the bid, Wing Hing engaged CDA's services for design, supply, technical assistance, focusing and commissioning of the lighting equipment for the initial 3 government buildings, and the additional two (The Hong Kong Academy for Performing Arts and The Chinese People's Liberation Army Forces Hong Kong Building) which were added to the tender.

Wing Hing themselves are very well established contractors in

Hong Kong. Having successfully completed several large-scale projects in the region, and, with some foresight into the technical complexities such projects can bring, they were quick to employ the specialists they required to successfully carry out the designs. Mr Simon Fraser, Technical Project Manager for Hong Kong-based Serious Staging, was brought on-board to contribute skills and experience.

As the project progressed, a number of private buildings in the region contracted CDA for products. Subsequently, CDA supplied Space Cannon products for another 2 buildings.

The demands of a project of this magnitude were considerable. CDA's involvement demanded both Peter and Fabian Barzaghi (Peter's right hand man on this project, pictured left) constantly rotating their time between Hong Kong, Australia and across the globe to Europe in weekly cycles. Peter's schedule included frequent visits to Space Cannon in Europe, a mind numbing 3 visits in 5 weeks, with stop-overs in Hong Kong on both

legs of the journey!

CDA's contract included the checking and testing of all equipment as it arrived in Hong Kong prior to installation. This aspect involved the opening of a workshop/warehouse area at the Hong Kong Convention & Exhibition Centre. Simon Fraser and Wing Hing's staff assisted CDA in this respect and both Peter and Fabian, as well as Dan Ditman of TechArt Solutions, regularly travelled to Hong Kong for this task. All equipment was freighted to Hong Kong via air, in excess of 30 tonnes of airfreight being involved!

Once equipment was installed CDA were involved in focusing, commissioning and were most capably assisted by engineer Mr Massimo Moratti of Space Cannon during the final weeks of the project.

"You always need to remember the breadth and scale of what was being put together. If you took a moment to think about it, you had no problem realising what a collective effort is needed to make things of this scale happen," concludes Peter Kemp.

### Muuther Truck-er of the month

Garrett Duncan from Australian Touring Services is pictured with this little puppy - a Kenworth loaded with a Detroit 8V92 v8. "It blows the doors off anything", he says. 500 horses at the back wheels says so. The Kennie has a 9 speed Road Ranger box, proof

that 500 horses is superior. It doesn't need a 15 speed box.

Garrett was dropping production from the Nine Network's Football Show live gig at Central Coast Leagues Club back at Lots of Watts (Sydney) when pictured.

CX salutes a clean truck!





The **KF730 Small Line Array Module**

*Louder than anything this small. Smaller than anything this loud.*

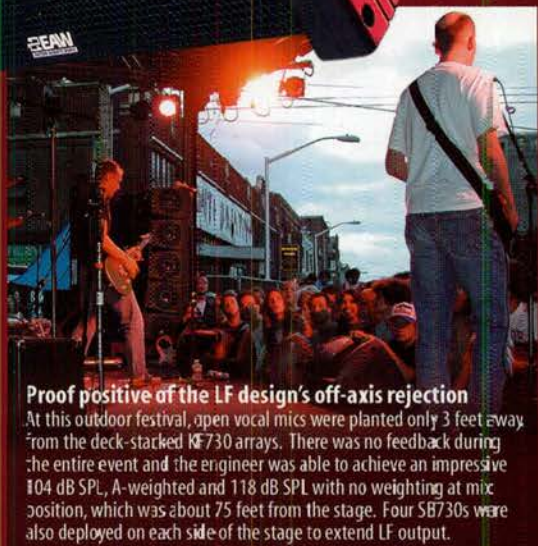
"When you experience a demo...  
And they crank up the 730s...  
And you stick your face straight into those woofers on the side of the box...  
And wonder where the sound is...  
Then you stick yer face around to the front of the box...  
And get your earz ripped off...  
You'll be a believer. I know I was."

*EAW line array fan/user Geri O'Neil, from Stagelite, on the LAB, June 25, 2003*

Okay, the **KF730 SLAM's** unique side-firing woofers work really well. But how? Simple. A single LF source has no directionality of its own in the frequency range where it's used. But the KF730's pair of spaced LF drivers begin to exhibit directional control at 80 Hz – and by 200 Hz their pattern is narrower than the mid horn. Now the mids are contributing and LF energy is being distributed across three sides of the cabinet, sending far more energy forward than rearward. Significant crossover overlap between the LF and MF drivers allows them to cooperate over a half octave. Finally, the LFs go away and the mids take over on their own.

Plus, the LF driver arrangement makes for one hell of a small box.

Side-firing woofers. Just another one of the leading engineering solutions found in the KF730 Series compact line array. Find out more about SLAM™ by visiting our web site or arranging for a demo with your local EAW dealer.



**Proof positive of the LF design's off-axis rejection**

At this outdoor festival, open vocal mics were planted only 3 feet away from the deck-stacked KF730 arrays. There was no feedback during the entire event and the engineer was able to achieve an impressive 104 dB SPL, A-weighted and 118 dB SPL with no weighting at mix position, which was about 75 feet from the stage. Four SB730s were also deployed on each side of the stage to extend LF output.



Join ELAN (Eastern Acoustic Works Line Array Network), the powerful KF760 & KF730 userbase that enables you to team up with other members worldwide to cross- and sub-rent systems, trade work and increase the versatility of your EAW investment. Membership includes access to a members-only section at eaw.com, 1/2 price Smart™ training, a company spotlight on eaw.com, and more. [www.eaw.com/ELAN](http://www.eaw.com/ELAN)



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

# ENTECH turns ten

## Tribes gather in Sydney autumn

### Brickbats:

■ The human resources people at the Sydney Exhibition and Convention Centre must have a high churn rate in the food and beverage section. Some poor chump has the job of walking up to exhibitors, many of who are spending more than \$100,000 to be there, and demanding fees of \$500 or more as compensation for the exhibitor giving away coffee. Naturally the exhibitor is livid, and the poor Centre staffer gets a facefull.

■ Likewise the parking: \$25 a day may not be top price in Sin Sydney, but it's too much for an exhibition centre.

■ The Moving Light Shootout, which crashed about 20 minutes in, due to inadequate planning and preparation time. We won't do THAT again.

■ The pub crawl. Surely our trade has more than 11 people interested in convivial drinking on a Sunday night? The fact that 110 people gathered at the same time for the Hillsong Church trip has us wondering.

### Bouquets:

■ The audio visual staff at the Sydney Exhibition and Convention Centre could not have been more helpful. Paul Davison and his staff deserve credit for going the extra mile.

■ The most excellent standard of exhibits.... the show was designed with a smaller exhibition floorspace, to encourage committed exhibitors to be.... well, committed. They were!

■ Most excellent demo rooms, being able to step inside a room and hear a presentation, and a sound system, was a real boon!

■ The Seminars and Conference programme, which attracted around a third more people than last time.

■ The Hillsong trip. David Watson and his staff at Hillsong moved heaven and earth (we guess) to accommodate 110 people at Church. The visitors got a quick technical tour too, which was very well received.



Pix courtesy of Event Pix

**E**NTECH is always where major announcements are made, and industry trends established. With two halls - one smaller than the other - full of exhibits, and with a bunch of demo rooms for the first time, the show was an outstanding success for the new owners, ETF.

The engine room of ENTECH is the convention, where the first event was a mass training course for Stage OH&S, delivered by Juliusmedia on Sunday, the day prior.

Then at 1pm on the first show day, The Laws And You was the keynote conference topic. This half day talkfest was a full house, and featured a very robust debate about insurance at the end.

James Finookan from AON was brave enough to come and represent the insurance industry. He probably went home to kick the cat after, because he was subjected to a lot of difficult and valid questioning.

For example: 'Why do insurance companies deem a professional rigging company to carry more risk than a sound and lighting company?'

There was more along this vein, and insurance dominated the question session at the end.

Derek Campbell from Brisbane presented a sobering session on safety, which left many people

wondering if it is safer to stay in bed all day.

The conference carried a session on the Entertainment Safety Code, presented by the Australian Entertainment Industry Association, and an exciting new Accreditation Package, available from the Event Industry Association of WA.

Out on the show floor,

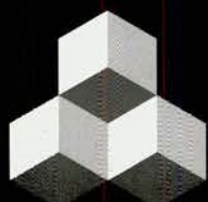


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## ENTECH turns ten

business was being crunched by the 100+ exhibitors, who in turn demonstrated new equipment, help presentations, and made cappuccinos for trade visitors.

We found ourselves at the TAG stand more than once, where the sweet smell of Belgian Waffles wafted out to draw you in.

The demo rooms were an exciting new feature. Jands utilised their room for a variety of product informational sessions and listening auditions. On the second night they launched the new VISTA lighting console there.

The VISTA is the most significant lighting product yet made in Australia, and we were told at the launch that the Sydney based firm had spent four years developing the console. The R&D team are pictured at right, with Tim Kennard as MC. Absent from the photo is David Mulholland, team leader, and Paul Mulholland, Jands CEO.

VISTA will take on Whole Hog, MA, and Strand at the top end of the touring and moving light control market, and from the



reaction at the launch, Jands have a winner. We hope to review the console for the next issue of CX.

Across the foyer, EVI Audio Australia had a busy three days in

the Tumbalong Auditorium (below), where live and active demo's with Cobra and X-Array speaker systems were intertwined with a display of truly Midas proportions - a veritable highway of consoles.

We will bring you a MIDAS update in the next issue.

Other demo room festivities included the Eose business breakfast briefings, featuring not one but two bacon and egg rolls for every guest. Generous!

Audio Telex played audio through the not so secret new Turbosound Flashlight replacement - our 'scoop' photo in the last issue was correct. More on this next issue.

Jands also took a stab at the lower cost end of the moving light market with the new Tour

Spot and Tour Wash moving lights, available in 250w and 575w varieties.

ULA and Jands dominated the entrance to the show, both firms spent over \$100,000 on massive stands that delivered a big message. The ULA stand had a Barco LED wall and a bar which needed to be closed several times due to the crush of punters.

Really, it is hard to write a few words to describe the effort that went in to the show. So many exhibitors did so many things so very well.

ETF are consulting with other trade shows across the world to try to place the next ENTECH clear - this year's show conflicted with Messe at Frankfurt, after that show changed dates.



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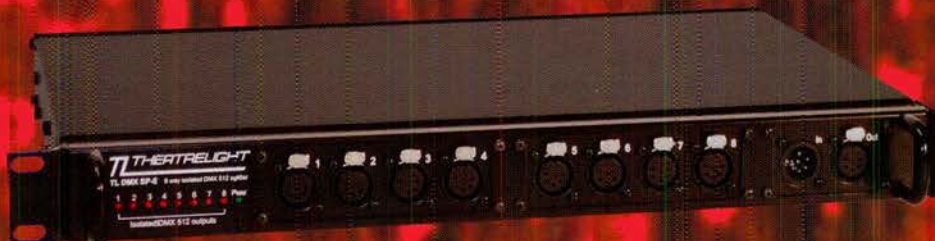
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## New Training Regime welcomed at ENTECH

**J**amie Ivarsen from Box Hill TAFE hosted a seminar on Training issues at ENTECH, and detailed the development of the new Entertainment Industry Training Package.

The industry was lukewarm to the previous package, CUE98, which was replaced by CUE03 recently. A 'training package' is simply a framework from which a training organisation develops courses, he explained.

New qualifications have come from CUE03, which now appears to have captured the interest of employers and people working within the industry.

Until now there have been very few formally qualified people working on the technical side of

the industry, but that will change, predicted Jamie. The things driving the need for qualifications include insurance and safety assessments.

Jamie described the differences between University degrees and vocational training. "Universities don't usually recognise other universities - or really talk between themselves", he said. By contrast, the Vocational Training system provides a nationally recognised qualification, delivered by organisations like TAFE's and private - but registered - colleges.

Every qualification from the entertainment industry training package is recognised nationally.

Some of the new qualifications that affect CX readers are:



- CUE 30203: Certificate II in Live Production, Theatre and Events (Technical Operation);
- CUE 40303: Certificate IV in Live Production, Theatre and Events (Technical Production);
- CUE60203: Advanced Diploma of Live Production, Theatre and Events (Technical Production);
- CUE60303: Advanced Diploma of Stage Management;
- CUE60403: Advanced Diploma of Venues and Events.



## Juliusmedia opens new Production and Event College

**T**raining for entertainment backstage skills is a relatively new business for Juliusmedia - publishers of CX - but to get their new college actually open took more than two years. It followed Juliusmedia satisfying an entry audit as a Registered Training Organisation, a tightly regulated environment which provides standards equal to that of a TAFE college.

The college is in Rydalmere, close to the geographic centre of Sydney. It comprises an industrial building, with a new internal fit-out boasting a small cafe, leaning spaces, a computer lab, and various programming and mixing facilities.

Neighbouring production firms include dB Sound and Lots of Watts, who purchased the college building which is leased to Juliusmedia. The college is

close to Parramatta Riverside Theatres, with which Juliusmedia has a close relationship.

Following the college opening (pictured at left) Juliusmedia submitted an application to the regulator, VETAB, to expand courses to include Music Industry technical courses. These will be taught on Pro Tools and Cubase SX, starting in July.

Juliusmedia are running night school for Certificate III, and have full time courses starting in July for Certificate IV and Advanced Diploma.

The firm is also accredited with the NSW DET to deliver Traineeship training as part of the New Apprenticeship Scheme. Employers can obtain government grants for hiring new trainees in sound, lighting or audio visual.

Pix courtesy of Event Pix.

### EX 10

High definition audio requires a high precision instrument.



The EX 10 is a two-way, 10-inch, active speaker system with extreme resolution and very high output. KV2's development efforts resulted in new high and low frequency transducer technologies that are driven and controlled by a comprehensive electronics engine. The EX 10 lives up to, and exceeds our performance objectives delivering audio reproduction with total control and the highest dynamic range possible even under clipping conditions.

Improvements in transducer technology addressed several weaknesses inherent in two-way loudspeaker systems. Two-way speaker systems place the crossover point in the middle of critical vocal band pass forcing the woofer to reproduce low-mid frequencies. Having solid bass meant accepting poor low-mid transients and definition. Simply, the woofer couldn't keep up.

KV2 Audio has implemented a technology that eliminates voice coil inductance, resulting in a flat impedance response above the resonance point, achieving faster transient response through increased force and control of the moving mass. This technology linearises acoustic and electrical phase response, reduces harmonic distortion and increases power transfer and transducer speed. The speaker now behaves like a woofer at lower frequencies and like a mid-range at higher frequencies allowing a seamless transition at the crossover frequency.

To achieve high output from a small cabinet you need lots of power. Precisely selected amplifier topologies have been designed to deliver 500 watts of total power. The low frequency driver is powered by a high-current, high-efficiency low frequency amplifier delivering 450 watts. Heat dissipation takes place through a unique "finless" heat sink that ensures cool operation no matter how the speaker is positioned.

The EX 10 combines a patent pending, ultra-low distortion driver with a constant directivity horn specifically designed with the correct power response characteristics required for the

system. As in all KV2 speaker systems, the high frequency amplifier is a classic Class AB, push-pull topology design with inter-modulation Distortion (IMD) restricting output transformer.

Amplifier power, electronic crossovers, phase alignment, equalization, time correction and speaker protection are integrated into the EX 10's amplifier module. On-board electronics ensure fast, easy set up and complete control. The EX 10 enclosure's asymmetrical design allows it to be used in horizontal or vertical configurations and features several ergonomically designed pieces of hardware.

The EX 10 provides performance and output that belies its size. Whether you use it as a stand-alone solution, as a stage monitor or with an active subwoofer, the EX 10 is transparent, up-front and provides a new level of depth. Check out the website for further information or feel free to call us for a demonstration.



### EX2.2 & EX2.5

Active Subwoofers

The EX 2.2 and EX 2.5 each use a version of our proprietary high efficiency, high current amplifiers delivering 1000 and 1600 watts. The EX 2.2 can be used in stereo or mono configurations with high pass outputs. The EX 2.5 features mono I/O and a higher level of system control. Both provide incredible, high quality, bass performance and total flexibility from a standalone, small footprint cabinet. Use to extend and complete the picture when used with the EX 10, or integrated into any passive or active speaker system.



#### EX2.2

1000-Watt Dual 12-inch  
Active Bass Module



#### EX2.5

1600-Watt Dual 15-inch  
Active Bass Module





## Sydney team wins Athens Olympic Audio job

**Sydney 2000 was such a successful Olympics that many Australians have won work on the Athens Games. This is how Norwest Productions won the audio contract, and how Scott Willsallen was the key.**

**B**ruce Jackson and Scott Willsallen joined Tony Moffatt on the stage at ENTECH, ostensibly to deliver a seminar on show sound design. All three had done recent major world class events – Tony Moffatt did the Paralympics and the Goodwill Games; Scott Willsallen the Rugby World Cup late last year; and Bruce Jackson the Sydney 2000 Olympics opening and closing.

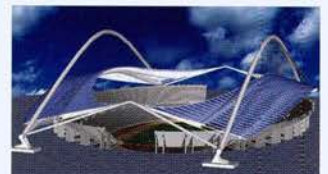
It was a power packed panel, and the talk quickly became Olympic flavoured. Bruce Jackson had a slide show of the 2000 games opening ceremony audio preparations. It was the best games ever, and that opening captured the hearts and minds of almost everyone. Especially when the cauldron stilled for an agonising minute or so, on its way up the travertine to join with a permanent gas supply at the top. "How much portable gas did that thing have left in it?" someone asked. "I believe just seconds." Bruce responded. Imagine if that flame had gone out...

But the seminar quickly became riveting when it was announced that the young guy with

Bruce had just been appointed sound designer for the 2004 games in Athens this August. Scott Willsallen had just returned from Athens, via the Musik Messe show in Frankfurt. He was still digesting the news himself.

Bruce Jackson then went on to detail the Sydney Olympics, and Scott spoke about how the Athens event will be handled for live audio. It was a passing of the baton, and very symbolic, because the success of the 2000 event meant that the live audio contractor, Norwest Productions of Sydney, won the bid to do the sound on the other side of the world for the 2004 games.

The story of how an Australian firm and an Australian designer won the job is interesting. The primary contractor for Ceremonies at Athens is Jack Morton Events, the multinational event conglom. They won the same kind of role that Ric Birch held for the Sydney event. Chris Kennedy and Dave Rennie from Norwest travelled to Athens in July 2003 to do site inspections and formally submit the Norwest expression of interest in bidding to the then technical producer Larry Eschin. This trip followed

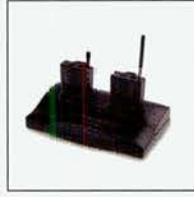


Athens stadium as it will be



Athens stadium as it was





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**Bruce Jackson** (top left) announces that **Scott Willsallen** is the designer of the next Olympics opening and closing ceremonies. The slide behind him is from his presentation of his role designing the Sydney 2000 games audio. The winning sound production company was Norwest Productions - who have also won the Athens job.

almost a year of dialogue leading to the expression of interest was well received but subsequently Larry ceased his involvement with Jack Morton and things were in limbo for 3-4 months.

It is known that earlier, Paul Keating (co-owner of Delta Sound who did Manchester Commonwealth Games) was formally appointed sound designer and did, in fact, complete a full sound design that presumably would have been the basis for a tender process. We understand that Paul Keating had a choice of continuing as a sound designer but with his company then not being permitted to bid - or to relinquish the sound design role and let his company bid.

Then in January Jack Morton appointed Andrew Walsh - a Sydney based event supremo - as Executive Producer for Athens. Andrew had obviously impressed in his role as Director of Ceremonies and creative director at the Rugby World Cup in Sydney.

Things started to look interesting when Nick Ellis was appointed Technical Director (Technology) for the Opening and Closing Ceremonies at Athens. Nick had a similar role at the Rugby World Cup - alongside Scott Willsallen. The audio company for the World Cup was Norwest.

A 'Request for Proposal' arrived at Norwest on March 5th - and it closed at 5pm on March 29th.

Chris Kennedy appointed Scott Willsallen to design the system, after finding a local Greek

partner - Yiannis Fapatsukis; who runs a company based in Athens called ENTTECH. Under the agreement Norwest would bid for the games as head contractor, and if successful join ENTTECH into the production. Scott set about establishing what inventory and directions ENTTECH had in mind for the events, and he also started to analyse the stadium plans.

**THE ATHENS STADIUM**

The Athens stadium is circular, and the proposed roof follows a circle. This is quite different to Telstra Stadium (the Sydney Olympic Stadium) where Scott did the Rugby World Cup. The Sydney stadium is oval shaped - but the roof is based on a rectangle. System design calculations for Athens were simplified, Scott says, by each segment or slice of the stadium being an effective clone of the next. What is designed for one segment, can be replicated for the other 32. The sections are separated by a vomitory - stadium speak for an aisle. (Where did this term originate? One theory: people leaned over and hurled up their lunch - maybe when the Christians were fed to the Lions?)

The Athens Olympic Stadium "Spyros Louis" has had some bad press due to the fear that the organizers will not manage to finish the roof in time. In actual fact, the roof structure comprises two giant arcs which have a total span of 304m and a maximum height of 80m. They provide the support for the cables that hold the polycarbonate panels comprising

# The New Generation of Allen & Heath **MixWizard**

Allen & Heath's MixWizards have been the best-selling compact multi-function consoles in the world for many years, and are as popular now as when they were launched in 1997. They've been used all over the world, in hundreds of different applications, from church and theatres to pub bands and DJs.

So why have we changed them?

Well, we've been listening. Thousands of our customers have given us feedback on what they like and what they'd like to see improved and we've taken their comments on board. So, as it's the little things which make the difference, we've made small changes throughout the mixer to make sure that the MixWizard is ready for many more years at the top of the tree..

## New MixWizards: WZ<sup>3</sup> 16:2, WZ<sup>3</sup> 12:2 and WZ<sup>3</sup> 14:4:2

Performance improvements with new mic preamp design and more responsive EQ.

Extended PA possibilities with control of aux fed subs on new mono output fader.

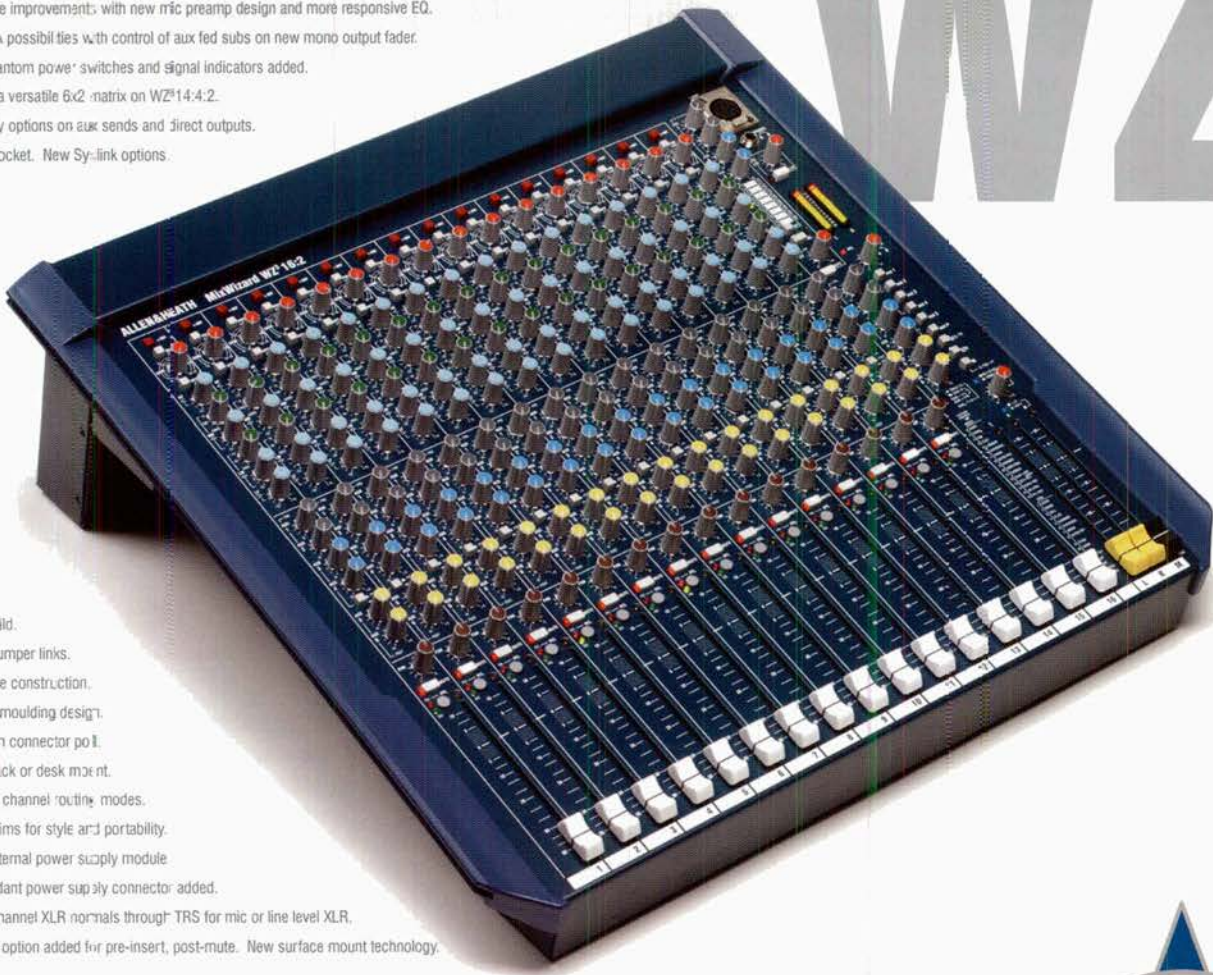
Channel phantom power switches and signal indicators added.

Addition of a versatile 6x2 matrix on WZ<sup>3</sup> 14:4:2.

User friendly options on aux sends and direct outputs.

XLR lamp socket. New Sy-link options.

# WZ<sup>3</sup>



- Slimmer build.
- Pluggable jumper links.
- Easy service construction.
- New meter moulding design.
- Extra set of connector ports.
- Drive rail rack or desk mount.
- Dual stereo channel routing modes.
- New side trim for style and portability.
- Separate internal power supply module.
- Dual redundant power supply connector added.
- Balance channel XLR normals through TRS for mic or line level XLR.
- Pre-EQ aux option added for pre-insert, post-mute. New surface mount technology.

## WORLD CLASS MIXING

<p>4 BAND EQ</p>	<p>6 AUXILIARY SENDS</p>	<p>INDIVIDUAL PHANTOM POWER</p>	<p>DESK OR RACK MOUNTING</p>	<p>DIRECT OUTPUT</p>
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the roof. Its total weight will be 16,000 tons and it will cover an area of 10,000 sq.m. This means that almost 95% of the seats will be covered (only 35% were before). The special coating of the panels will reflect 60% of the sunlight, something extremely important when considering the weather conditions in Athens during the summer.

The construction of the two arcs was done at presstime, with each being railed in from both sides of the stadium. Then when they join, the roof can be hung, over the stadium which itself was built in the 1980's.

Scott worked on designing all the system elements and preparing the proposal, right up until March 22nd, when he and Chris Kennedy caught a flight to Athens – arriving on the 24th.

"We arrived, and met Yiannis. We went to the Stadium, and worked some more on the proposal. It had EASE predictions for pressure levels, for frequency response predictions, intelligibility, lots of things. I was completely immersed with a head full of proposal – it was surreal, I had completely committed my mind to it."

#### Paranoia and hard drives

Each version of the 72 page proposal was updated on Scott's laptop, on both sides of a partitioned hard drive. Then it was backed up to another hard drive, and also on to Chris's laptop. Then to avoid losing the data if all hardware was stolen or destroyed, Scott emailed himself the project each time it was revised. "This way I could find an internet café and print the thing", he assured me.

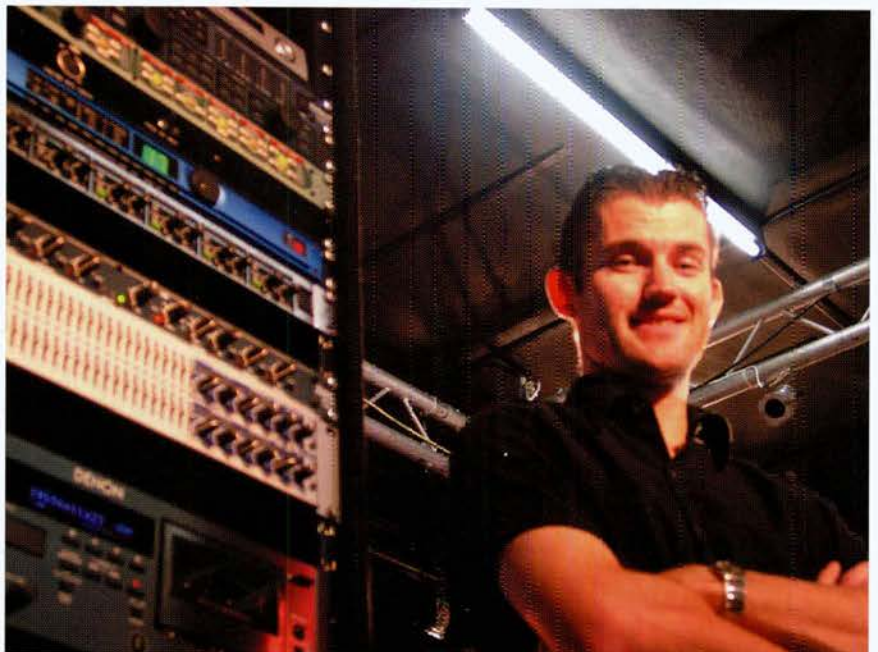
The need for secure, failsafe storage of the proposal mirrored the proposal itself – which dealt with all the 'what if's' of system failure. The proposal detailed how there would be two totally independent control systems, run from different power grids. Key microphones would be dual capsule, dual power supply devices – Schoepp make one. Then all radio microphones would have dual receivers – one at FOH, and one elsewhere.

With everything answered and the proposal completed, it was submitted at 4.15 on Friday the 26th of March. "We were told it would be awarded on Monday morning. But on Monday morning I had a call from someone in Ceremonies, asking some questions, clarifying our proposal. Chris was due to leave the next day – the 30th. We had some more calls, more questions. No contract!"

#### Tension and eating

Chris left, and Scott went sightseeing. The weekend had been spent unwinding, and eating. "Yannis knows where to eat – he knows how to entertain!"

Was Scott nervous as he waited for the outcome?



"If you're not confident, why bother?" he replied. "I had absolute faith. I just assumed we would get it. I guess that's what you get when you're an arrogant young fellow!"

Scott is 27.

Tuesday came, Chris left, and the next morning Scott was in the lobby of the hotel after breakfast waiting for the lift to take him back to his room. Nick Eltis called Scott on his mobile. 'I can't remember exactly what he told me, but in his typical Nick manner he made it draw out. We had won the contract. He had called Chris in Sydney first'. Scott went out for a walk to clear his head, then went over to the Ceremonies office to answer some questions.

Next it was over to Musikmesse, the largest trade show of its kind – held in Frankfurt. Scott was meeting some suppliers there, to "insure supply of equipment for the games. The Olympics is the most prestigious live audio job on the planet, and equipment manufacturers are usually happy to negotiate supply deals.

After the friendly atmosphere in Athens, Scott

#### Pathway to success

Scott learned piano and when he left school did some music clinics. He answered an advert in the paper for a hire assistant at PA People in Sydney, and ended up assisting in the concert sound division they then ran.

Later he ended up on assignment at the Sydney Olympic Stadium, where PA People had installed the ground area placement and communications systems. He worked alongside the team at the 2000 Olympics, and did a lot of freelance work. "I even worked as a moving light programmer. I've also got my rigging license, so I've done that too".

After the Olympics he enrolled for the Master of Design Science: Audio stream, at Sydney University. He recently graduated with this prestigious qualification.

**NORWEST PRODUCTIONS**

Norwest is owned by Chris Kennedy, whose rise and rise as a specialist audio company proprietor has been very nice to watch. He had some terrible hurdles to overcome in the early 1990's when a partnership in the previous company, A1 Audio, was dissolved. Chris persevered where others would quit, and built Norwest out of the wreckage of A1. Then he trounced a large field of contenders to win the 2000 Olympics contract, impressing a 'fussy' Bruce Jackson with his firm's ability. That victory was then darkened by the passing of Chris's wife and partner Suzy.

The 2000 Olympics became Chris's main focus, he delivered everything Bruce Jackson required plus some, and then worked on rebuilding his life. Now remarried with a new baby boy, Chris is an inspirational achiever.

**OLYMPICS SECURITY**

In mid 2000, I took a shortcut home beside the Sydney Olympic Stadium. I'd been out reviewing a show, and I'd left half way through because it was not worth any more time. It was about 10pm, the road was deserted. It was dark and still night. The car radio was working, and the windows wound up again: the cool night air. The Stadium was totally dark, and at the time I thought nothing of it.

Then the car started to fishtail slightly, it was a small car and would get the odd buffet if it were windy. But this sudden wind was wild – the branches on the trees at the left side of the road were whirling, and there was a huge thrumming sound that got very, very loud – very, very quickly. I pulled over to the side of the road, completely unsure what was going on, as six Blackhawk choppers swooped down the road at no more than 10 metres altitude. They flew on down the road, doing about 120 kilometres an hour (or 60 knots in aviation parlance) and then disappeared into the Arena over the Northern temporary stand.

As the first tactical insertion I have seen, it rated about 10 out of 10. Speed, effect, and efficiency plus. People working at the Stadium, and around the Games sites, all reported similar training missions. Each Blackhawk could insert 12 SAS members, who rappelled down in no time at all. They could, it was claimed, do it upside down, firing large bore weaponry at the same time.

Scott Willsallen says that the magnetic, bag, and pass checks at the Stadium during the games were very thorough, as was security generally. We saw a lot of behind the scenes stuff at the Sydney games that we were, and are, obliged not to mention. He says that the Greek games have all the elements of the security that worked in Sydney, plus a whole lot more. "In Sydney, the police carry a Glock 9mm pistol in a holster. In Athens they have a sub-machine gun over their shoulder, with one hand on the stock. They are ready for anything."

was un-impressed by Frankfurt- a cold, uninviting place. The Musikmesse show is also very large, with lots of specialist halls for things like print music and woodwind. On first blush it is very intimidating.

Three days later it was back home, and a trip to ENTECH.

Not a lot of time sat in the schedule, a ship was leaving Sydney in late April, and all the Sydney originating amplifiers, speakers and cables needed to make that sailing. "If it wasn't on that boat, life was over", Scott joked later. "Another ship later would have been more trouble than it was worth". The control equipment will be flown over closer to the August 13 opening date.

**THE SCHEDULE**

As you read this the creative team will be rehearsing the Opening Ceremony, and once it's over on Friday August 13, rehearsals will intensify for the closing ceremony on August 29.

Scott wasn't allowed to disclose too much about the makeup of the system when we interviewed him at ENTECH, but did disclose that the floor cabinets will be EAW, the under balcony boxes Nexo PS 15's, and there will be multiple flown line array sources of the McCauley brand. Some of the McCauley

arrays were to be flown and analysed by Scott at a venue in Sydney just after presstime.

Norwest Productions will send Andrew Rodd and Ian Baldwin to Athens, alongside Chris and Scott. Several other positions were under negotiation as we went to print, for assistant FOH engineer, Replay systems engineer, and Patch engineer. Ian Shapcott, who was the monitor engineer at the Sydney Olympics, will be the FOH engineer.

Finally, the ENTECH seminar heard Scott and Bruce Jackson debating the pecking order for live sound at an event televised to several billion people. "The importance of live sound is diminished when you consider 80,000 people are there, against the massive TV audience", Scott said. Bruce countered by saying that live sound set the mood and created the audience response that the TV director needed.

It was a great seminar – typified by this comment from Adam Brotherson, a student at Crestwood High School. "I was very motivated by Scott, someday (hopefully sooner than later) I hope to be in the same position as he is, designing for Olympics and other major events. Meanwhile I'll continue to learn more and more from the greats in the industry."

**Soothing the stars**

Australian born Bruce Jackson has a reputation as the sound guy for very difficult performers. Also as a very excellent live sound engineer. He worked for Streisand, Springsteen, and Elvis. It was The King who gave him the most grief. Below is a cheque, signed by Elvis, for work Bruce did - installing a new sound system in the Jet.

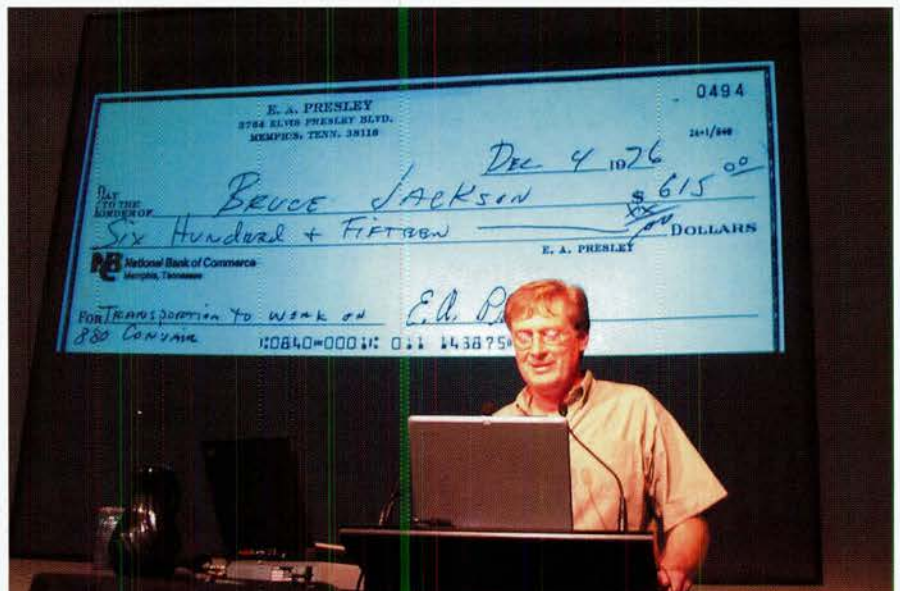
Bruce told an amused ENTECH Seminar

about how Ginger - an Elvis girl - would sit with him side stage. One day Elvis summonsed Bruce just before a show. He had his jumpsuit on, ready to rock. The 'Memphis Mafia' were all there, looking serious.

"Ahh, Brooce, Ginger tells me you bin puttin' yer hand on her leg" Elvis snarled.

Bruce never did say whether he had been.

These days Bruce works with Lake Technology, and has just returned to Sydney.



**Dual-function.  
Semi-modular.  
Totally affordable.**



**MH  
3**

## The new Soundcraft MH3 Live Performance Console

Don't be fooled by the modest price tag. The new Soundcraft MH3 is a fully professional console, capable of operating front-of-house, monitors or both, providing sound contractors and venues alike with the critical commercial advantage of added inventory flexibility. And unlike other consoles in its class, the MH3 is a true, semi-modular design. Channels can be quickly removed and replaced in blocks of eight, making it easy to configure the MH3 to meet your exact needs and ensuring the robust reliability necessitated by a life on the road.

The MH3 is available in five frame sizes with legendary Soundcraft sound quality delivered via a new high-headroom mic amp, classic British EQ and rigorous circuit design.

So if you thought you couldn't afford a modular, dual-purpose live performance console, it's time to think about the new Soundcraft MH3.



Also available.  
The Soundcraft MH4 fully modular dual-purpose live performance console.

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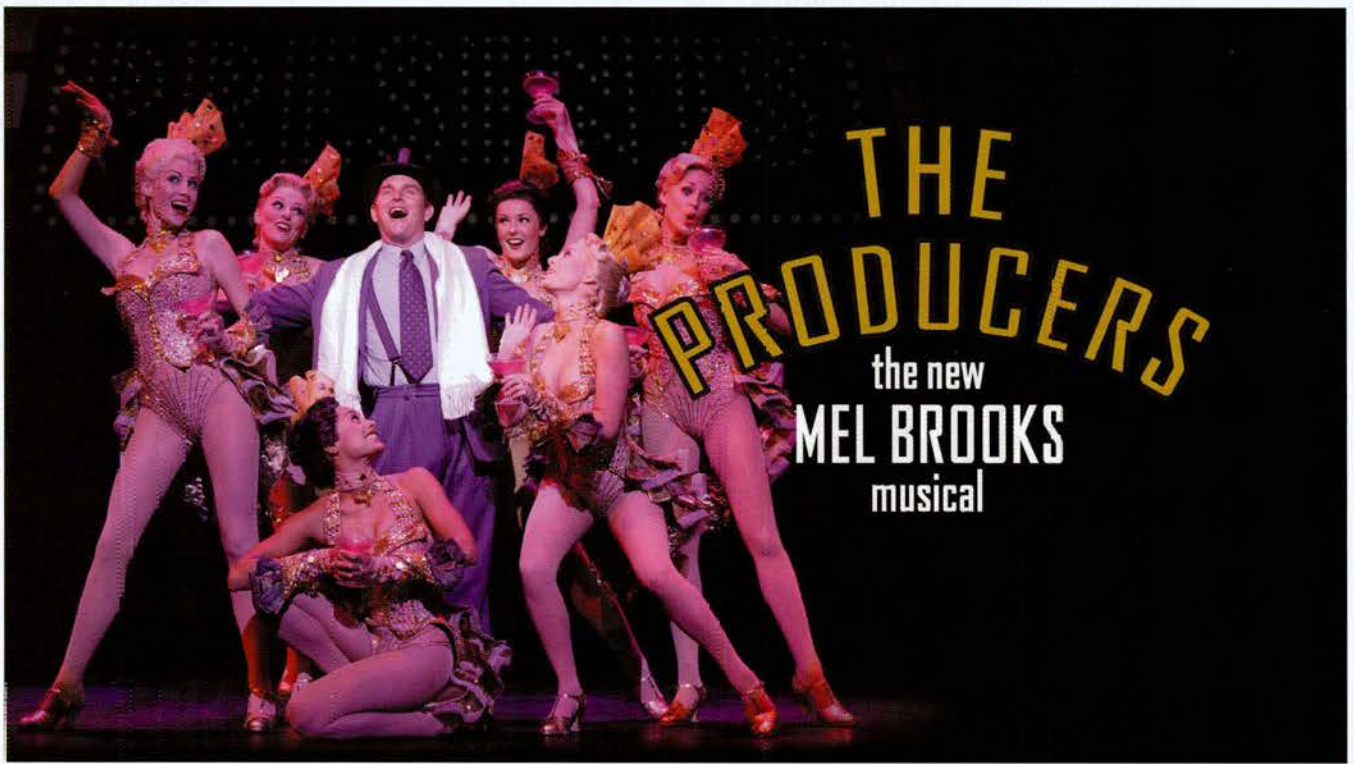
Acclaimed Source Four optics and lighting power with revolutionary modularity. Additional features and functionality when you want more. Designed specifically with theater in mind. Powerful automated lighting... for every performance venue.

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*Source Four Revolution, new from ETC.*

For more information on Source Four Revolution, go to [www.etcconnect.com/revolution/](http://www.etcconnect.com/revolution/)





# So stupid, it's funny!

## The Producers – The Associate LD's Story

By Mandy Jones

**M**el Brooks' Broadway smash *The Producers* recently opened at the Princess Theatre and already it is looking like it will be the show to break Melbourne's musical drought.

With so many large-scale musicals coming to Melbourne and then closing so early into their season due to poor ticket sales, the local industry needs a hit more than ever.

*The Producers* is the touring production of the Broadway mega-hit and like most American touring shows comes fully designed, specced, and pre-packaged with the full creative team to oversee bump-in and the lead-up to opening. And like all other American touring shows, it relies on an Associate Lighting Designer to keep the pre-production and bump-in on track for the American LD's arrival.

Australian LD Trudy Dalgleish (pictured left) is the Associate LD for *The Producers* in Australia. A renowned LD in her own right, Trudy was approached by producers SEL/GFO to take on the role of Associate LD in order to facilitate Peter Kaczorowski's lighting design.

### NOT ENJOYABLE - USUALLY!

"Being an Associate LD isn't an enjoyable job, but that's not to say that I haven't enjoyed doing it," Trudy explained.

"I actually find it harder than being a LD because you have to learn someone else's design and about the way they design, and what the show is meant to look like. And it may not necessarily be what I would have done, so I actually find it about twice as hard as designing my own show."

The main responsibilities of the Associate LD are

to look after all the paperwork ensuring that all the plans, lantern schedules and associated specs are kept up to date. For *The Producers*, Trudy was given three huge fooscap binders she referred to as "Bibles" full of every piece of paperwork relating to lighting the show.

"There's absolutely nothing artistic about being Associate except keeping the integrity of the LD's design. It's basically about supporting the LD so that he doesn't have to be there throughout the entire bump-in. I would take focus notes after each session and then I would go into the theatre the next morning with the crew and do the focus notes and make sure the show looked the way it was supposed to."

Trudy said working with Peter Kaczorowski gave her an insight into the local industry from a different perspective. In particular it made her aware of how well regarded Australian crews are, and how innovative we are in the way we design and spec our musicals, compared to the way the American shows are done.

"It's always nice to work with other designers. It gives you another view of lighting design and especially working with a Tony Award winning Broadway designer, it was great to see how he worked and how he solved problems. It's like cross-pollination because being an LD you don't get to talk to other LDs often because there's only ever one on a show so you don't mix that much."

The show is set in 1950s Broadway so the set features a huge array of Broadway theatre signs spelled out in lights.

"The signs are made up of thousands and thousands of individual pea light globes so the set



# Jerry Bruckheimer's Perfect Theater Experience



"When I watch the combination of D-ILA and D-VHS in my screening room, the clarity and color of the image are almost as good as the original film, and better than what I often see in theaters. I am thrilled to have the JVC system at work and at home."

JERRY BRUCKHEIMER, PRODUCER

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D-ILA Projector DLA-SX21



Pro D-VHS HDTV Recorder SR-DV400US

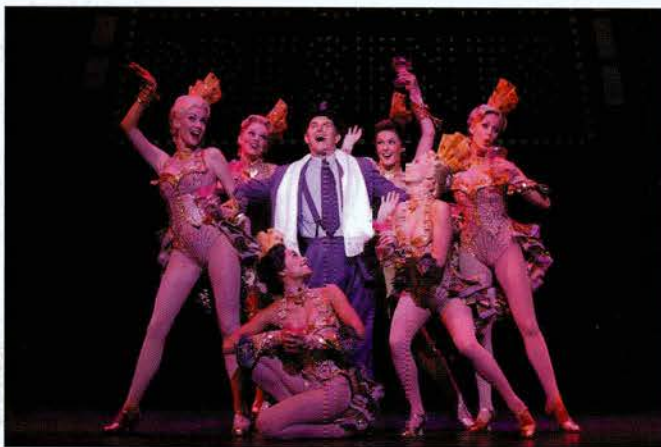
Jerry Bruckheimer's Perfect Theater Experience is a combination of D-ILA and D-VHS, only available from JVC. JVC's D-ILA projectors provide silky, color-rich images that — even close to the screen — do not show pixelization. Three models of D-ILA projectors are available for home theater, screening room or professional theater applications with native resolutions up to 2048 x 1536. JVC's D-VHS is currently the highest quality and most economical way to record and playback true high definition. No other format, including DVD comes close. To hear Jerry Bruckheimer describe the Perfect Theater Experience in his own words or for more information about D-ILA and D-VHS visit [www.jvc.com/pro](http://www.jvc.com/pro).

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# So stupid, it's funny!



electrics was a huge part of the show. I don't know how Fanda Collins, Head Electrician coped with it. In fact we actually have to go into the theatre an hour earlier than we would on any other show just to check the set electrics because there are thousands of globes everywhere."

## DIFFERENT CONTROL

Interestingly, the Americans prefer to split show lighting control so that they have separate dedicated desks for their conventional and moving light rig. Trudy was amazed that this was still the preferred approach.

"I couldn't believe that they continue to spec two lighting desks – an Obsession 3 for the conventionals and set electrics, and a WholeHog II for the moving lights. We've been using WholeHogs to run the whole rig for years now, but they're still locked into the double desk mentality, which is bizarre because the WholeHog really can do everything. I think it's just habit, the same way they've only just gotten into using moving lights in their rigs in the last few years. They're beginning to trust moving lights a bit more now, whereas here in Australia we've been using them in musicals for many years, so it's nice to know that we're up there with the technology and in fact, probably a little ahead of them."

Initially an Obsession 2 had been specified for control of the conventionals and set electrics but with the large amount of set electrics that required chases, the Obsession 2 had trouble coping with the chase rates.

The end result was a large capital outlay for Bytecraft who had to buy a new Obsession 3 and bring it into the country for the show.

There are 56 moving lights in Peter's design, 46 of which are Martin Mac 2000 and Mac 2000 Performance, the other 10 being Martin Mac 2000 wash. And because each fixture has a different set of customised glass gobos according to its position, Trudy said taking fixtures out of the rig for maintenance is a real pain as it means swapping all the gobos.

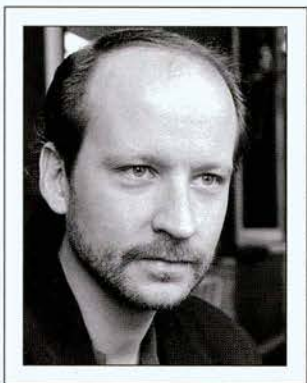
"I've never seen so many moving lights in a dress circle position so that was really interesting to see from a Broadway designer. Usually I would use two or three in that position but he had ten Mac 2000s

out there and they were the workhorses of the show – he basically used them for everything. And because there are so many moving lights out on the dress circle there is a lot of fan noise in the auditorium, which is okay in a musical when they're striking up the band, but in book scenes you can definitely hear the hum. There are also lots of colour scoops so they contribute to the fan noise also. I'm sure it sent John Scandrett from System Sound a bit crazy at times."

The conventional rig is made up of nearly 200 fixtures – all Source Four profiles and Source Four pars with 114 colour scrollers among them, as well as some mini-strips.

"Broadway shows usually use a hell of a lot of mini-strips to light caths and sets but there weren't that many specified so it was nice to see Peter doing what we do which is to use moving lights to do that. It's the first time I've seen that in a Broadway design."

Peter Kaczorowski



# Show Control

Last issue we ran a Show Control feature, and managed to mess up the following well established products. To make ammends, here is the information.....

## Interactive Controls

Interactive Controls represents the following show control options, providing consulting, system design and configuration services in addition to equipment sales and rental, installation, ongoing customer support and contract maintenance.

## Medialon Manager V3

Medialon Manager V3 the latest incarnation of Entertainment Design Magazine's 'Best Show Control Software of the Year'.

It is a software system that uses a single network to synchronise digital audio and video, lighting dimmers and desks, matrix switchers, image processors, video-walls, lasers, fireworks and special effects.

It offers frame accurate synchronisation for video, DMX acquisition and editing plus permanent device position tracking. V3's graphical media programming and user interface adapts to individual needs and includes innovations and new features specifically designed for live events.

While the show is running you can disable any approaching cue, re-fire a past cue or manually activate one that has yet to play. Invaluable when working live V3's 'Flash Control' allows for variables like actor behaviour and gives the operator the ability to make changes on the fly.

Release 3 also records cues generated by a DMX, Midi or serial input directly in the timeline. This allows recording of light shows and keyboard play, even complete shows to be restored from old or obsolete controllers. It gives less need for programming, more pre-designed screens and a remote hardware panel to interact without risk during the show.

Medialon Manager V3 Lite AU\$ 5593.00

Medialon Manager V3 Stage AU\$ 9662.00

Medialon Manager V3 Pro AU\$11695.00

## Medialon Display

Medialon Display system comprises two hardware independent congruent software programs: Display Controller to create, schedule and deliver playlists, and Display Player to playback.

Medialon Display Controller (MDC) provides a graphical user interface to assemble multimedia playlists from all popular image and sound formats and any web browser compatible media, then schedule and add control commands for local devices.

Finally MDC delivers them via ADSL, Satellite, ISDN and Ethernet to remote Medialon Display Players (MDP). Medialon Display Controller also provides a powerful programming language. Linked to an SQL database, or third party software MDC can start tasks on inventory level, and send playback reports via email.

Medialon Display Player provides reliable and versatile multimedia playback on any number and type of displays.

Displays can be contained within a single building, a large campus, isolated locations, interstate and even across the globe. Applications are as varied as point of sale, dynamic signage, corporate communications and museum audiovisual networks. Multimedia content, including real-time URLs can be dynamically scheduled and adapted for each Display Player location as individuals or in related groups

Incorporating MDP-X several Display Player windows can run

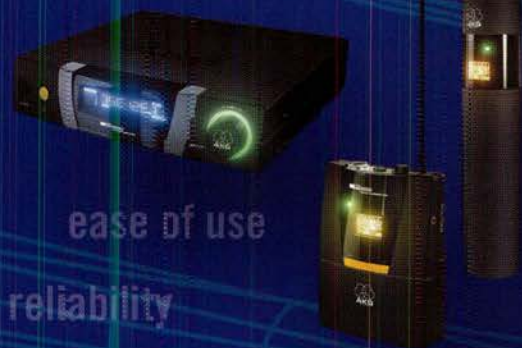
# AKG.WIRELESS.UHF

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maximum flexibility

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The new WMS 4000 from AKG is one of the most advanced and innovative professional wireless systems available today.

It offers a balance of uncompromised audio with superior wireless performance and includes these features:

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simultaneously on the same screen, supporting the creation and management of several independent communication channels.

Medialon Display Controller  
AU\$ 9200.00

Medialon Display Player Single  
Window AU\$ 1180.00

Medialon Display Player  
Multiple Window AU\$ 1650.00

### Watchout

The revolutionary and award winning Dataton Watchout has become the industry standard software for creating and presenting high impact digital media.

Versatile Watchout is a scalable system primarily designed to create big multi-screen shows while maintaining unprecedented image fidelity. Watchout simplifies the importation, manipulation and editing of a wide variety of video, image and audio formats, including PhotoShop, JPEG, BMP, PNG, PICT, Targa, TIFF, MPEG-1, MPEG-2, DV, QuickTime, AVI, AIFF and WAV.

It supports transparency (alpha channel) in both still images and video, making it compatible with virtually any production software you already have.

Output images can span or traverse several video projectors or monitors, even both in combinations.

Configure displays horizontally and vertically to create the desired shape or form, then simply drag and drop an image or video file to the desired position in the Stagewindow.

Watchout undertakes all the image splitting, cropping and distribution, automatically applying smooth edge blending on overlapping projection areas for a seamless Watchout result. Importantly Watchout maintains the combined resolution of all projectors/monitors in the system, avoiding pixelisation effects often associated with video walls and other large format graphics systems.

Dataton Watchout 2.1  
AU\$2692.00

### TRAX

TRAX from Dataton is arguably the world's most widely adopted

show control system. It is the quintessential user-friendly mixed media presentation system that gives you the balance between pre-programmed timeline based functions and interactive control. TRAX excels in feedback operation from various sensor devices accepting cues from human actions and environmental triggers.

From its native Apple Macintosh platform TRAX communicates with virtually any kind of presentation device via 'Smartlinks' dedicated Dataton interface cables and 'Smartpax' intelligent hardware control units each capable of controlling up to 4 unrelated devices.

TRAX controls graphics packages such as Microsoft PowerPoint and Macromedia Director and devices inbuilt into the MacOS like audio playback from hard disc and the DVD/CD-ROM drive. The control protocol of each external device is also managed transparently by the system.

As it is compatible with the latest members of the Dataton family communicating seamlessly with Watchout, Touchdown and Pickup technologies, no show control professional can get by without TRAX. Remarkably TRAX software can be downloaded free from the Dataton Internet site at [www.datatom.com](http://www.datatom.com).

Dataton TRAX: AU\$ FREE

Dataton Smart Pax AU\$ 2,850.

### TOUCHDOWN

External elegance and unbeatable performance combine to make Touchdown the most advanced hand-held multimedia computer of its kind.

Each Touchdown touch panel provides a robust, customisable, control system interface that runs Dataton TRAX applications.

In addition to a backlit 340 x 480 pixel VGA resolution 8 bit colour LCD TFT display it features an analogue touch-screen, built-in motion and ambient light detectors plus a programmable three-position navigator button.

Touchdown's AV file storage and transfer uses the versatile Smartmedia card each can be loaded with up to 99 panel pages of buttons, slides, incisions, and images. The unit can play back up to an hour of CD quality MP3 audio with its built-in loudspeaker or optional headset, and source line-level balanced audio to external audio playback gear.

Touchdown has a PowerPC processor engine optimized for critical real-time operation and energy management. Use Touchdown as a powerful slim-line show controller, replacing the Macintosh computer in the show rig, or as an interactive user interface panel controlled by a TRAX system.

Dataton Touchdown AU\$ 3250.

### PICKUP

A revolutionary, interactive Dataton controller weighing just 65g and featuring a single navigation button, puts control into the palm of the layperson's hand. (Pictured above)

This MP3 based controller communicates via directional Infrared transponders to provide non-linear audio feedback about individually identified objects.

As each Pickup (128 MB) Smartmedia card stores up to 2 Hours of CD quality sound and is triggered individually, a facility can have any number of units in act on simultaneously without interference or delays.

Each Dataton Hotspot transponder emits a brief flash of light when interrogated and returns an encoded signal to cue the Smartmedia's corresponding MF3 audio file.

Content is created using any standard PC audio program, then downloaded quickly and simply via a USB port to a Smartmedia card writer. Pickup also offers a smart feedback option by recording each interrogation of the systems individually encoded IR Hotspot transponders.

Rechargeable lithium polymer batteries give 10 hours continuous operation after just 90 minutes charge time.

Dataton Pickup from AU\$ 730.

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



# The Power Of Six

**The Ashly Powerflex 6250.** Use it to power six different zones on your next installation. Power up three sets of studio monitors. Or, try it for powering multiple stage monitors. How about stereo triamplification? However you use it, you're going to love its flexibility. Six high-powered channels (the most powerful multichannel amp available) you can configure in any combination you like - including using it for multi-zone 70 & 25 volt systems, multi-media, surround sound, boardrooms, houses of worship - whatever. But don't let us tell you how to use it. Instead, let us tell you how to get your hands on one. Visit our website, give us a call, or drop us a line.



## Powerflex™

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# Maybe it's time to BAN THE PAR 64!



**LYNCH MOB:** The heretic responsible for this article is named Joe Doe. We don't know where he lives.

## BAN THE CAN.....

### The argument FOR the ban

The ban is needed because of one word: Safety.

In January we published, on the CX Web site, pictures and information about some Par 64 safety issues which we regarded as serious. A debate ran on the website, then lawyers representing an Australian importer threatened an injunction to prevent the ENTECH issue of CX being published. We were gagged.

But the issue didn't go away, as many ENTECH conversations proved.

Then we stumbled on to another Par 64 safety issue, where the supposedly safe rear cap was wrongly fitted over the lamp ceramic wiring - and the can became live to mains.

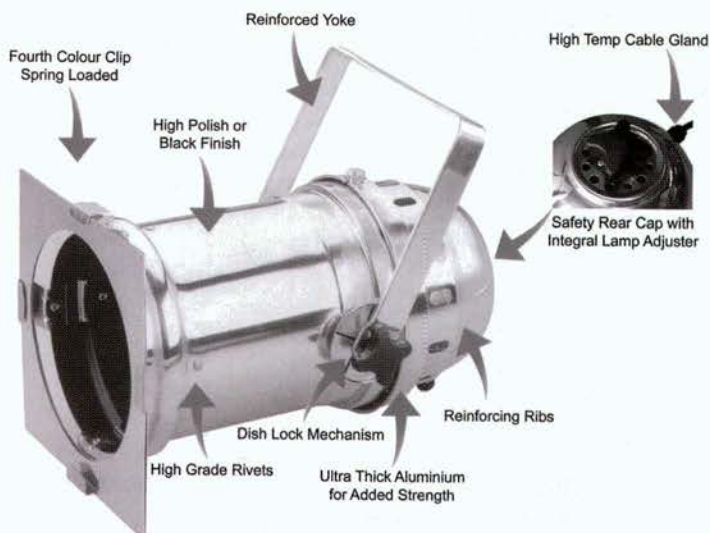
The rear cap is designed to stop people reaching in to the can and rotating the lamp. The Par 64 beam is fixed, and oval in shape. It is usually necessary to rotate it somewhat to suit the orientation of the can, and the beam,

**I WAS THERE** when the first Par 64 cans arrived. Until that day in 1974 we were using anything we could get our hands on to make colour washes. Strand had just put tungsten halogen lamps into the feeble old Pattern 223, making a Patt. 743. It was better than anything else, unless you went to a Pattern 243 - the 2,000 watt monster. These things were heavy, fragile, and the lamps barely lasted 500 hours.

**THEN PHIL BURKINSHAW** imported a bunch of General Electric American sealed beam Par 64 lamps, and showed us how to wire them in series, so 2 x 120 volt lamps would work off a 240 volt circuit. The Par 64 sealed beam produced more light than anything else short of a follow spot. It had a 2000 hour lamp life. It was sealed, so no dirt, no lens to clean, no moving parts. It was indestructible, comparec to the fragile wimpy theatre fresnel. Those first Par 64's were made of steel, and painted black with motor paint. We wired the ceramics and the high temperature cable ourselves.

**WHAT FOLLOWED** was thirty years of fun and profitable lighting, the Par 64, (once the dopey lamp importers got their act together and imported sufficient globes), WAS and IS the backbone - the mainstay - THE WORK HORSE - of production lighting everywhere.

**NOW WE SUBMIT** the argument for the abolition of our old friend, the Par 64 can. This is just a debate - there are no current plans to actually sanction the Par 64 can. So why even think about it?



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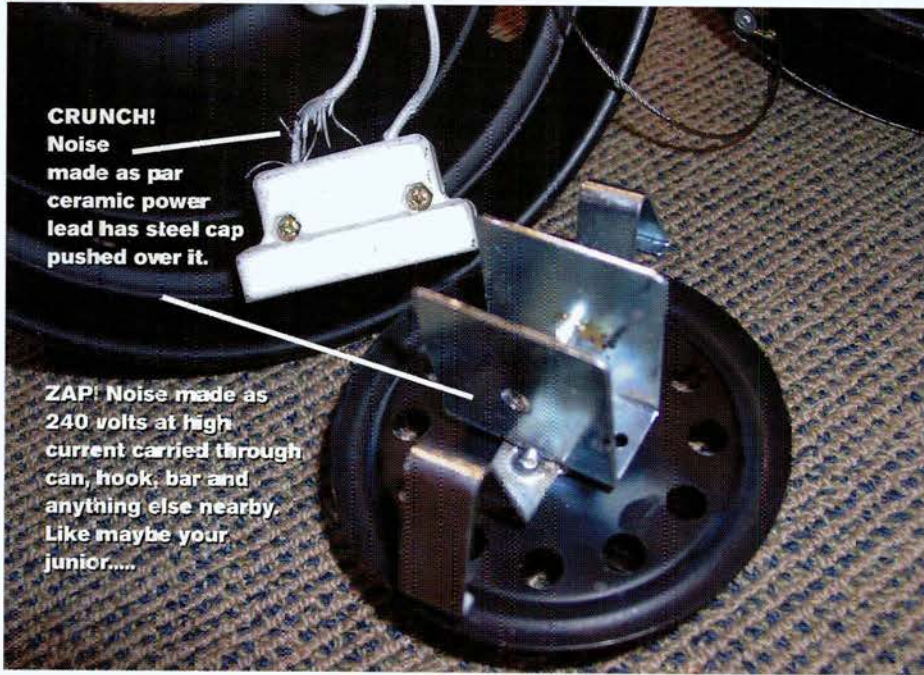
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Strand Pars. Used in film and TV, not what we are talking about.

to the stage.

The rear safety cap is supposed to allow the lamp to be rotated safely. This assumes two things:

Thing one. The ceramic is properly enclosed and the wiring is free of contact with metal moving parts.

Thing two. The ceramic can cope with the torsion forces of the rotating mechanism forcing the lamp around inside the can. This is not a consistently well engineered feature: the lamp retaining ring can be wildly different grades of thickness, and so the lamp can be totally captured and locked too hard within the can - or flopping around.

The ceramic lamp holder has been known to break apart - exposing live connections to the steel mechanism.

Note we haven't discussed the 120 volt series wiring problem here. How different people get that one through test and tag standards is fun.

A new-ish option is the delightful 240v (215v, 230v, take your pick) Chinese Par 64 amp. This puppy saves the inconvenience of series wiring American sourced sealed seams - but opens up new and exciting mechanical failure possibilities when the previously mentioned lamp rotation mechanism is used. It does have a different ceramic at least, to prevent - in theory - the excitement of a 120v lamp being inserted and vaporised in error.

Let's not forget the number of times the round earth pin, or more properly the two round live pins, on the 120v Par 64 have been deemed 'wrong', and someone has replaced them with a standard 240v plug!

Finally I submit that stage lighting usually requires someone to handle, move, adjust and focus each fixture. The people doing the focusing usually at the gnd, are juniors. I don't want my junior or any other junior, to die. Argument rests, m kwd.

**BAN THE CAN.....**

**The argument AGAINST any dumb ban**

There are many Par can safety products around and this is one of them. Just \$20 or



so, from the nice people at Show Technology. This may alleviate the internal wiring issues that create the vast majority of problems.

There hasn't been a death, or a serious injury that we've heard of - at least in our region.

The advent of 240 volt lamps is making the series splitter redundant.

The Par 64 is way cheap - less than a quarter the price of any other mass lamp source. To replace it, say with Source 4 PARNel type fittings, will cost a bucket - at least until someone in China copies the PARNel. Hey - hasn't that happened already?

2000 hour lamp life means less risks, as less people climb to replace less lamps less often. Plus you need to clean a Par 64 way less than something with a lamp, a reflector, an optical train and a lens.

Finally, how would you enforce a ban anyway? Can anyone reading this actually recall a visit from a licensing authority who checked C tick compliance - for example?

We suspect not too many people will respond!

What do you think? mail@juliusmedia.com



ETC Source 4 PARNel. An excellent alternative, with different lens options. Smaller, neater, way safer. And much more expensive.



Here she is. The honest, unassuming workhorse of an industry, caught up in an unseemly safety debate.

- Safety is boring....
- Safety is all about jobs for safety people....
- Safety is not my problem.

These were actual stupid comments from *actually stupid people* which we published on CX web, before we were gagged: forced to shut the forum by an importer's lawyer.

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# Frankfurt 2004...

## do you want Fry's with that?

by Duncan Fry

**W**hat is it with these new black Qantas uniforms? When I got on the plane to head off to the Frankfurt MusicMesse exhibition I thought the flight had been taken over by extras from a movie about Ninja funeral directors. Very bizarre, especially when you consider that black is the traditional colour of mourning. An odd kind of image for an airline to create, but then what would I know? I'm just a paying passenger.

It was an uneventful, long, crowded flight, and only -2 degrees C when our flight landed in Frankfurt at 6 am, but luckily that's as cold as it got. The rest of the trip the weather was a very pleasant 18 to 20 degrees, since this year the show was a month later than usual. An unfortunate date clash with our own Entech exhibition meant I was forced to miss it for the first time ever.

As last year, the show tickets were also train tickets. After spending the day setting up, we happily hopped on to the train back to our hotel, armed with our tickets, along with Mark Dryden from Amphenol, who we'd met up with. On come the ticket inspectors, and we all handed over the tickets. Much consternation.

"Zese tickets do not work," we were told. Not work? How could this be?

"Zere is the wrong date - zese tickets do not start till tomorrow. You will have to pay."

And pay we did - not just the ticket but the fine as well - 40 Euros each - that's about \$80 Aussie per person!

We were hopping mad. Of all the tight arsed things to do - the organisers had only paid for the tickets for the actual show days. Pity the poor exhibitors who had used them in good faith for the setup day. Treated like criminals through no fault of our own. We vented our spleen the next day with one of the organisers, who

promised to look into it for us. I'm still waiting!

We had to get some mineral water, beer and some stuff for the customers to nibble on, so we wandered down to the supermarket near our hotel. It was the same one where we had previously tried to use our recycling coupons as discount vouchers the year before! We went in and started looking around for the shopping baskets.

"Ah, I think I see them over there," I said to Col, pointing to a pile of them standing near one of the aisles. We grabbed one each, filled them up with a selection of bottles and took them down to the checkout. Col emptied his and went to put the basket in the pile of other baskets. Uh oh - the checkout Frau jumped up from her stool and started yelling at him -- "- Nein, nein- cash, cash!"

We looked at each other blankly.

"No no, you must pay," she ordered, and pointed to the basket. Then we twigged. These were baskets they were selling, not ones for customers to use! Those wacky Frankfurters! Why would you be selling supermarket baskets, especially ones that were identical to the ones that were supplied for people to use!

Just like the previous year, we stood there glumly once again as the rest of the customers wet their lederhosen laughing at us.

When the doors opened on the first day, and the raging hordes flooded in, Col turned to me and said:

"Is there an outbreak of head lice? Look at all these shaved heads."

And it was true - every second male person had a neatly shaved cranium. Not the designer stubble of the aging baby boomer hoping to cheat the inevitable male hormones, but young people, even some that didn't have a kilo of heavy metal inserted into various facial (and other) orifices!

There was a large contingent of Asian OEM (Original Equipment Manufacturing) suppliers in the back aisles of our hall. We got word that many exhibitors wanted to stop these suppliers from exhibiting in the same hall. Perhaps they were worried that too many of their own customers would see exactly where the products came from!

Near us was a mobile PA system company, who had obviously hired some German speaking people to do the pitch

to the German attendees. It turned out that they had hired the most useless bunch of dorks ever let loose with a microphone to demonstrate their small 'system on a stick'. They'd be hovering around the back of the box with a wireless microphone, cranking the level right up to show how loud the system would go with a CD player, and then they'd turn the cabinet around so the potential customers could hear the sound from the front, forgetting that they were standing right in front of it with a wide open wireless mic!

"WEEEEEE...kak...kak...bzzz" The resulting burst of feedback not only shredded the speaker, but everyone's ears within a hundred metre radius!

OK, we all make mistakes, and everyone has done something

> continued on page 98



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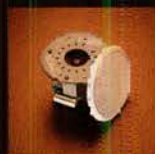
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## Making TV history - so the vision for the launch better be freakin' flawless!

**T**he launch of a new product can be a complex exercise. But when that launch is for Foxtel and it's their digital service you're introducing, making television history, the technical production has to be freakin' flawless," says Dave Marshall of Technical Direction Company in Sydney.

TDC's mission was to set up and operate a remarkable range of display technologies for Cambridge Events at the launch of Foxtel Digital. The event was held in a marquee erected at the bottom of Fleet Steps, overlooking Sydney Harbour and the Opera House.

Central to the display technologies and built into the internal marquee design was a 9.5m x 2.5m Barco I-Lite 10mm, LED wall running high-res images of a tranquil fish tank at one end.

In the main party area were installed seven Barco DLP projectors ranging between 5000 and 10,000 ansi-lumens on 16:9 format screens running simultaneously. Each projector was perched on an isolated scaffold tower, built off the ground to prevent vibration from audio.

The TDC technical team provided the transition from vision design concept to reality the day before, blending the centre three screens and colour balancing the projectors. The task was realised with the Folsom Research BlendPRO, a widescreen image processor that accepts high-resolution data and video sources and processes the inputs to generate overlapped and edge-feathered images. The processor significantly simplifies the production of widescreen presentations putting an end to the need to pre-condition source material during the content-creation phase to support data overlap - an incredible saving in time and energy.

### Challenges

The presence of "set" objects meant two of the four outside projectors and screens were off axis. The problem required an innovative solution. So TDC Head Technician Olin Winton enlisted Folsom Research's new ScreenSHAPER, a single RU unit that hooks into existing projector system, correcting the distortion created when an image is projected off-axis to produce a true (16:9) video

format.

The Foxtel operation called for nine different feeds to screen at any given moment, utilising multiple computers and timecode-locked video sources such as the Sony A500P Digital Betacam, Sony CSR1000 hard disk players and D/V playback units.

At the event's climax, each specialist in lighting, sound, laser and pyros - synchronised their data with two separate timecode signals from two of the seven Dig Betas being controlled by DataCo Trax software.

As more than 15 different hardware sources, tucked behind the scenes, would have to roll simultaneously, it was vital that the operators were using Trax to control the system. Last-minute content and timing changes were easily managed with "insert", "locate" and "trigger" cues in a pre-existing timeline.

Outside the marquee, two additional feeds were directed to a Barco R10 (10,000 Ansi-Lumen) projector bolted to the deck of a barge, moored 50 metres off the Farm Cove shoreline. These RGBHV data signals were piped down two waterproof CAT5 cables with a pair of Ma-

genza Research CAT5 interfaces at each end. One feed went directly into the R10, the other into a fully redundant back up system.

Additionally, two iso sends were fed to a OB truck at the top of Fleet Steps providing the live broadcast of the launch. Foxtel produced all the playback content and supplied the TDC on Digital Betacam in true 16:9.

Creative Director Tony Assness had a vision of transforming a marquee into a room where every surface was considered and unmistakably connected. Creating an environment that was not only beautiful and glamorous, but that would work for TV - it's all about the product being the hero, not the design" Tony said.

Michael Hassett, Managing Director of TDC, was excited at the success of such a challenging operation. "Working with visionaries such as [event organiser] Rodney Cambridge and [creative director] Tony Assness gives us the opportunity to put our high-end equipment to use, and start really pushing the boundaries of what can be achieved with this modern technology.

It's an exciting time for vision and reality, the sky is the limit" he said.

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## Insulated-Pin Plug requirement now less than 12 months away

ALIA - the Australian Lighting Industry Association - have reminded members and the industry generally of a new electrical law that affects us all. This is what they say:

ALIA would like to remind the entertainment and lighting industries that the date for the mandated use of insulated-pin plugs, April 3rd 2005, is now less than a year away.

In April 2000, the revised version of AS/NZS 3112 - "Approval and test specification - Plugs and socket-outlets", introduced the requirement for insulation on the active and neutral pins of all two and three pin, 10Amp and 15Amp plugs. In order to allow for a smooth transition to this safer standard, a changeover period of five years was allowed. Since then, many manufacturers have released approved insulated-pin versions of their products.

ALIA's inquiries with electrical parts manufacturer Clipsal, reveal that supplies of the insulated-pin version, of the industry-standard Clipsal 463 socket-adaptor plug (our beloved piggy-back), should be available in early June 2004.

For hire companies, the requirement for insulated-pin plugs also applies to new equipment being introduced into your hire inventory after April 3rd 2005, and all repairs made to the plugs on hire equipment, after this date.

Right now, you should be running down any existing stocks of plugs, supply cables or cable tails in preparation for restocking with plugs, tails or supply cables with insulated pins.

There has been some suggestion that electrical safety regulators may require hirers to replace all non-compliant plugs by the changeover date. As yet no such regulations exist. However, after being alerted to the possibility (by Jim Keating at corporate member Panavision), ALIA is actively watching the situation and will maintain contact with the regulators, to ensure that they are fully aware of the ramifications for the production industry, of any such move.

ALIA's input into the Test and Tagging standards process was instrumental in saving the hire and production industry from the serious and unintended financial burden, of testing and tagging all equipment before every hire. It is our intention to see that no similarly unintended financial burden is inadvertently placed upon our industry by regulators who, like us, are concerned with improving community safety.

The following is an excerpt from the circular sent in April 2001, to manufacturers and suppliers of electrical appliances and equipment, in all Australian states and territories.

From 3 April 2005 it will be mandatory for all plugs (and appliances or equipment with integral pins) to incorporate insulated live pins. Approvals of non-insulated pin plugs will be cancelled on that date.

Plug manufacturers have been notified separately and it is anticipated that insulated pin plugs will be generally available shortly. At least one manufacturer has insulated pin plugs on the market.



In the interests of enhanced safety and to ensure rapid dispersion in the marketplace, each Australian State and Territory, and New Zealand Electrical Regulator will require all electrical equipment to be supplied with insulated pin plugs, at all points of sale, by no later than 3 April 2005.

It is proposed that following the introduction of the insulated pin requirement on 3 April 2005, electrical appliances and equipment will be monitored. The sale (which includes advertisement or exposure for sale) of non-compliant plugs may result in enforcement action, including prosecution, against any person or corporation responsible for that sale.

If you are a retailer you are advised to ensure that your stock of electrical equipment without insulated pins is depleted before 3 April 2005.

If you are a manufacturer or distributor you are advised to alert your customers of these re-

quirements and to discontinue the supply of appliances and equipment that are fitted with non-insulated pins with sufficient time for those customers to meet the 3 April 2005 deadline.

There is a very good explanation of the implications of the change of plug approvals in a document available from the Australia Electrical & Electronic Manufacturers' Association web site <[http://www.aeema.asn.au/docs/Insulated\\_pins.PDF](http://www.aeema.asn.au/docs/Insulated_pins.PDF)> ---[www.lighting-association.com](http://www.lighting-association.com)

## New Test and Tag laws are here. What it means:

Test and Tag has been simplified with the release of the latest Australian/New Zealand Standard, a Seminar at ENTECH has been told. Addressing the Electrical Safety seminar on Wednesday April 7, John Grimshaw detailed new provisions within the Standard, which is AS/NZS 3760:2003, "In-service safety inspection and testing of electrical equipment".

The new standard almost came to be with test and tag required every single time equipment was deemed to be "hired", a provision that was removed from the draft at the last minute following frantic lobbying by ALIA and Tony Davies from Chameleon Touring Systems.

The requirement now is that test and tag be performed each three months for hire equipment, with an inspection prior to hire. This roughly fits with recent industry practice. Where equipment is installed or used in a workshop or factory, the interval extends to 6 months.

Crucially for people hiring equipment long term into venues, the responsibility passes on to the hirer.

Considerable debate arose at ENTECH regarding state electrical codes taking precedence over the Standard. By way of example, it was claimed that the NSW code required a test of each item prior to hire (but not a tag) and also a record be kept.

Two possible courses of action were discussed at the Seminar. One, it was noted that customized solutions based on risk assessment are now allowed under the standard. In general, the seminar heard that all firms using

and hiring equipment should perform a risk analysis and a work method statement that deals with how staff inspect equipment prior to hire.

Secondly it was mentioned that hire documentation should be reviewed to reflect the need to record that all items have been checked prior to hire; that staff are involved in the risk analysis and work method statement process, and that hire documentation reflect the passing of responsibility for test and tag to the hirer for long term hires.

---[www.juliusmedia.com](http://www.juliusmedia.com) (safety)

## Standards Australia - profit before safety? Every time!

We people at CX are wondering how it came to be that the people in charge of compiling and publishing STANDARDS are forced to generate profits.

If you wish to read a Standard, like the really important one discussed on this page for Test and Tag, then you must buy it first.

The Standard is compiled with free input from Industry - and the Test and Tag Standard almost was imposed on our industry without any input. At the last minute, Tony Davies and Andy Ciddor gave away a lot of valuable time to front the committee. But when the Standard is done, it becomes a profit centre.

Worse still, Standards are actually a Public Company - called Standards Australia International Limited. It took \$84.4 million last year, making a profit of \$5 million. The Australian Government endorse the thing as the peak organisation for Standards.

Back to Test and Tag, and SAI are holding educational workshops for \$440 so you can hear what is in the Standard that you need to pay for.

It's quite possible that a very nasty lawyer working for SAI will shortly start to hammer CX in an effort to close down any continued debate on Standards issues.

CX has recently endured a variety of unpleasant legal manoeuvres in regards to another safety issue which we were forced to remove from our website.

Some things are worth fighting for, while others are just too damn expensive!

Bring on the gag.



## Dapto Leagues Club: Winners of the mooted Par Can award for safety ignorance

When Jeff White drove his truck up to Dapto Leagues club south of Sydney on Friday March 12, it was pouring with rain.

He was ready for a tense tussle with management, who had in the past attempted to force his crew to use the 18 slippery fire stairs to load in the tonnes of production equipment. But he thought previous battles had resolved the situation. He was wrong.

Now Workcover have investigated what happened next.

In his complaint to Workcover, Mr. White alleges that the Duty Manager wanted his crew to use the fire stairs, instead of the internal lift.

When challenged, he was told he was banned from the club. Management called in another hire company. The other crew, apparently locals, arrived quickly and loaded their gear up the fire stairs in the rain.

Most interestingly, Mr. White claims that the Duty Manager laughed off his threat to lodge a complaint with Workcover.

Subsequently Mr. White lodged a formal complaint. CX Web is aware of Workcover imposing on the spot fines for safety incidents (where there has not been an injury) where the staff concerned have been fined \$500, the supervisor \$5,000, and the venue \$50,000. Workcover have extensive powers to enforce workplace safety laws,

and treat everyone as a stakeholder.

In the case at Dapto, Mr. White faced a stark choice. Break the law by using the fire escape, or cancel the show.

Workcover have served an improvement notice on the club, who now must complete a work method statement into heavy equipment handling. Failure to complete the statement, and to implement it, will lead to heavy fines.

### Steven Smith writes:

I know this club well and I'm not surprised at Jeff White's experience. I believe you become a duty manager by serving your time in the scrum of the Dapto Canaries, not by having skills such as events management.

I also applaud Mr White's stand and I hope Workcover goes through the club like a dose of salts.

I've seen for myself how poorly the building is designed for movement of gear - remember it started life basically as a shed and has been added onto several times over the years.

I once saw a woman struggling with a pair of relatively small PA boxes up a flight of steps from the foyer, to what was the old auditorium - for a bingo session !! Not one staff member came near her to offer help, or to ensure her safety.

But you can bet that if she fell or suffered injury, there would have been hell to pay.

## Insurance hassles

Showtech Australia have been working on trying to find a solution to the problem they and other specialist companies in entertainment are facing: steep and ridiculous Public Liability Insurance premiums.

"We are happy to announce that after over 12 months of working on this process we have found a company and underwriter willing to look at our industry specifically", reports Robyn Good.

"This includes ALL facets of the industry from event companies - performers, pyrotechnics - seating systems, freelance workers - production managers and so on."

A broker, Malcolm Freeman, from Austfin, has a package that Showtech Australia are endorsing. The cover is with an APRA approved insurer, according to Robyn.

"I have found Malcolm and his team to be very approachable and able to solve not only the Public liability issues but our insurance across the board."

Contact Austfin at +61 3 8823-6333.

## Spot Op falls to death in Miami

Various media reports state that a follow spot operator fell out of the grid in early May, just prior to a David Bowie concert.

This was one report from ED/LD E\*WIRE:

Tragedy struck at the James L. Knight Center in Miami moments before David Bowie was

scheduled to take the stage on May 6th, when a spotlight operator plunged 50' to his death.

Walter "Wally" Thomas, a 20-year veteran of the concert lighting industry, apparently fell to his death after not attaching his safety harness into the guide wire. The concert was abruptly cancelled and was not rescheduled as of press time. The tour's lighting company is Light and Sound Design Fourth Phase, based in Newbury Park, CA, and the UK.

According to eyewitness accounts, Thomas fell onto the side of the stage after Bowie's opening act, Stereophonic, finished its set and Thomas was preparing to get into position as a spotlight operator. Stagehands lowered a banner to block the scene from concertgoers, although some did witness the fall. Thomas was pronounced dead at the scene.

Two other spotlight operators were also working the concert and were wearing the OSHA-approved full-body harness required for such occasions, but they were not using the accompanying tether as it was too dark.

The harness clips to a safety line from the overhead truss and takes up the slack in the tether as the stagehand climbs the ladder. Should a stagehand lose his footing, the harness engages and stops the fall.

Thomas previously had another fall that kept him off the job for 6 months in 1989 and paid him over \$400,000 in workers comp.

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# Front End

The search for a better signal path can be a long, windy road.

**I**f your studio is anything like mine, things are always in a state of flux. It could be anything from updating to a new operating system, adding a new word clock generator, rewiring the patchbay, installing acoustic treatment — it never ends. Recently, I've been considering the signal path going into my computer, which functions as both a multitrack recorder and full-blown (albeit virtual) mixing console.

After all, the "front end" is an important consideration — whatever comes before the analog-to-digital conversion can significantly affect the sound quality of your tracks. Of course, this shouldn't come as a surprise to anyone reading *EQ*. But nonetheless, the idea of front-end devices has gained an increasing amount of attention from the pro audio community, and for good reason.

So what does *front end* really mean? For some it means the analog-to-digital converter. To others, it could be a stereo or 2-channel class A mic preamp. How you define the term depends largely on your needs, which, not surprisingly, play a critical part in determining the best route for upgrading the component (or components) that satisfies your lust for the "ideal front end." All hype aside, our goal with this feature is to help you identify what you want from a front end. Start by checking out *Assessing Your Needs* on the following pages.

To many, the term "front end" is interchangeable with "pre-amp." If you fall into this camp, you won't want to miss *Preamp: Fact Or Fiction*, where we take an in-depth look at how impedance, circuit design, tubes, transistors, and other aspects can affect your sound.

Along these lines, we have an exclusive report from a recent preamp design summit held at Middle Tennessee State University, where industry leaders and high-end designers such as George Massenburg from GML, Dave Hill from Crane Song, and Craig "Hutch" Hutchinson from Manley Labs were on hand to discuss the philosophical element to signal path design. Turn to page 59 to read what these heavyweights had to say.

Last but not least, a buyer's guide aimed squarely at front-end processors. If you're looking to fuel your gear lust, look no further!

The bottom line is that you want your tracks to sound great, right? Maybe that means it's time to invest in a better analog chain. It's our hope that the information presented here helps you get a clear picture of what the next step holds for your studio as you consider the all-important front end. Enjoy! —**JOHN KROGH**



**EQ**

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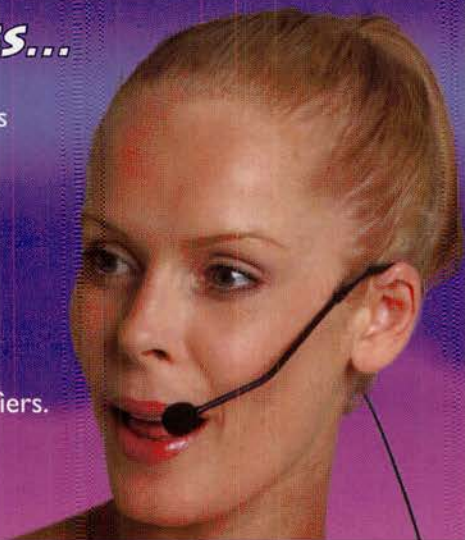
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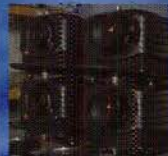
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# Assessing Your Needs

## The first steps to choosing your ideal front end

by John Kragh

### WHY THE FRONT END?

What is it about your recording path that you want to change? In other words, why do you need a front end? This should be the first question you ask yourself before leafing through a gear catalog or rushing out to the local pro audio shop.

We all want our recordings to sound better, but what does better mean to you? To answer this, start by scrutinizing the individual tracks and final mixes you've done in your studio. What's missing? Lack of depth? Punch? Is there noise building up on tracks recorded through a particular preamp? Are the highs too strident? Are your mixes cohesive or do they sound like a bunch of disparate overdubbed parts all playing at the same time? Maybe you already know how to record good-sounding tracks, but the results are too colored (or more likely, not colored enough) for the style you work in. If you can't identify the problem areas, you won't be able to make an informed decision about what to fix or upgrade.

### CHOICES

Broadly speaking, front end devices are anything used in the signal path before audio is committed to the hard disk. By this definition, we're talking microphones, preamps, compressors, EQs, "flavor" boxes, and even A/D converters. That's a wide range of gear; in-depth coverage of all these categories is beyond what we can manage in these pages. I've limited the scope of this article to preamps — whether you record your own vocals, overdub studio musicians one at a time, or track stereo keyboards, a good preamp is necessary for producing quality recordings. So with this in mind, let's look at a variety of session scenarios and which type of preamp would work best in each situation.

■ **2-track classical recording.** If you record classical music (quartets, piano and flute duos, brass ensembles, classical guitar, and so on), you want the clearest, cleanest path from the microphones to the recorder. A stereo or 2-channel preamp with as few extra components and stages as possible is ideal. There's little need for processing such as EQ, de-essing, and compression. In

general, tubes will provide more color to the sound, so a Class A solid-state device may be preferred; however, some manufacturers claim excellent noise and distortion specs for their tube preamps. If you feel your recordings are too clinical or sterile, a modern tube preamp might give the recording just enough "warmth" without adding unwanted tube character.

■ **Vocals.** The choice here is dependent on the style of music. For pop, hip-hop, and R&B, you may want a punchy, present sound, but for jazz or '60s and '70s-style rock a more "old school" tone would be appropriate. There are other factors to consider: How a vocalist approaches the mic, the timbre of their voice, choice of microphone, etc., all play a big part in the overall sound. Having a flexible single-channel preamp with tonal shaping tools such as EQ and dynamics is a must. If you have a variety of mics — tube, ribbon, condenser, dynamic — a preamp with variable impedance would be a smart option. Likewise, the ability to switch between solid-state and tube stages will give you a wider tonal palette.

■ **Electric guitar and bass.** If you're laying guitar tracks down in your bedroom or home studio, chances are you don't have a big room for a multi-miked amp-in-a-room setup. However, close miking is likely a viable option — one mic directly on the speaker grille, and another mic 1–3 feet away is a common approach. If this works for your space, a 2-channel preamp with EQ will be your best bet. EQ will be handy for carving out frequency ranges to produce a good blend between the mics. A compressor isn't as essential though, as the output from an amp is already compressed to a certain degree. That said, I've heard some amazing guitar tracks that owed much of their vibe to a compressor in the chain.

If the idea of reamping appeals to you, consider a preamp with instrument inputs. That way, you could use one channel to record the direct sound from the guitar, and the other channel for miking the cabinet. Matching the level and impedance from the recorder to work with a guitar amp isn't an

issue if you reamp through plug-ins. But if you plan to send the direct signal back out to an amp or outboard guitar processor, consider a dedicated "reamping" box.

■ **Stereo keyboards.** Synths and samplers are capable of producing a seemingly infinite number of sounds and textures, but even so, most keyboards can benefit from passing through a quality preamp before hitting the hard disk. A preamp can give you more grunge or a smoother top end, for example. On a more practical tip, keyboards don't all work at the same operating level — a preamp can help "optimize" the output signals.

So what should you look for? A stereo or 2-channel preamp with EQ and variable types of compression, and possibly a "saturation" stage, will give you the most flexibility for tracking keys. And remember, you're not limited to recording "real" sources, either — running software instruments through a preamp is an effective way to beef up otherwise flat-sounding synths.

### THE NEXT STEP

Obviously, there's a lot to ponder when it comes to investing in the front end. And it is an investment. You can expect to pay anywhere from a few hundred bucks to \$4,000 or more, depending on what you're after. So do your homework. Read the other segments in this feature. Then gather opinions from engineers you trust. Call around to see if you can rent the gear on your front-end wish list. Try the front ends with the same test sessions and a variety of mics, if possible. Record the results for A/B comparison. Let your ears be the judge of what's best. It might sound like a lot of work, but aren't your recordings worth it?

EQ

# The Art of Recording: Preamp Fact and Fiction

Do you REALLY know what makes your preamp tick?

by Craig Anderton

**F**ront ends — just like mics, speakers, and record company lawyers — are shrouded in mystery. The front end (or “preamp” to those who eschew obfuscation) typically provides that crucial link between a mechanical transducer, such as a mic or guitar pickup, and the circuitry that follows it, such as a mixer or computer audio interface.

It used to be that the idea of buying expensive mic preamps for a home studio was outlandish. But as the cost of recording has nose-dived (it wasn't that long ago we were thrilled to get 16 tracks of digital audio on tape for \$8,000), that leaves more disposable income for devices like monitor speakers, mics, preamps, and other accessories. Furthermore, with many “owner-operator” studios where instruments are recorded one at a time, you need only one good-quality preamp. If you need to mic a drum set, well, you can always use the good preamp on part of the kit and the ones in your mixer for the other tracks. (I won't tell. . . .)

“There's a lot of mythology surrounding preamps — some true, some half-true, and some flat out wrong.”

There are a lot of front-end boxes out there, from cheapo tube preamps to audiophile devices that cost thousands of dollars and sound like electronic silk. People get very passionate about their

preamps, but that's because there are distinct, subtle differences among the various types that even those without golden ears can hear. However, as with most “golden ear” topics, there's a lot of mythology surrounding preamps — some of it true, some of it half-true, and some of it flat out wrong. Let's sort out fact from the fiction.

■ **A preamp has to use a Class A amp design to sound any good.** Well . . . there's no denying that a Class A amplifier, where one or more transistors are conducting current all the time, is theoretically capable of the lowest amount of distortion. Class B amps, which are far more common, use separate transistors to conduct a waveform's positive and negative portions. They got a bad rep because in their formative years, there would be delays as the signal switched back and forth between the two transistors, thus leaving a “notch” in the waveform. (Class A/B amps tried to fix this by overlapping the conduction, but this wasn't always an ideal solution.) These days, though, Class B circuits can be designed that have no audible, and often no measurable, distortion; and they save energy because they don't dissipate the significant amounts of power that Class A circuits do. Still, when only the best will do, it's hard to go wrong with a good Class A design.

■ **The higher the impedance with guitar, the better.** This is true only with passive pickups, and then only if you add “up to a certain point.” An excessively high impedance is more likely to pick up hum, noise, and other interference. Usually, an impedance of 250kΩ–2MΩ is more than sufficient to avoid loading down a guitar with passive pickups. (Note that mics with built-in preamps and

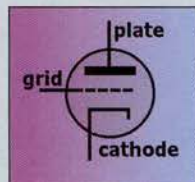
## It's Miller Time!

No, I'm not talking about what happens when the session's over, but about the *Miller effect* — perhaps one of the reasons people like triode tubes (e.g., the 12AX7, or even pentode tubes operated as triodes), although the effect is also present to some degree in transistors.

In a nutshell, a tube's plate and grid form a capacitor (Fig. 1), which is charged and discharged through the source resistance of the stage driving the tube. This resistance and capacitance (which combines with the grid-to-cathode capacitance) creates a primitive lowpass filter. The capacitance increases at higher gains, which of course, is the situation when you're amplifying mics and guitars. So, some of that “warm” sound is simply due to high frequency rolloff.

It's convenient that as you increase the gain, the capacitance increases. Thus, for heavily distorted leads, the sound is not as shatteringly bright as it might be otherwise. But also note that some companies have worked very

hard to reduce the Miller effect, particularly with vocal preamps. This can be done by decreasing the output resistance driving the triode stage, reducing the tube's overall gain, or avoiding the use of triodes altogether (with tetrode and pentode tubes, the screen grid reduces the amount of capacitance, thus reducing the Miller effect.)



**A triode's plate and grid exhibit a certain amount of capacitance, as does the grid and cathode. At high gains, this can create enough lowpass filtering to influence the sound.**

## The Art of Recording: Preamp Fact and Fiction



Universal Audio and Avalon are just two of several companies making high-end, audiophile-quality preamps

guitars with active electronics are almost always relatively unaffected by the input impedance of the stages they feed.)

■ **High impedance is the only way to go with guitar** Not always. It's certainly true that lower impedances reduce a passive pickup's high-frequency response and overall level, but this may be desirable if you're feeding a subsequent distortion stage (which is a common scenario in today's "all-in-one" recorders where guitar effects are built-in). Rolling off the highs by loading down the pickup can produce a creamier distortion effect.

■ **Tubes sound better than solid state.** The reason why many people prefer the sound of tubes is not because they sound

### Do I Really Need Expensive Mic Cables?

Not necessarily, but you do need *good* ones. The first thing to look for in cables is low capacitance per foot (specified in picoFarads). This capacitance can rob high frequencies when devices with high output impedances feed input stages with high input impedances — if I'm going to reduce the highs, I'd rather specify the amount myself. Some cables designed for audiophiles go heavy on the shielding, which is a good idea given the interference-prone average household, but can increase cable capacitance. This has no significant effect on the line-level signals used in hi-fi gear, but can definitely alter the sound of devices such as mics and guitars with high-impedance outputs.

“Most people can hear the difference between a high-end boutique preamp, and the ‘let’s-hit-a-price-point’ preamps found in budget mixers.”

more accurate, but because they can color the sound in a subjectively pleasing way. Tubes add a natural compression, slight high-frequency reduction (see sidebar, “It’s Miller Time!”), hiss, and harmonic accentuation. Regarding solid state, a well-designed preamp — whether using bipolar or field-effect transistors — can certainly sound transparent and accurate to my ears; although conversely, there are some highly skilled tube designers who make extremely accurate tube-based products. In any case, even though computer emulations of tubes get better all the time, there’s still nothing quite like a tube sound.

■ **The preamp has a huge influence on the way a dynamic mic sounds.** Yes, but I think a more accurate phrasing is that the *mic* has a huge influence on the how the *preamp* sounds — a preamp

may have a certain “color” with one mic, but not with another. This is because a dynamic mic presents an inductive load that interacts with the preamp’s input stage, which can alter the overall frequency response. Some preamps have adjustable input impedances, so you can dial up the best sound for your particular set of mics.

■ **You want to match the output impedance and input impedance of the mic and preamp.** That’s true if you’re installing telephones, where the object is a maximum transfer of power. What we want is a maximum transfer of *voltage*, which means that for the most accurate signal transfer, a stage’s output impedance should be 10–20% of the impedance of the stage it feeds. However, note that the impedance changes with frequency, for example, a guitar pickup’s high frequencies exhibit higher output impedance than low frequencies (this is why low impedance inputs reduce highs). Add other variables to the equation, and it’s no wonder different combinations of gear can sound very different.

■ **An expensive mic preamp will always sound better than a cheap one.** All things being equal, most people can hear the difference between a high-end boutique preamp, and the “let’s-hit-a-price-point” preamps found in, say, budget mixers. However, it’s important to remember that certain combinations of preamp, mic, and cable may lead to an inexpensive preamp sounding better for that particular combination of gear, or with a particular signal source. So, even if you have a really great preamp that cost as much as the GNP of some third-world nations, try out some of your other preamps as well. They may do the job better in some cases.

The bottom line on front ends is simple: You can’t really go too much by other people’s advice, unless you’re recording the same type of material using the same gear. Subtle differences among devices might sway you toward one or the other. In any event, though, try out as many preamps as you can. At some point, you’ll find the one that sounds best to your ears.

EQ

# Preamps in Paradise

Today's top preamp designers gather to discuss the state of the art

by Mitch Gallagher and Frank Wells

**G**ather a group of recording engineers in a room and you'll quickly learn that everyone has an opinion about microphone preamps. You'll hear that a preamp should be transparent, colored, clean, dirty, present, slow, fast, accurate, fat, round, open, (insert your favorite ambiguous adjective here). . . .

Perhaps the only group with more definite opinions about preamps than recording engineers is the designers behind the devices. To gain enlightenment on the topic of preamps, Lynn Fuston, of Franklin, Tennessee's 3D Audio ([www.3daudioinc.com](http://www.3daudioinc.com)), gathered together some of the industry's leading design luminaries as well as prominent engineers. What started as a simple gathering of preamp designers for the purpose of casual conversation originally slated to be held in Hawaii — thus the "Preamps In Paradise" moniker — quickly escalated into two free-ranging panel discussions held at Middle Tennessee State University. All we can offer here is a brief summary of what was discussed. Fortunately, the panels were filmed, and will be released on DVD later this year. Companies sponsoring the panels included Manley Labs, McPherson Guitars, Sweetwater, Universal Audio, Gordon Audio, Mercenary Audio, Great River Electronics, and Crane Song.

The first panel comprised ten preamp designers. In attendance were Geoff Daking (Daking), Doug Fearn (DW Fearn), Greg Gualtieri (Pendulum Audio), Dan Kennedy (Great River Electronics), Dave Hill (Crane Song), Grant Carpenter (Gordon Instruments), Craig "Hutch" Hutchinson (Manley Labs), Oliver Archut (AMI TAB-Funkenwerk), George Massenburg (GML), and John Hall (Langevin, Electrodyne, Quad 8). As panel moderator and host, Lynn Fuston, pointed out, ". . . a pretty amazing brain trust!"

The second panel saw recording engi-

neers taking the stage. Attending were Michael Wagener (Dokken, Skid Row, Motley Crue, Extreme), Russ Long (Newsboys, Sixpence None The Richer, Rich Mullins, Carolyn Arends), Brian Tankersley (Brooks and Dunn, Gino Vannelli, Charlotte Church, Shania Twain), Fletcher (Mercenary Audio), John Wheeler (Hayseed Dixie), Bill VornDICK (Asleep at the Wheel, Bela Fleck and the Flecktones, Allison Krauss, Ralph Stanley), and Chris Huston (Led Zeppelin, The Who, War, The Rascals).

## THE MYSTIQUE

Preamps seem to have developed a certain mystique in the modern studio. But things weren't always that way. Once upon a time, preamps were found primarily in mixing consoles. Engineers began using outboard preamps for the same reason Bill VornDICK pointed out, because he "wanted another color" rather than running everything on a session through the console preamps.

But what makes preamps so intriguing? Doug Fearn kicked things off: "The preamp is the interface between the microphone and the rest of the world. If it gets messed up there, you can't get it back."

Greg Gualtieri continued, "It's an interaction between the microphone and the preamp that determines the sound," which gives the question, "what does my mic sound like?" no single answer.

A given combination of mic and mic pre, one that has produced successful results in the past, may or may not work in a similar situation said Dave Hill, "When it works, you just go with it."

George Massenburg suggested that a great preamp design isn't always enough to get a great sound. "What humbles me," he explained, "is that sometimes factors like humidity in the room can be the variable, not the gear." John Hall concurred, "The mistake a lot of people make is that they don't go out in the room and listen to what they're recording." Hill added, "Everybody

here makes great preamps that will work in most situations," but when faced with a problem, you have to trace it to its source — the humidity, the player, the room or other factors beyond the technology.

## COLOR MY WORLD

"Outboard mic pres, at this point," said Brian Tankersley, "are just a godsend to get us back to where we were 30 years ago." Having a selection of mic pres can offer an advantage while recording digitally, added Michael Wagener, coloring the sound "on the front end" since the recording media itself isn't providing character.

"If we consider ourselves artists, they're giving us a wide palette," VornDICK says of mic preamps. "On a good day," commented Fletcher, "the equipment will help support the emotion of the musical statement."

Wagener started appreciating outboard preamps, "when I went from recording in 20 different studios to recording in my own place." He said, "Little tiny changes the mic pre made during recording" made the difference between getting what he wanted instead of having to work to fix what he got.

Tankersley agreed, saying an "articulate and musical sound" on the front end helps fight the "constipation" of much of modern recording.

But the factors that play into the use of a given preamp are numerous. "There's no way to overstate how interactive it all is," Tankersley said, offering wire, connectors, cable length, the room, the player, and the instrument all as pieces of the sonic puzzle.

## HOW DO YOU GET THAT SOUND?

So do designers just plug in components until the preamp sounds right, or do they go for a particular tone? Fearn commented, "I spend a lot of time listening, figuring out what it is about a sound I *don't* like," then the design goal would be to eliminate those elements. Craig "Hutch"

## Preamps in Paradise

Hutchinson agreed, saying, "I would say I spend 90% of my time designing things out." Also agreeing was Gualtieri, who added, "Sometimes these are very small factors that, if you're not the designer, you don't hear."

### DESIGN AND RELIABILITY

Queried about the design process, Hill revealed that when developing a product he generally spends "six months or more" listening before anyone else hears it. Hutchinson said he divides his time between listening and testing, then turns the product over to end users for their input. Gualtieri said the process for him doesn't include measuring with test gear until late in the process. As Archut said, "What we're measuring is static . . . what we're hearing is dynamic." Carpenter concurred, comparing sonic anomalies to "a fly in the bedroom," with testing sometimes providing the tools to "swat the fly."

Reliability testing is crucial, said Massenburg: "All these subtle things we're talking about mean little if it's unreliable."

### MUSIC VERSUS TECHNOLOGY

"You can destroy the emotional content of a performance with a piece of gear," says Hill, who asked the semi-rhetorical question, "Are we making technology or are we making music?" Fearn related that he often asks students to name the most important part of the recording chain, and that they usually miss listing the artist. "The job of recording, is to do as little damage to that as you can."

### TRANSFORMERS AND COMPONENTS

"Somehow," Dave Hill began the discussion on the use of transformers, "you have to get from the mic into the preamp, and somehow you have to get from the preamp to the outside world." Several of the designers on the panel eschew the use of transformers, while others readily employ transformers for interfacing.

Fearn related that designers taking a "systems" approach would integrate and spec a transformer as one part of achieving

their design goals — as "one part of the whole design." Oliver Archut outlined transformer considerations, saying that "the ideal transformer is colorless," but when size is reduced as a practical design consideration, coloration is added, making transformers a "compromise between various factors."

Whether employing transformers or not, building their products from discrete components — tubes and transistors — as opposed to preamps using integrated circuits, was the methodology of choice for the assembled designers. "You can't build a great amplifier of any kind using IC circuits," said Hall, surmising the panel's consensus. "As much as you can, use class A," added Hutchinson, speaking of design topologies, though he qualifies that as being "tougher" to do in output stages.

Transformer-based mic preamps were often the choice of the recording engineer panelists, with credit given to the transformers for a good deal of the sonic character. "The ringing and overshoot you get from transformers," said Fletcher, "is often part of the event."

### PARTS SUPPLIES

Economics of scale and size of the potential market for high-end outboard preamps were cited as keeping the prices for such products relatively high. An additional consideration is the availability of high-quality discrete components. "If you're building discrete preamps," said Massenburg, "every year you have a part that goes away." The vacuum tubes available today "are garbage" for studio use, according to Archut, adding that "there's a good possibility that good transistors will soon be priced like old tubes — NOS [New Old Stock] — are now."

Archut stated that transformers for modems are what is supporting today's transformer manufacturers, a business that might be threatened as communications technology changes. Through a discussion of winding their own transformers to the arcane art of tube manufacturing, the designers reveal that they

have found ways to obtain the parts they need. "Today, it's not a big investment" said Archut, to buy certain component manufacturing hardware off eBay, as he did with transformer winding gear. Though he admitted that for some parts, the overhead of "making your own" might prove prohibitive.

### THE FUTURE

Looking to the future, according to Daking, "There will always be a small market," at least, for high-performance microphone preamplifiers. "Pre-amps," predicted Hall, "will evolve in a direction of more accuracy," while he says the market will still have a place for preamps that add a particular color or sound.

Daking added that designers like himself are basically building a product "the way we want it, and if they [consumers] don't like it, that's okay." Hutchinson concurred, stating that designers are "competing against ourselves . . . as good as we are now, there's room for improvement."

## The Phantom Topic

An interesting side topic arose during the preamp conversations: phantom power. The 48v phantom power system for microphones was universally decried as insufficient for condenser mic circuits. Manley's Hutchinson said, "I think this is part of the draw of vintage microphones [which frequently have outboard power supplies]." He added that phantom power can cause problems, with sonic performance reduced by DC blocking capacitors or noise from dirty patch cables.

According to John Hall, with a transformer-coupled mic, having phantom power present when plugging and unplugging the mic can cause transformer core magnetization, which has the potential to degrade mic performance and ruin parts. Gualtieri called phantom power a factor of "convenience over absolute sound quality," ultimately a compromise.

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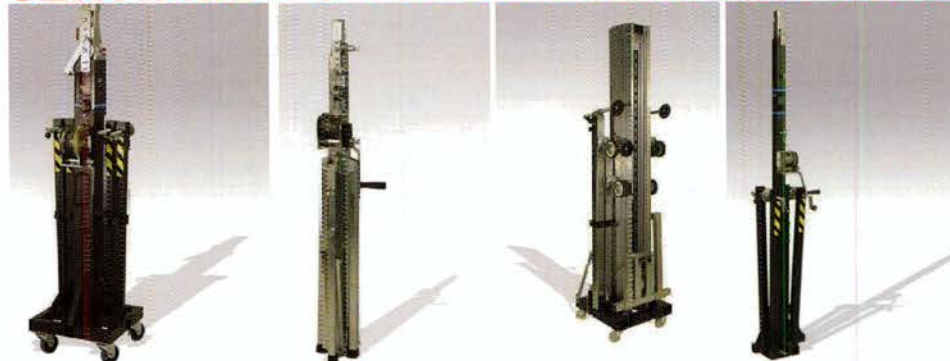
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# Mini Buyer's Guide: PREAMPS

Compiled by Tom Fulton & Greg Rule

Street Price points:

\$ (Under A\$500)

\$\$ (A\$500 - A\$1000)

\$\$\$ (A\$1000 - A\$2000)

\$\$\$\$ (A\$2000+)

**R**eady to get your front-end on? On the following pages are listings from some of the world's top manufacturers of standalone preamps.

A few important notes before diving in: Prices and specs are subject to change, so consult the manufacturers for up-to-the-minute info; you'll find URLs in the sidebar on page 69.

If you don't see it here, refer back to our March 2004 "New Gear Nirvana" and December 2003 AES cover stories. Finally, be sure to peruse the product review section of this issue, where you'll find in-studio tests of the latest from SSL, Focusrite, Apogee, and more.

Happy shopping!

## **Alto AlphaMicTube, \$**

Alto's AlphaMicTube is an affordable mic preamp with gain, drive, phantom power, phase switch, and pad.

## **Aphex Systems Model 207, \$\$\$**

This 2-channel tube microphone preamp and instrument DI features MicLim, a mic level limiter for controlling the transient spikes that could ruin an otherwise perfect take. The instrument DI is quiet (over 90dB dynamic range). The MicLim provides distortion-free peak protection for the DI inputs.

## **Apogee Mini-Me, \$\$\$\$**

Mini-Me features two channels of Apogee A/D conversion at sample rates of up to 96k, two premium mic/instrument preamps and line level inputs, and Push-It, a unique new 3-curve stereo comp/limiter: ideal for location recording. Mini-Me is equipped with optional USB for a direct connection to your laptop with a direct/return monitor. I/O: AES/EBU, S/PDIF, and optional USB. (For info on Apogee's Mini-MP, see the product review section of this issue.)

## **ART Tube Preamp System, \$**

Tube mic preamplifier with V3 Variable Valve Voicing, OPL Output Protection Limiter, +20db, 48v phantom power, and phase reverse.

## **ART Tube MP OPL, \$**

Tube mic preamplifier with OPL Output Protection Limiter, +20db, 48v phantom power, and phase reverse.

## **ART Tube MP Studio (\$) and MP Studio V3 (\$)**

Tube mic preamp with OPL Output Protection Limiter, analog VU metering, +20db, 48v phantom power, and phase reverse. V3: Tube microphone preamplifier with ART's V3 Variable Valve Voicing, OPL Output Protection Limiter, analog VU metering, +20db, 48v phantom power, and phase reverse.

## **ART Tube MP, \$**

Tube mic preamp that features +20db, 48v phantom power, phase reverse.

## **ART Digital MPA, \$\$\$**

Tube microphone preamplifier with variable input impedance, ADAT, TOSlink and S/PDIF Output.

## **ART DPS - DIO Preamp System, \$\$**

Tube mic preamplifier with ART's V3 Variable Valve Voicing, OPL Output Protection Limiter, plus ADAT, TOSlink, and S/PDIF output, +20db, 48v phantom power, and phase reverse.

## **Barbetta Channel One, \$\$\$\$**

The Channel One is a low noise mic preamp with phantom power, parametric EQ, bandpass filters, noise gate, full-feature compressor, and level, compression and clipping meters. It comes with an additional input stage for ultra-high impedance

instrument pickups. Its MosPath FET signal path contributes to the Channel One's clarity and warmth.

## **Behringer Tube UltraGain T1953, \$**

Features discrete input stages, input gain adjustment, phantom power, mic/line capability, switchable high-pass filter, and a phase inversion switch. Twin 12AX7 tubes and Behringer's Ultra-Tube circuitry allow you to add the precise amount of tube warmth without introducing noise or sacrificing audio quality. (Also available: the UltraGain Pro MIC2200, \$129.99, with integrated parametric EQs that give you extra sound-shaping power, while its built-in tube adds warmth and transparency to your signal.)

## **Behringer Ultra-Voice VX2000, \$**

The Ultra-Voice is a mic preamp, equalizer, compressor, expander/gate, de-esser and tube emulation in a single rack space unit. Designed for both direct-to-disk recording and demanding live situations.

## **Behringer Ultravoice Digital VX2496, \$**

The Ultravoice Digital VX2496 is a high-quality mic preamplifier/voice processor based on the VX2000. Features an AES/EBU outout (digital output up to 24-bit/96kHz), including opto compressor, dynamic enhancer, expander, de-esser, and tube simulation.

## **Behringer Ultragain MIC100, \$**

The MIC100 is a tube mic/line preamp with integrated limiter for studio, live, and hard disk recording applications. It features a 12AX7 vacuum tube with UTC technology for warmth and low noise.



**DACS MicAmp, \$\$\$\$**

A 2-channel, discrete-component-based microphone amplifier, the MicAmp offers a triple, low-noise, matched-pair transistor input stage. There are two mic inputs for each amplifier, one with 48v phantom power. Non-powered inputs bypass the high value polyester input capacitors necessary to block the 48vDC. Low frequency response for the phantom powered input is flat to below 20Hz, with subsonic rolloff at 6dB per octave. The high frequency response reaches its -3dB point around 48kHz.



**Daking Mic-Pre IV, \$\$\$\$**

The Mic-Pre IV is the latest addition to Daking's range of pro recording studio products. Features include continuously variable gain control, a 20-segment LED level meter with +24db peak indicator, switchable mic/line or Hi-Z instrument, switchable +48v phantom power, switchable input phase and 20dB pad, and gold-bifurcated contacts on all relay switching. The Mic-Pre IV is housed in an all-stainless steel enclosure with an outboard DC power supply in a separate housing. It offers durability and immunity from noise and RF interference. The supplied universal power supply can operate at any voltage for use worldwide.

**Daking MicPre/EQ, \$\$\$\$**

The Mic-Pre/EQ is a 1-channel mic pre and includes EQ with five stepped frequencies per band, continuously variable boost and cut (+16db), switchable +48v phantom power, and a 20dB pad on the mic input. It features discrete transistor circuitry, transformer-balanced inputs and outputs with Class A amplifiers, and steel construction for strength and noise immunity.

**dbx 286A, \$\$**

The dbx 286A is a single channel studio quality mic preamp plus five dynamics processors. It offers an internal power supply, +48v phantom power, and a frequency controllable de-esser, as well as a premium preamp section and expanded metering 2-knob compression, spectral enhancer, and an expander/gate.

**dbx Mini-Pre, \$**

Mini-Pre features roacworthy construction,

a12AX7 vacuum tube to add warmth and tone to any microphone signal, selectable 48v phantom power, and 20dB pad and phase-reverse switches.

**dbx 386, \$\$\$**

Features dual premium vacuum tube preamp channels with front panel instrument input, noise-shaping algorithms, and selectable dithering and sample rates. Also offers digital outputs in AES/EBU and S/PDIF formats.

**dbx 376, \$\$\$**

Offers a premium vacuum tube preamp with a 3-band parametric EQ, compressor, de-esser, a front panel instrument input, and selectable sample rates. Also offers digital outputs in AES/EBU and S/PDIF formats.

**dbx 786, \$\$\$\$**

With its M8 mic preamp module, the dbx 786 boasts a pristine signal path with ultra high-drive transformer-coupled outputs, a dbx Type IV Conversion System digital output option, 20dB pad, phase invert, +48v phantom power and super-low Z input switch.



**dbx ProVocal, \$\$**

This mic pre is combined with 24-bit effects/signal processing: mic modeling, EQ, gate, compressor and de-esser, as well as a 24-bit reverb. Additionally, the ProVocal features chorus and delay and 44 1/48kHz S/PDIF digital outs.



**Digidesign PRE: \$\$\$\$**

Featuring eight discrete, matched-transistor, hybrid mic-preamp circuits, PRE offers a transparent signal path designed specifically for the Pro Tools|HD environment. PRE accepts nearly any input signal, easily accommodating mic, line, and direct instrument (DI) level inputs on all eight channels. Comprehensive remote-controllable operation via the Pro Tools software interface or Digidesign control surfaces allows you to place PRE anywhere in the studio and retain the ability to take

advantage of its entire feature set remotely. PRE also functions as a stand-alone device, making the same high-end sonic quality available for non-Pro Tools applications and all standard MIDI controllers.

**Earthworks 1021 (1-channel \$\$\$\$), 1022 (2-ch. \$\$\$\$), 1024 (4-ch. \$\$\$\$)**

David Blackmer's Zero Distortion mic preamps feature stepped gain from 5-60dB in 5dB steps and variable gain control, 48v phantom power, polarity and standby switches, XLR balanced transformerless input, XLR balanced transformerless output and a 1/4" TRS output. The ZDT preamp boasts flat frequency response from 2Hz to 100kHz +/- 0.1dB, distortion of under 0.0001% and EIN of -140dBV @ 40dB of gain.



**Focusrite Liquid Channel, \$\$\$\$**

The Liquid Channel is a revolutionary professional channel strip that's designed to replicate any classic mic-pre and compressor. Combining radical new analog preamp technology with Dynamic Convolution techniques, the Liquid Channel fuses cutting-edge analog design with ultra-fast SHARC DSP, and is augmented by fully digital controls and optional remote software.

**Focusrite OctoPre, \$\$\$\$**

Providing eight discrete channels of Focusrite Class A mic pre and compression, OctoPre routes directly to any digital audio workstation via eight standard analog outputs, or via a choice of two optional 24-bit, 96kHz A/D converters. OctoPre offers the unique qualities associated with the Focusrite name at an affordable price, and features the same mic pres utilized elsewhere in the award-winning Focusrite Platinum range. Each channel features a compressor/limiter circuit, providing a warm-sounding compressor, which morphs into a brick wall limiter to avoid those critical overs, ensuring total control over all eight channels.

**Focusrite ISA 428 Pre Pack, \$\$\$\$**

The ISA 428 Pre Pack is built to function as a multi-channel front end for any professional

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DAW. It features four classic Focusrite ISA transformer-based preamps with switchable impedance and direct instrument inputs, and an optional eight channel 192kHz ADC.

### **Focusrite Red 1 Quad Mic-Pre (\$\$\$\$) and Red 8 Dual Mic-Pre (\$\$\$\$)**

The Focusrite Red Range products are designed for professional recording applications. The Red 1 features four matched preamp channels (using the same topology as Focusrite's ISA 215 preamps).



### **George Massenburg Labs GML 2032, \$\$\$\$**

GML's renowned transparency, reliability, musicality, and precision are now available at a more affordable price. The all-new GML 2032 mic preamplifier and parametric equalizer boasts discrete class A design in a single rack space unit, and provides an elegant front-end solution for recording engineers. For the first time in GML history, the 2032 features an ultra-low-noise internal AC power supply.

### **George Massenburg Labs 8302, \$\$\$\$**

This all-discrete-transistor, transformerless unit is regarded for its accuracy and transparency, high headroom, and low noise. Affordably priced, the model 8302 is hand built and calibrated in limited production quantities using select components. Includes switchable phantom powering, fits into a 1U, 19" rack space, and requires the external GML 8355 power supply.

### **George Massenburg Labs 8304, \$\$\$\$**

The 4-channel version of the 8302, the model 8304 is also hand built and calibrated in limited production quantities using select components. Like the 8302, it also includes switchable phantom powering, fits into a 1U, 19" rack space, and requires the external GML 8355 power supply.

### **George Massenburg Labs 2020, \$\$\$\$**

This flagship product wraps George Massenburg's mixing and gear mastery into a single-channel mic/line/instrument input with GML EQ and GML Dynamics control. Like all GML equipment, it's constructed of all discrete-transistor, balanced/symmetrical Class-A components, and delivers wide-bandwidth, low-noise, extended dynamic range, and extremely high slew-rate audio.

### **Joemeek MicroMeek MQ3, \$\$**

The MQ3 1/2-rack mic pre features an optical compressor, Meekqualizer 3-band EQ with phase leveling, a TRS mix in for adding a second sound source, LED input and overload indicators, phantom power, and balanced outs.



### **Langevin Dual Mono Mic Pre w/EQ, \$\$\$\$**

An all-discrete mic preamp/EQ combo based on the AM4 design.

### **Langevin Dual Vocal Combo, \$\$\$\$**

The Dual Vocal Combo is an all-discrete stereo mic preamp/EQ/LA-3A-type ELOP limiter combo.



### **Manley Dual-Mono Mic Pre, \$\$\$\$**

A 2-channel tube microphone preamplifier with phase reverse, phantom power, and direct inputs. Gain switches vary the feedback amount, allowing for different tonal changes. Transformer coupled balanced outputs as well as direct unbalanced outputs are provided.

### **Manley Mic/EQ 500, \$\$\$\$**

A mono tube mic preamplifier with built-in passive EQ. Phase reverse, phantom power, and insert point switches are provided, as well as input and output level controls. 2-band peak and shelving  $\pm 10$ dB passive "EQ500 design." Transformer coupled balanced topology throughout.

### **Manley Micpre, \$\$\$\$**

A mono tube microphone preamplifier with phase reverse, phantom power, and direct input. Gain switch varies the feedback,

allowing for tonal changes. Transformer coupled balanced output as well as direct unbalanced output are provided.

### **Manley VOXBOX, \$\$\$\$**

An all-tube mic pre, compressor, EQ, and de-esser/limiter combo unit.

### **M-Audio Audio Buddy, \$**

Audio Buddy is a 2-channel mic pre/direct box with phantom power. Each channel has independent gain controls, an XLR balanced input, a 1/4" unbalanced high impedance input ideal for electric guitars, signal and clip LEDs, and 1/4" balanced TRS/TS outputs.

### **M-Audio DMP3 / Model 1B-FET Bundle, \$\$\$**

An affordable, pro-quality mic and preamp bundle combining Groove Tubes' Model 1B and M-Audio's DMP3 mic pre.

### **M-Audio Octane, \$\$\$**

Brand spankin' new from M-Audio is Octane — a pro 8-channel microphone preamp with ADAT lightpipe output. This 2U rack delivers 24-bit resolution throughout the signal chain, outstanding signal-to-noise ratio, and a dynamic range that's difficult to achieve on multi-channel devices — 133dB for instrument inputs and 120dB for microphone inputs. Frequency response is 20Hz to 20kHz for all inputs ( $\pm 0.11$ dB at mid gain for mic inputs,  $\pm 0.03$ dB at mid gain for instrument inputs).



### **M-Audio TAMPA, \$\$\$**

TAMPA is a single-channel mic pre that uses harmonic time alignment to provide tube-like warmth across the entire frequency spectrum. It features an onboard optical compressor, VU meters for gain and compression levels, variable input impedance for use with any mic, phantom power, Neutrik XLR/ 1/4" balanced input, AES/EBU and coaxial out for up to 96kHz digital conversion, and balanced 1/4" analog outputs.



### **Metric Halo 2882 (\$\$\$\$) & 2882+DSP (\$\$\$\$)**

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The 2882+DSP is a versatile 8-channel mic pre/AD/DA FireWire box. It has eight analog inputs switchable to mic, line, or instrument level; eight digital ADAT format inputs and outputs; two channels of S/PDIF or AES/EBU input and output; eight analog outs switchable to pro or consumer levels; and a headphone jack with a mute/dim switch on the box. Add the +DSP for on-the-metal signal processing, including channel strips, compression, limiting, M/S processing, and EQ without taxing your computer's native processors.

### **Metric Halo ULN2 (\$\$\$\$) & ULN2+DSP (\$\$\$\$)**

Besides its AD/DA FireWire functionality, the ULN2 provides two high-quality mic preamps with inserts, phantom power, volume and trim controls, as well as a headphone amp and AES/EBU and S/PDIF connections. The ULN-2 also features balanced analog inserts for each input.

### **Millennia HV-3B, \$\$\$\$**

With two channels of Millennia's acclaimed HV-3 microphone preamp, the HV-3 is a mainstay of classical music and critical acoustic music recording. The HV-3 is a discrete-hybrid design of exacting quality designed with vintage grade components and roadworthy electro-mechanics. With +32dB output headroom and +23dB unpadding input headroom, the HV-3 will not overload or clip under any condition. (High voltage input option \$200/ch.)



### **Millennia HV-3D, \$\$\$\$ (4-channel build \$\$\$\$)**

Eight channels of Millennia's HV-3 microphone preamp in a new, lower cost-per-channel 2U chassis.

### **Millennia M-2B, \$\$\$\$**

A 2-channel, high voltage, transformerless, Class A-biased, all vacuum tube stereo microphone preamp. The M-2B circuits employ differential topologies, ultra-high headroom, transformerless coupling, high-voltage rails, hand-selected mil-spec components, and more.

### **Millennia Origin STT-1, \$\$\$\$**

The Origin STT-1 is a single-channel music recording system that offers a selection of Millennia's core vacuum tube-or-solid state circuits at every function, including transformer or transformerless mic preamps, line input with gain, opto-compressor/limiters, parametric equalizers, DI instrument input with gain, and opto-de-essers. With 134 different product combinations in one 2U rack chassis, and the associated range of sonic possibilities, the STT-1 vastly expands the sonic palette.

### **Millennia TD-1, \$\$\$\$**

This twin topology, half-rack recording channel features selectable vacuum tube or all discrete solid-state DI amplifiers, multiple input impedances from 470K to 10M, dual Reamp outputs carefully modeled after vintage Les Paul and Strat pickups, Speaker Soak input, line input with 20dB switchable pad, HV-3 microphone preamp with 65dB gain, and more.



### **Mindprint En-Voice II, \$\$\$**

This rev-2 rack features a tube preamp and compressor with adjustable saturation in a 1U chassis. It provides a mic input with 48v phantom power, instrument input, line input, balanced insert, low-cut 80Hz switchable filter, and a 3-band parametric EQ.

### **Mindprint DTC, \$\$\$\$**

Meet the Mindprint monster. DTC provides two channels of boutique-quality microphone preamplification. Features include 24/96 converters, 4-band parametric EQ, tube compressor/limiter, dynamic range of >113dB(a), S/PDIF coaxial and optical I/O, AES/EBU I/O, and more.

### **Nady TMP Series, \$**

Three 1U rack size units: the TMP-1 (\$135) mono tube mic preamp, the TMP-2 (\$200) stereo tube mic preamp, and the TMP-3 (\$260) single-channel tube channel strip with mic preamp, EQ and compressor. All three units feature 12AX7 tubes and analog meters.

### **Nady PRA-8, \$**

An 8-channel mic preamp in a 1U rack housing.

### **Peavey TMP-1, \$\$**

This single-channel mic pre features

tube design (through signal path), transformer balanced XLR inputs, unbalanced 1/4" inputs, transformer-balanced XLR output, unbalanced 1/4" outputs, and a switchable, 40Hz highpass filter in a 1U rack design.

### **Pendulum Audio MDP-1, \$\$\$\$**

The MDP-1 is a 2-channel, all-tube mic/DI preamp with transformerless outputs. It features high voltage Class A circuitry capable of delivering +35dB.



### **Pendulum Audio Quartet, \$\$\$\$**

The Quartet is an all-purpose recording tool comprising four elements: a tube mic/DI preamp, a tube opto-compressor, an opto-inductive de-esser, and a 3-band tube EQ. It features an all-tube signal path, transformerless or transformer-balanced outputs, and the ability to patch out the elements separately.

[Update! the Quartet II Mercenary Edition (pictured above) is now available for \$5,000. See the Pendulum Audio website for details.]

### **Phonic Micro 1, \$**

The Phonic Micro I is a low-noise preamp that offers four balanced 1/4" inputs for mics, each with its own level control with global phantom power supply. An additional unbalanced Aux input provides audio or line source such as a CD player or karaoke machine. A 7-segment LED level meter offers instant master level output monitoring from -20dB to 6dB. All this packed into a 1/3 rack chassis.

### **PreSonus Acousti-Q and DigiTube, \$\$**

The Acousti-Q Tube 1/2U acoustic instrument preamp/EQ/blender features two tube preamps for both pickups and condenser mic inputs. An internal mixer allows the signals to be blended. Other features include EQ with a tunable notch filter, brilliance and bass controls, sweepable midrange control, external footswitch control, and a stereo effects loop. The DigiTube mic pre offers a single-channel tube preamp, EQ, and 24-bit digital output.

### **PreSonus DigiMAX LT, \$\$\$**

The DigiMAX LT is an 8-channel mic preamp with 24-bit ADAT lightpipe output. Each

## Mini Buyer's Guide: PREAMPS

channel features a dual servo mic preamp with mic/line level inputs, 20dB pad, and 48v phantom power. Each channel also has a TRS insert point for patching in outboard gear before the A/D converter. Digital synchronization is achieved by offering word clock in/out via BNC connectors. The sample rate can be set on the front panel to 48kHz, 44.1kHz, and 32kHz.



### PreSonus Eureka, \$\$

A combination mono preamp/compressor/parametric EQ, Eureka features Class A electronics, line and mic input, variable impedance, tube saturation emulation, and more in a single rack chassis.

### PreSonus M80, \$\$\$\$

The M80 is an 8-channel microphone/instrument preamp featuring low noise, balanced input transformers, low impedance mix bus, and vintage warmth control. Designed with a low-impedance stereo mix bus for assigning and panning any channel to the main stereo output connectors. It also has a high gain headphone output for monitoring the main bus. Each channel features 48v phantom power, phase reverse, -20dB pad, and 80Hz roll-off.

### PreSonus MP20, \$\$\$

Features 2 channels of Class A mic preamplification with a dual servo, transformer-coupled input stage. Each channel offers 48V phantom power, phase reverse, -20 dB pad, and 80Hz rolloff. The MP20 also has a low impedance stereo mix bus with headphone monitoring. Each channel includes balanced send/return jacks for patching in outboard gear.

### PreSonus VXP, \$\$\$

The VXP is built with the same design parameters as the MP20 and M80 preamplifiers. The VXP provides a Class A/transformer-coupled mic pre, compressor, expander, de-esser, semi-parametric EQ, and peak limiter all in one rack. An optional 24-bit digital output card is also available.

### Rane DMS 22, \$\$\$

Designed for studio recording in direct-to-tape or hard disk applications, the DMS 22 is a dual channel studio-grade microphone stage with EQ and a stereo mixer.



### Rane VP 12, \$\$\$

The VP 12 is a mic and line-level voice processor incorporating a studio-grade microphone stage, low and hi cut filters, de-esser, gate/compressor, and two channels of parametric equalization.



### Roland MMP-2, \$\$\$

The MMP-2 is a 2-channel mic preamp with 24-bit/96kHz A/D converters. Features include COSM mic modeling, 4 bands of fully parametric EQ, modeled tube compression, an enhancer and de-esser, plus control software for your Mac or PC. Analog I/O includes two XLR Mic inputs and two XLR Line outputs, plus coaxial digital I/O and AES/EBU digital output. Its USB port allows computer control.

### Samson C-Valve Tube Pre-amp, \$

The C-Valve features variable gain and variable tube process saturation for adding harmonics, a large analog VU output meter, a 6-segment LED, 48v phantom power, phase and peak limiter, and digital output. Use its insert points along with a C-Class compressor for a direct path.

### SM Pro Audio PR4, \$

The PR4 is a 4-channel 1/2-rack size mic pre. Features include independent gain controls, high-quality JRC4558 op amps, XLR I/O, and phantom power.

### SM Pro Audio PR8 \$

Each of the eight channels in this rack-mount mic preamp has its own gain control, peak light indicator, phantom on/off, and phantom light indicator. Included are eight balanced XLR inputs and eight TRS balanced/unbalanced outputs at +4dB.

### SM Pro Audio PR8 MKII, \$\$

The 2U rack-mount version of the PR8, with ADAT output, eight -10dB 1/4" line

outs. The ADAT lightpipe output option is \$199.

### Solid State Logic X Logic Super Analogue Channel

(See product review section of this issue)



panel. The input is an XLR-3 type, and is electronically balanced. The input gain for each input can be adjusted individually by a recessed preset potentiometer.

### Sonifex RB-DMA2, \$\$\$

The RB-DMA2 is built around two independent low-noise microphone preamps for converting microphone level signals to a digital AES/EBU or S/PDIF output. The mic inputs are XLR-3 type and are electronically balanced. The input gain for each input can be adjusted individually by a volume control on the front panel, and each has an LED indicator.



### Summit Audio 2BA-221, \$\$\$

A powerful new microphone preamp with a host of features and I/O, the 2BA-221 is both a vacuum tube and solid-state preamp that features variable microphone input impedance. The 2BA-221 also has an array of inputs and outputs, all available simultaneously, including mic, line, Hi-Z, and stacking in, +4dB and -10dB tube outs, stacking (solid state) out, plus an insert jack before the tube stage. Other features include a swept highpass filter, a polarity switch, an internal power supply, and a stackable design for linking multiple units.

### Summit Audio MPC-100A, \$\$\$\$

A high-quality single channel processor designed for direct-to-digital mic, line, or instrument recording. It includes a vacuum tube mic and instrument preamp stage followed by a fast-attack compressor/limiter. The preamp stage includes -15 and -25dB pads, Hi-Z input

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impedance control, a clip indicator, polarity switching, and a stepped attenuator control. The compressor/limiter section has continuously variable threshold and slope controls, with 3-position switches for attack and release times, compressor make-up gain, and a final output level control.

#### **Summit Audio MPE-200, \$\$\$\$**

A 2-channel, digitally controlled, analog 4-band parametric EQ and mic preamp designed by the legendary Mr. Rupert Neve. It features a classic high-quality discrete Class A transistor and transformer-coupled design, which gives minimal distortion. Coarse and fine gain controls for each section allow greater control of all parameters, and onboard memory allows 25 setups to be stored and instantly recalled.

#### **Summit Audio TPA-200B, \$\$\$\$**

The TPA-200B is a variable input/output, 2-channel mic preamp that offers a wide range of sounds, from clean to full-tube overdrive. A hybrid vacuum tube in/solid-state out design gives this preamp the best of both worlds. The TPA-200B also features balanced mic, line, and high-impedance inputs to accommodate a wide range of input sources.



#### **TC Electronic Gold Channel, \$\$\$\$**

The Gold Channel is both a digitally enhanced mic preamplifier and a signal refinement toolbox. Following the gain stage, the signal is converted from analog to digital. The Gold Channel provides two channels that can be linked for stereo operation, along with a range of DSP tools such as compression/expansion, EQ, de-essing, and TC's dynamic equalization.

#### **TL Audio 5001, \$\$\$**

The Ivory 2 Series 5001 preamp offers four tube mic preamps in a 2U package with discrete mic preamp stages, 30dB pad, instrument DI inputs, comprehensive metering, and optional 24-bit digital output. Each channel employs one half of an ECC83/12AX7A Sovtek dual triode tube, run from a stabilized 150V DC supply. The tube stage is positioned just after the initial

mic preamp stage.

#### **TL Audio 5050, \$\$**

The 5050 is a valve front end that combines a mic/line/instrument preamp and mono compressor, making it a cost-effective way of processing audio sources. The 5050 features include a 30dB pad, hard/soft knee compression modes, a balanced line output, and an optional digital output. The 5050 has two valve stages: one in the preamp circuit, and one in the gain control element of the compressor. These Sovtek valve stages are run from a stabilized 150V DC power supply.

#### **TL Audio 5051, \$\$\$**

The 5051 combines a preamp, compressor, equalizer, and noise gate in one package. The compressor section is identical to the TL Audio 5021, and includes hard/soft knee modes. The 4-band equalizer section is based on the EQ-1. The 5051 features six tube stages, supplied by three twin triode ECC83/12AX7A tubes running from a stabilized 150V DC power supply. One valve stage is located in the preamp, one in the compressor gain control circuit, and four in the EQ section.

#### **TL Audio PA-1, \$\$\$\$**

The PA-1 Pentode Preamp features MIL spec ECC83/12AX7A valves, gold-plated ceramic valve bases, and circular back-lit VU meters that monitor output level. The preamp design features a transformer-coupled mic input followed by a low-noise, high-gain EF86 pentode valve. Two further triode valve stages (supplied by 250V DC) are incorporated in each channel. The instrument input bypasses the transformer, and feeds straight into the pentode valve. TL Audio's usual high drive solid-state output stage completes the signal chain.

#### **TL Audio VP-1, \$\$\$\$**

The VP-1 combines all the best elements of TL Audio's PA-1 pentode preamp, C-1 compressor, and EQ-2 parametric equalizer to create a flexible valve front end. The VP-1 features seven valve stages, run from a stabilized 250v DC supply. The first stage is a Siemens EF86 pentode in the front end of the preamp, followed by six Sovtek ECC83/12AX7A stages — one in the secondary stage of the preamp, one in the compressor and four in the EQ section.

#### **True Systems P2 Analog, \$\$\$\$**

The P2 Analog offers two mic preamp

channels, individual phantom power selection, and balanced input and output connectors. Comprehensive filtering allows for adaptability to a variety of inputs and audio environments. Front panel DI inputs, MS decoding, and a stereo phase correlation meter are standard.

#### **True Systems Precision 8, \$\$\$\$**

The Precision 8 offers eight channels of mic preamplification in a single rack space. Individual channel metering, selectable peak level indication, individual phantom power selection, and balanced input and output connectors make this a flexible and comprehensive unit. Built in DI inputs on channels 7 and 8 and MS decoding on channels 1 and 2 provide a set of features not found on most other units.

#### **Universal Audio 2-610, \$\$\$\$**

Designed by Bill Putnam, the Universal Audio 610 was among the first modular recording consoles. The UA 610 was particularly well noted for its preamplifier, and has left its mark on countless classic recordings. Unlike many vintage-style mic pre's, the 2-610 is true to the design of its predecessor. UA has taken great care to preserve the quality and character of the original, while adding functionality with more boost/cut settings, phantom power, direct inputs, and impedance controls.



#### **Universal Audio 6176, \$\$\$\$**

Universal Audio combines their 610 tube mic preamp with their 1176LN compressor to create the award-winning 6176 Channel Strip. The 6176 mic preamp section maintains the quality and character of the 2-610, while adding high-tension power regulation for improved bass response and a front-panel 15db pad switch. UA has recreated the 1176LN for the compressor section of the 6176 with the same attention to detail and design.

#### **Universal Audio 2108, \$\$\$\$**

The Universal Audio 2108 is a 2-channel discrete, Class A solid-state microphone preamplifier based on the legendary Universal Audio 1108. The 1108 was a widely used single-stage modular preamplifier designed by Bill Putnam. Its characteristic design later became the basis of the 1176LN Limiting Amplifier. The 1176LN

## Mini Buyer's Guide: PREAMPS



and 2108 share identical output amplifier circuits and components, including the custom transformer, which is a critical element to the trademark sound. Universal Audio's analog design specialists added a multi-impedance J-FET input stage, which allows for a harmonic enriched soft saturation of the input signal if desired.

### Universal Audio M610, \$\$\$\$

The Universal Audio M610 is mono version of the 2-610, with a simplified EQ section. Other than that, the sound and features are identical to the 2-610. It has the same high frequency response and deep low end that has graced countless recordings.

### MANUFACTURER CONTACT LIST

**Aphex** [www.aphex.com](http://www.aphex.com)

**Apogee** [www.apogeedigital.com](http://www.apogeedigital.com)

**ART** [www.artproaudio.com](http://www.artproaudio.com)

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**dbx** [www.dbxpro.com](http://www.dbxpro.com)

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**GML** [www.transaudiogroup.com](http://www.transaudiogroup.com)

**Joemeek** [www.joemeek.com](http://www.joemeek.com)

**Langevin** (see Manley Labs)

**Manley Labs** [www.manleylabs.com](http://www.manleylabs.com)

**M-Audio** [www.m-audio.com](http://www.m-audio.com)

**Metric Halo**  
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**Millennia Media, Inc.**  
[www.mil-media.com](http://www.mil-media.com)

**Nady** [www.nady.com](http://www.nady.com)

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**Roland** [www.rolandus.com](http://www.rolandus.com)

**Samson** [www.samsontech.com](http://www.samsontech.com)

**SM Pro Audio**  
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**Sonifex** [www.sonifex.com](http://www.sonifex.com)

**Solid State Logic**  
[www.solidstatelcgc.com](http://www.solidstatelcgc.com)

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**TL Audio**  
[www.tludio.co.uk](http://www.tludio.co.uk)

**TransAmerica Audio Group**  
[www.transaudiogroup.com](http://www.transaudiogroup.com)

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## Drums: Slipknot

"W

When Rick (Rubin) first asked me to do this project, I was excited because I love working with Rick and I'm a Slipknot fan," confesses Rubin's mega-hot engineer of choice, Greg Fidelman, whose credits include Johnny Cash, Marilyn Manson, and The Red Hot Chili Peppers. Once all nine bandmembers arrived in Hollywood, and Fidelman contacted Ernie Woody at Ocean Way To Go for gear, they headed up to the Houdini Mansion to start writing, rehearsing, and recording. "The Mansion is perfect for this, because nine guys in any typical studio in town is just way too crowded. Everyone has a room here, so they don't have to stay at a hotel and they can creep down to record as they want. The bass player comes down in his pajamas to cut tracks.

"For this particular project the house is making a huge impression on what the record is going to sound like," Fidelman continues. "We were just listening to a bunch of new stuff we recorded, and Rick was really excited about what he was hearing." The impression the Mansion has had on the band can best be summed up by Slipknot's drummer, Joey #1, who felt

the house was like another member of the band.

After Fidelman treated us to a sneak preview of "The Blister Exists," he shared his secrets for getting "blistering drum sounds" in any old house.

### 9 MEN IN MASKS, 1 SIGNAL PATH IN THE MANSION

"We're recording in Pro Tools," informs Fidelman.

"There's no click and no drum machines; it's a rock and roll band playing really heavy music, and we're just letting them do it. The main drum set is coming up through the Neve 8068 MK-II console. Most of the mic-pre's are 31102s, and I ran the toms to the Neve 1073s. I'm using API-550A EQs in addition to the Neve EQs. I compress a lot of the tracks, because I'm not going to tape. I grew up in the rock world, and a lot of stuff gets compressed. I like to use UREi 1176s. They're adjustable, fast, and they color the sound a little bit, which is what I miss when not having a tape deck here. I just hit the mic straight to the mic-pre, then to a compressor, then into Pro Tools. A combination of EQ, the right amount of compression, and choosing the right microphones will get you the right drum sound."

### MIC POSITION

"We set up the drums in what used to be a ballroom here in the Houdini Mansion," says Fidelman. "It's a good size; it's not Sound City Studios, but it's big and has hardwood

floors. The walls are hard surfaces too, so we put a lot of velvet material up and a big flag that droops down on the ceiling. It's a big room and it sounds big, but it's not too ambient. I used Neumann 47 FETs and Sennheiser 421s on the bass drums, and Shure SM-57s and Neumann KM-84s on the snare. On the toms, I have a combination of dynamic mics and condensers. There are six toms, two of which are really small, two are average size, and two are really big, almost as big as a small bass drum. I used AKG 414s on the large toms and 421/57s on the smaller ones. The overheads are Neumann U87s. The room tends to be a bit bright, and Joey really hits hard and has a lot of cymbals, so anything like a tube mic up on top gets a little harsh. I've got Neumann U67s in the room, but I keep those pretty close and low. There's also a Telefunken 251 that's sort of a monaural room thing that I hyper compress and chop most of the top end off to make it sound a little more powerful.

"For the drum corps parts, we put the snares out in the foyer, which has 2-story ceilings, stone floors, and plaster walls, making it a bit more ambient. We set Joey, Clown, and Chris up in there, each with a different size snare and a Telefunken 251 about eight feet above. That gave us the huge drum corps-style sound we were after for that song.

"He's a good drummer, and knows how to hit his drums to make them sound good. That's a big part of the sound. We spent an entire day checking out approximately 50 different snares. I have two mics on top of the snare: a Shure SM57 and a Neumann KM-84. They're taped together so the phase relationship is correct, and then I get the right balance between the two."

### PROCESSING ARSENAL

"I ran most of Joey's drums through the 31102s, and the toms were 1073s," explains Fidelman. "I also used the API-550As. In the past I used to record drums using a Studer A-800, and I wouldn't need that much compression. I'm still such a fan of that sound, and I've figured out ways to get it by using a combination of the 31102s and the 1073s and compression. I like to use either an 1176, an LA3A, or a Neve 2264/33609 on pretty much everything. For the snare I put a little of the Neve, a little 1176, and some API 550 on one of the mics, which to me is always a good combination."

### DRUM DOMINATION

"Joey has maybe one of the biggest drum sets I've had to record," Fidelman concludes. "He normally plays double bass drums, but on the other Slipknot records he had a double pedal on one bass. We decided on this record we wanted to actually do two separate bass drums. With the two hi-hats, one on each side, plus six toms and a lot of cymbals, it was a challenge keeping the imaging in the drumset we wanted." EQ

**DATE:** mid-September 2003 – January 2004  
**STUDIO:** Houdini Mansion  
**LOCATION:** Los Angeles, CA  
**ARTIST:** Slipknot  
**PROJECT:** tracking drums with Joey #1 (Jordison) on "The Blister Exists," for the yet-untitled Roadrunner Records spring release  
**PRODUCER:** Rick Rubin  
**ENGINEER:** Greg Fidelman



Engineer Greg Fidelman and the array of drum mics.

by Craig Anderton

# RME Multiface Mobile Interface

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**Included software:** TotalMix 720 channel mixer with 40-bit internal resolution, DIGiCheck Analysis Software (PC only)

**Tested with:** Mac G3 PowerBook running MacOS 9.1

I love my laptop. It's a faithful companion that lets me write books on airplanes, go online when I'm away from home, and even provide entertainment by playing CDs and MP3s. But a recording powerhouse it's not, what with its slow drive and even slower processor. Sure I can play back lots of tracks with Ableton's Live or Propellerhead's Reason, and I've had good luck with a simple ESI interface for doing stereo field recording. But I figured the odds of doing remote multi-track field recording were pretty, uh, remote.

Then I saw the RME Multiface package, which includes its own DSP so it

doesn't load down your CPU. Would this be the answer? I placed a quick call to the EQ Review Command Center, and a few days later, UPS knocked on my door.

## FIRST IMPRESSIONS

I received the Mobile Kit package, which if nothing else, deserves a packaging award. It's a solid, compact flight case with all the required Multiface bits: PCMCIA CardBus card, external breakout box with I/O and DSP, AC adapter, and car-to-breakout box cable. If you're *really* mobile, you'll also find a power cable for plugging into a car cigarette lighter, and another power cord with two standard battery connectors — lantern batteries, anyone?

There was also the requisite CD-ROM with drivers, PDF documentation (which I printed out immediately), demo software, and the like. I wondered what RME had done to justify the price tag, but looking over the system

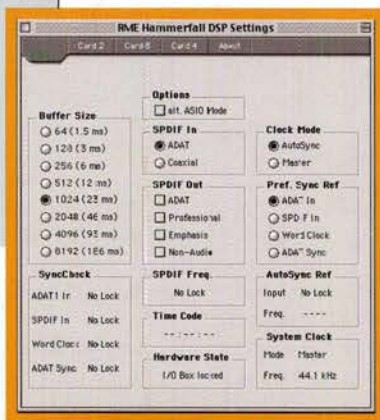
certainly answered that question.

Installation was a snap, thanks to excellent documentation. It's rare that documentation takes you through step-by-step and accurately anticipates everything along the way, but the instructions were very specific and helpful. A quick reboot, and the system was good to go.

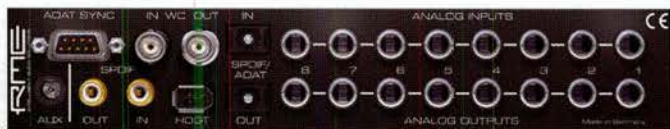
## USING IT

This became a difficult product to review, because there was no real story. Everything worked. There were only two head-scratching moments: I wondered why the red pilot light on the front panel kept going out, until further in the manual, I realized it was actually an error indicator and is *supposed* to go out if things are working.

The other was when I booted up Ableton Live to try recording and playback — the graphics looked like they had been scaked in molasses, then force-fed Valium. I



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YOU WANT I/O? YOU GOT IT. NOTE THE FRONT-PANEL MIDI CONNECTORS, HEADPHONE/LINE OUT JACK, AND COMPACT HALF-RACK FORMAT (PCMCIA CARD NOT SHOWN).

# RME Multiface Mobile Interface

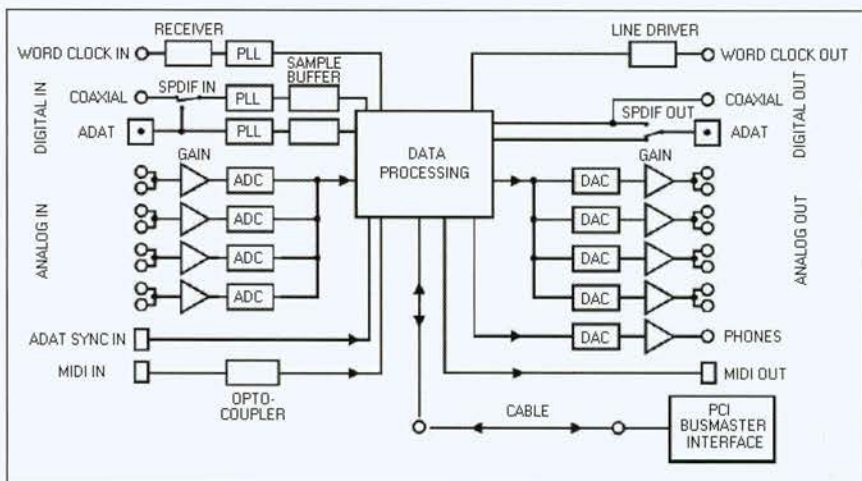


THE TOTALMIX SOFTWARE LETS YOU MONITOR AND ROUTE THE MULTIFACE'S AUDIO INS AND OUTS. THIS SHOWS FOUR STEREO PAIRS PLAYING OUT OF A BLEND OF LIVE, AND THROUGH THE HARDWARE CLTS.

checked Live's audio preferences, and found that all ins and outs were enabled. With the Multiface, that's a whole lot to do, especially with a slow computer. Disabling all but the stereos and outs restored normal performance. I then enabled multiple outputs, and that worked equally well. Four channels of recording pushed my computer to the very edge but it coped.

There are a lot of little high-quality touches. The cable between the PCMCIA card and breakout box is a comfortable 14.5 cm, making it easy to locate the laptop behind a sound baffle or remotely from where recording occurs. The documentation includes info on making an adapter to use AES/EBU digital signals with the SPDIF coax in, but also points out that the digital I/O uses transformers to promote ground-loop-free operation.

Granted, there are no input level controls; RME assumes you're going to be using a mixer or mic preamp to adjust gain, or a line-level device with an output control (however, the TotalMix software lets you trim ins when doing direct monitoring). Nonetheless, there are internal jumpers if you're working within a particular signal level environment (+4dBu, -10dBV, and "line gain," designed for those use high-level balanced signals). You want



THIS MULTIFACE BLOCK DIAGRAM SHOWS WHAT'S HAPPENING UNDER THE HOOD.

to set these once, though, because it involves taking the box apart and is not for the ham-fisted.

## TOTALMIX

The included TotalMix software is worth mentioning. It shows input levels, playback levels from software, and output levels. There are mute, solo, and pan controls; useful keyboard shortcuts (including "fine tuning" levels and pairing faders); and a "quick access" panel with eight presets. And get this: Meter calculations are all done in hardware, again reducing CPU load.

## SO IS IT FOR YOU?

If all you want is stereo I/O for quick recording/playback, there are far less expensive solutions that still deliver high-resolution audio. But those who want a full-blown portable solution with a ton of I/O, minimal CPU stress, solid construction, and 24/96 operation will find the Multiface a perfect solution with true attention to detail. Certainly, even my Bronze Age Mac had a new lease on life with the Multiface. I can only imagine what it could do with a really hot laptop.

I was talking with some friends in Germany about my dual processor Windows machine, and how fortunate I

was that it worked well with numerous audio interfaces. They just looked at me kind of quizzically, and one said "Well over here, we just buy the cheapest computer we can find and use an RME interface." I'm beginning to understand what they were talking about: In my experiences with the Multiface, it was bulletproof. **EQ**

## Strengths:

- Cross-platform, supports multiple operating systems
- Excellent build quality
- 24-bit/96kHz converters
- Zero CPU loading
- Multiple analog and digital I/O
- Serious attention to detail

## Limitations:

- This kind of quality doesn't come cheap

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by Mitch Gallagher

# Apogee Mini-MP

Portable and tiny, this preamp rocks



**Type:** Dual-channel microphone/instrument preamp

**Contact:** Apogee Electronics, [www.apogeedigital.com](http://www.apogeedigital.com)

**Channels:** 2

**Connections (per channel):** 1/4"/XLR combo balanced/unbalanced input, XLR balanced output

**Microphone input gain:** 70dB (plus up to 6dB output gain)

**Instrument input impedance:** 2.2M $\Omega$

**Frequency response:** 4Hz–160kHz (–3dB) @ 40dB gain

**EIN:** <124dB

**Highpass filter:** 18dB/octave @ 80Hz

One of the first pieces of high-end gear in my studio was an Apogee AD1000 A/C converter. A bonus of that box was its surprisingly tasty mic preamps. Years later, I reviewed the company's Trak2 for the February '02 issue of *EQ*. Once again, I was impressed with the quality of the unit's built-in preamps. Now I hold before me (literally in the palm of my hand) the 1/3-rack-space Mini-MP — a dedicated mic/instrument preamp.

## EASE OF USE

The Mini-MP is straight-ahead to operate. Plug a mic or instrument into the combi jacks on the back, and hook the XLR outs to your recording chain. There's a gain control, and switches for the highpass filter, polarity, and phantom power for each channel. You have to push the phantom switch over and hold it to engage or disengage 48v; it pops back when you release it. While this seems strange, it makes it nearly impossible to accidentally turn phantom power on or off.

The only other controls are the power switch and the output level knob. When you switch power on, a blue glow emanates from around the output knob. Cranking the output knob provides an extra 6dB of gain.

Metering is by way of dual 4-stage LED ladders. Distortion could sometimes be heard before the clip indicators lit,

especially when the output gain was above 0dB.

Power-wise, the Mini-MP comes with an external supply. But it can operate on any regulated 6-14v DC supply that can provide 1.25 amps of current. This includes battery packs, making the Mini-MP ideal for remote work.

## FRONT END

As a preamp, the Mini-MP offers a dynamic pure tone with good presence and excellent top end. This isn't the preamp to turn to when you want grunge or heavy low-end coloration. I used it on vocals, electric and acoustic guitars, as a DI for acoustic and electric guitars and basses, and for tracking percussion. I was pleased with it in each instance. The Mini-MP has a fast attack and clear high-end that provides lots of detail. The bottom end is tight and compact. For my taste the highpass filter is tuned too high, and impacts the audible range too much.

Even with the input and output gain cranked, the signal is clean and noise-free. This means the Mini-MP provides a total of 76dB of usable gain, enough for almost any source.

## M/S

The Mini-MP brings a cool extra to the table: its ability to decode M/S (Mid/Side) recordings. With M/S, two mics are used, a cardioid mic ("Mid") facing forward, and a figure-8 mic ("Side") coincident with and facing 90 degrees to the cardioid mic.) The two signals are combined in a stereo matrix, with one side having the mid+side signal, and the other having mid-side (Side switched out of phase). This

gives you a stereo image that combines totally in-phase for mono. You change the stereo width by changing the balance of Side to Mid.

The Mini-MP does M/S matrixing internally and outputs the stereo result. The Mini-MP has a 3-position power switch. To enter M/S mode, you click the power switch over to the third position. The left input gain controls the Mid signal level, the right controls the Side signal level. It all works well; I used it to track solo steel- and nylon-string guitars with great results. You can adjust the M/S balance after the fact, but getting the balance right on the Mini-MP from the start is easier. Typically, you'll want the Side level well below the Mid level.

## SIZE DOESN'T MATTER

The Mini-MP brings some powerful strengths to the table, not the least of which is its great sound. That, coupled with the fact that it's small and light and can be powered from batteries, should make it a remote recordist's dream. But don't dismiss it as just for remote work: The Mini-MP shines in the recording studio.

It sounds clean and pure, it's tiny, it has M/S encoding, and the price is right . . . what more could you ask for? **EQ**

## Strengths:

- Plenty of gain
- Clear, pure sound
- M/S encoding
- Tiny and portable
- Can be powered from a variety of sources

## Limitations:

- Wobbly output knob
- Coarse metering





Anything that delivers this kind of bang for the buck definitely deserves an EQ Award.

by Craig Anderton

# Mackie Tracktion

Cheap and cheerful, but can it compete?

**Type:** MIDI sequencing/hard disk recording software

**Contact:** [www.mackie.com](http://www.mackie.com)

**Platform:** Windows, Mac

**Minimum system requirements:** (PC)

500 MHz Pentium III or Athlon, Windows 98/ME/2000/XP, DirectSound or ASIO-compatible audio interface; (Mac) OS X 10.2, G3/G4/G5, Core Audio-compatible audio interface

**Copy protection:** Net registration, load key file

**Version reviewed:** 1.5.0.254

**Internal resolution:** 32-bit floating point

**Supported sample rates:**

44.1/48/96kHz

**Driver support:** DirectSound/ASIO (Windows), Core Audio (Mac)

**ReWire mode:** Host

**Plug-in support:** VST, VSTi

**Included plug-ins:** Volume/pan, level meters, basic sampler, reverb, 4-band EQ, compressor, delay, pitch shifter, chorus, phaser, low/highpass filter

**Import formats:** WAV, AIFF, Ogg Vorbis, MIDI

**Export formats:** WAV and AIFF (sample rates from 22.05 to 96kHz, 8-32 bits), MIDI, Tracktion Archive

**Sync:** Internal sync only

Tracktion, by Raw Material Software and distributed by Mackie, has a premise: Current digital audio/MIDI host software is too bloated, too expensive, and too complex. It offers a completely different take on the user interface and workflow (for example, there's no conventional "mixer," although of course you can mix tracks), yet doesn't lack too many significant features compared to hosts costing much more. As with anything this different, reaction is polarized — from refugees of other programs who were immediately smitten by the Tracktion way of life, to those who find it too unconventional for their tastes ("dude, where's my mixer?").

In any event, Tracktion demolishes the rationale some software thieves use that "software is too expensive." At under \$150, and with a free demo so you can find out if it's for you or not, no one could argue this program is

overpriced.

## INSTALLATION

Just pop in the distribution CD (or run the download) and go — no dongles. Tracktion checks for ASIO, then scans your plug-ins. In my system, when it encountered the SampleTank dll, the program crashed; upon rebooting, it reported that it had disabled the plug-in because it didn't load properly. No big deal, I've moved on to SampleTank 2 anyway (which worked fine).

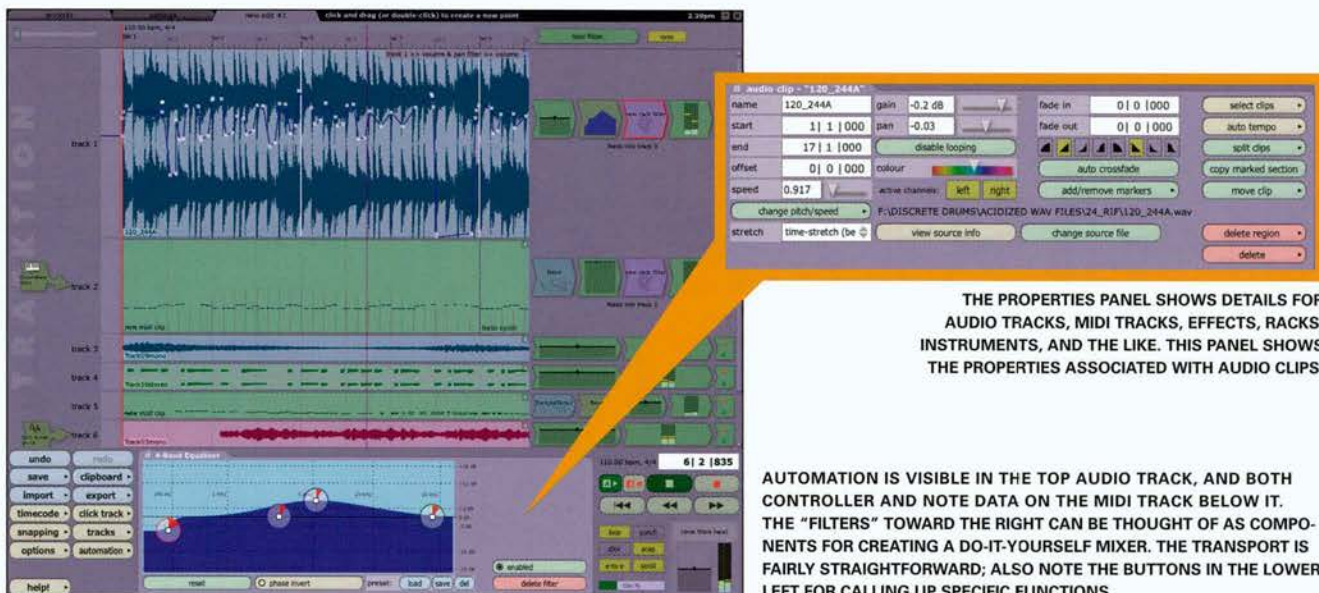
I started off with an early version, and program authorization was a major hassle. To make a long story short, it took about an hour to figure out how to authorize the program, because the procedure wasn't described on either the Mackie or Raw Material Software site. This has since been addressed, and I did download an update (once I found out from Mackie where to look) that went smoothly. I've been assured the registration and updating process will be more transparent in

the future.

## THE INTERFACE

Once installed, you start to realize what Tracktion is all about. Screen layouts are clean and open, with extensive pop-up help that really does make the concept of "read the manual" optional. The program has only three pages — project management, settings, and editing — and editing uses a "unified," one-screen interface with five main sections. Clockwise from upper left, these are:

- Track view, which shows I/O and audio/MIDI clips. This is pretty standard — trim clips, resize, add graphic fades, crossfade clips, time-stretch (hold Alt while resizing — Tracktion doesn't recognize acidized or REXed files), cut/copy/paste/move, select a particular region for editing, and the like.
- The "filter" area, to the right of the track view. This concept will give some pause, as it replaces the tra-



THE PROPERTIES PANEL SHOWS DETAILS FOR AUDIO TRACKS, MIDI TRACKS, EFFECTS, RACKS, INSTRUMENTS, AND THE LIKE. THIS PANEL SHOWS THE PROPERTIES ASSOCIATED WITH AUDIO CLIPS.

AUTOMATION IS VISIBLE IN THE TOP AUDIO TRACK, AND BOTH CONTROLLER AND NOTE DATA ON THE MIDI TRACK BELOW IT. THE "FILTERS" TOWARD THE RIGHT CAN BE THOUGHT OF AS COMPONENTS FOR CREATING A DO-IT-YOURSELF MIXER. THE TRANSPORT IS FAIRLY STRAIGHTFORWARD; ALSO NOTE THE BUTTONS IN THE LOWER LEFT FOR CALLING UP SPECIFIC FUNCTIONS.

# Mackie Tracktion

ditional mixer concept; a filter can be a VST instrument, audio plug-in, mix/pan control, level meter, etc. Essentially, this is a "do it yourself" mixer. Filters can also be dropped onto individual clips for localized processing, on to the master bus, or into "racks" for complex track or bus processing.

- Transport (lower right), with loop, punch, tempo indicator, automation enable (write/playback), master controls, etc.
- Properties page, which shows details on a selected clip or element of the interface.
- "Toolbar" that provides functions like save, import, snap, options, automation, and the like. Click on a button, and a pop-up presents you with the associated options.

Mackie says there's no learning curve, and while I wouldn't go quite that far, if you're familiar with typical host programs, Tracktion will make complete sense after a (very) brief period of familiarization.

## UNEXPECTED PLEASURES

Tracktion has several features you wouldn't expect at this price. In addition to ReWire 2.0, editable automation, the ability to rip CD tracks into a project, and "freeze" (premixes tracks with plug-ins to conserve CPU power), you can select a loop that's cut to a specific tempo, click on Auto-Tempo, and bingo — the tempo matches the clip. Clips are easy to loop multiple times, and in addition to up to 200 levels of undo, there's a very clever auto-save feature: If you close a project, you have the option to discard any edits since the last *manual* save.

There's also a complement of simple plug-ins, including a basic sampler, with delay compensation on a track basis for all plug-ins. They're plain vanilla, but when exchanging a file with another Tracktion owner — made easy by its archive option — you don't have to be concerned with whether or not your pal has the same plugs.

MIDI editing is basic (no MIDI FX, for example) but does much of what you need: Transpose, quantize (several modes, including groove quantization), make lengths or velocities equal, and it has a unique ability to "mirror" notes vertically or horizontally (changes notes as if you were seeing them in a mirror). Clicking on an

individual note shows an editable "inspector" for pitch, start and end times, and velocity.

You can record on multiple tracks simultaneously, including a mix of MIDI and audio tracks. Furthermore, you can layer audio (or MIDI) clips on top of each other in a track, and they'll both play back.

A big complaint I'd had about Tracktion was the lack of busing, but literally 24 hours before the magazine's deadline, I downloaded a new version from the Raw Material Software site with a "racks" feature. What a surprise! You can load various effects into a graphical box, interconnect the effects however you'd like with software patch cords, and create multiple inputs and outputs. You then drag an instance of this "rack" into any track.

In addition to allowing extremely sophisticated effects routing within a track, if you create a track and insert a rack, this becomes the equivalent of a bus. Dropping more instances of the rack into tracks and editing ins and outs as appropriate essentially provides send signals to the bus track. Each rack instance also has a dry/wet adjust, so the "bus rack" can be effect sound only, while an individual track output can be dry only, although it's still sending a signal to the effect.

Maybe this breaks the straightforward paradigm a bit. But what you get in return is in some ways more powerful than what you can find on other hosts — a rack is like having a Soark FX Machine or BIAS Vbox built in, as you can do series, parallel, and series/parallel combinations of effects, for individual tracks or as bus effects. Cool.

Speaking of updates, Tracktion is "dribbleware": Small changes appear periodically, rather than occasional massive updates. Check the web site often to see what's new.

## WHAT'S MISSING

Tracktion lacks several important features, such as sync to external sources, loop recording (you can loop record MIDI data, but it all gets dumped into one track), and DirectX plug-in support for Windows (AU support is rumored for the Mac version). Audio editing is primitive — trim silence, change sample rate and bit depth, reverse, and stereo to mono; for anything else, you'll need to launch an

external editor. Nor is there any video window. And MIDI-wise, forget event list editing, notation, extensive MIDI edit options (e.g., compress velocity data), and other niceties.

Control surface support? Nope. However, given the Mackie affiliation, you can expect a future version with Mackie Control integration.

Another issue is more a weirdness than an omission: If you render a MIDI track driving a soft synth, it replaces the MIDI track with the audio so there's no going back (except for undo, of course) if you want to make changes. It's better to freeze a track, or render to a separate audio file and bring it into a different track.

## CAN A \$150 PROGRAM CUT IT?

Surprisingly, yes. Tracktion not only holds its own against "lite" versions of major hosts, but will do everything needed by most users who are willing to think a bit outside the box. In any event, you can always check out the demo to find out for sure; and updates seem to be fairly regular (although the program is pretty much the work of one person, Julian Storer, so let's hope he takes good care of himself).

Tracktion comes out of left field with bang for buck that's so extreme it's not hard to forgive the various omissions. Yet it's not just about cost. The stability, ease of use, responsiveness, and workflow are pretty hot by any standards. It will be interesting to see what happens in the future, as the demand for features butts heads with the desire for simplicity. But for now, Tracktion pulls off that balancing act, at a price that's hard to believe. **EQ**

### Strengths:

- Extremely cost-effective
- Surprising level of sophistication
- Can do series/parallel track and bus effects
- Efficient workflow with minimal learning curve
- Acceptable time/pitch-stretching
- Includes basic plug-ins and sampler
- Unified, uncluttered interface
- Exceptionally good online help
- Search engine for audio files

### Limitations:

- Racks, while powerful, can be complex
- Doesn't accept external sync
- No loop recording to separate tracks
- No DirectX or AU support
- MIDI editing lacks event list or notation
- No control surface support or video window
- Doesn't read acidized or REX format files



by Mitch Gallagher

The king of super-consoles hits the mark with great sound, awesome power, and amazing flexibility in the XLogic Channel. Finally, a way for the rest of us to own an SSL.

# SSL XLogic Channel

## Could this be SSL for the rest of us?



**Type:** Single-channel preamp/compressor/EQ

**Contact:** Solid State Logic, [www.solid-state-logic.com](http://www.solid-state-logic.com)

**Channels:** 1

**Connections (per channel):** XLR input (rear panel), 1/4"/XLR combi input (front panel), XLR key in, 1/4" dynamic link, XLR output

**Microphone input gain:** 72dB in 6dB steps

**Microphone pad:** 20dB

**Frequency Response:** 20Hz–20kHz, +0.05/–0.1dB (–3dB @ 130kHz)

**EIN:** <–127dB

**Headroom:** >28dB, any gain setting

**Lowpass filter:** sweepable 3–70kHz, 12dB/octave

**Highpass filter:** sweepable 15–600Hz, 18dB/octave

**Number of EQ bands:** 4

**EQ boost/cut:** high, high-mid, and low-mid, ±20dB; low, ±16.5dB

**EQ frequencies**

**Low:** 40–600Hz, switchable shelf/bell response

**Low-mid:** 200Hz–2.5kHz, with variable Q

**High-mid:** 600Hz–7kHz, with variable Q

**High:** 1.5–22kHz, switchable shelf/bell response

Here's a minor understatement for you: Solid State Logic consoles are just a wee bit beyond the financial grasp of most of us. Which isn't to say that we don't lust after having a huge expansive console arrayed before us in our state-of-the-art, top-of-the-line, professionally designed and decorated studios, located, of course, in sumptuous mansions perched majestically on hillsides overlooking pastoral trees, valleys, beaches, and the glorious blue sea. . . .

Whoa, somebody stop me! What I'm saying is that many of us would love an SSL, but there ain't no way we're getting one. At the last AES trade show, SSL introduced a new series of products aimed at those of us without megabudgets: The XLogic series includes the XLogic Channel strip, a 6-channel compressor, the 4-channel preamp and accompanying remote control, and 2-channel compressor. EQ managed to score time with one of the first XLogic Channels off the production line.

### WHAT IT IS

The XLogic Channel is the equivalent of a channel strip in a Solid State Logic XL 9000 K series console. The single rackspace unit comprises a "SuperAnalogue" mic/line/instrument preamp, a compressor, expander/gate, high- and lowpass filters, and a 4-band equalizer switchable between G and E series console

EQ responses. You can add an optional analog-to-digital converter card to the unit for directly interfacing with a DAW or digital recorder.

### PREAMP

The preamp in the XLogic sounds great. It's present and big-sounding, whether used with mics, line level signals, or electric or acoustic guitar or bass. The bottom end is thick and rich, while the mids are full without being bloated or boxy. There's a lot of detail on top, but not a trace of harshness or sterility.

Dynamic response is excellent; the XLogic Channel follows right along with the performer in this regard, feeling and sounding very natural. There's plenty of gain available for even quiet sources.

### DYNAMICS

The XLogic compressor is incredibly flexible. It can switch from peak to RMS response, be switched pre- or post-EQ, be linked to a second XLogic for stereo operation, and keyed from an external sidechain source. You can switch the high- and lowpass filters into the key (sidechain) path. You can also switch the EQ into the sidechain for frequency-dependent processing like de-essing. And yes, you can switch both the filters and the EQ into the sidechain if you really want to get carried away.

The expander/gate can switch between, well, expansion and hard gating, with separate controls. Both the compressor

and the gate can be switched to fast attack response.

### TWICE AS NICE

The XLogic Channel EQ is like two equalizers in one . . . you can change the response between two classic SSL curves: E and G series. The EQ is a 4-bander. The low and high bands can switch between shelf and bell (peaking) response. The two mid bands are fully parametric, with control over frequency, bandwidth, and boost/cut. The bands can overlap, frequency-wise.

The EQ is incredibly powerful; combined with the two filters and the ±20dB of gain (±16dB on the highs) per band, whatever tone shaping you need is available.

### SSL FOR THE REST OF US?

So is the XLogic Channel the "affordable" SSL we've all been waiting for? I'd definitely say yes. It literally *is* a channel from an SSL XL console, with all the power and sonics that entails. Features abound, amazing flexibility is available, and the sound is there. The price is still steep — +\$5000 for a single channel ranks right up there — but it's by far the least expensive way most of us can even consider getting an SSL into our rooms. If an SSL front end is what you've lusted for, this is the way to get it! EQ

### Strengths:

- It's an SSL!
- Great sounding preamp
- Dual-response EQ
- Outstanding flexibility
- Full-featured compressor
- Did I mention it's an SSL?

### Limitations:

- Price of entry to SSL-land is still high

THINK AN SSL IS OUT OF REACH FOR YOUR STUDIO? THE XLOGIC CHANNEL MAY JUST CHANGE YOUR MIND.



by Craig Anderton

# Sony Sound Forge 7.0

The original PC editor rolls a seven

**Type:** Digital audio editing/mastering software

**Contact:** <http://mediasoftware.sony.com/pictures.com>

**Platform:** Windows

**Minimum system requirements:**

Windows 2000/XP with DirectX 8 and Internet Explorer 5.0 or later, 400MHz CPU, 64MB RAM, Windows-compatible soundcard

**Copy protection:** Net registration, enter unlock code

**Version reviewed:** 7.0a

**Internal resolution:** 8-, 16-, 24-, 32-, 64-bit floating point

**Supported sample rates:** 2 to 192kHz

**Driver support:** Microsoft Sound Mapper, MME, WDM

**Plug-in support:** DirectX

**Included plug-ins:** Acoustic Mirror convolution reverb, amplitude modulation, chorus, delay/echo, distortion, dynamics envelope, flange/wah, gapper/snippet, noise gate, pitch change, reverb, stutter, vibrato, and Wave Hammer (dynamics/loudness maximizer)

**DSP:** Trim/crop, bit depth converter, channel converter, DC offset, EQ, fade, insert silence, invert/flip, mute, normalize, pan/expand, resample, reverse, smooth/enhance, swap channels, time stretch, and volume

**Supported samplers:** Akai S1000/S2000, E-mu ESI-32/E-64/E-IV, Kurzweil K200C/K2500, Peavey SP, Yamaha A3000, SDS, SMDI

**Import/export formats:** AIF/SND, AU/SND, AVI, SD1, IVC Intervoice, MOV, MP3, MPEG-1/MPEG-2 video (requires the MainConcept MPRG plug-in, standard or professional version, OGG, PCA, QT, RAW, VOX, W64, WAV, WMA, WMV, 24fps DV video files

**Export only:** RM RealAudio9, RM RealVideo9

**Sync:** MIDI Time Code

Sound Forge (SF for short) set the standard for digital audio editing on Windows. Over the years it has faced serious competition from Steinberg Wavelab, Adobe Audition (formerly Cool Edit), Magix Sequoia, and others, but it continues to combine a serious feature set with ease of use. So how does Version 7 — the first one released since Sonic Foundry's desktop products were taken over by Sony — stack up?

## THE SOUND FORGE GESTALT

Like other Sonic Foundry — er, Sony — software, Sound Forge has always been a straightforward, no-nonsense program. The emphasis is on fluid navigation around a no-frills interface; once you learn the various key commands and become familiar with the menus, you can really fly around the program.

## THE NEW STUFF

First up: An Explorer window that greatly simplifies file operations such as preview, delete,

and drag into the main editing window. It may not be sexy, but it's utilitarian.

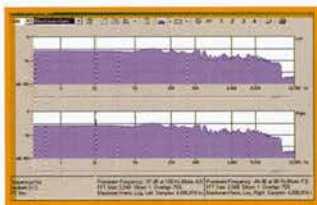
The integrated Spectrum Analyzer (formerly a separate plug-in) offers both a spectrum graph and sonogram. Also regarding plug-ins, SF now includes ExpressFX Vinyl Restoration, which has many more uses than just fixing vinyl — it can also remove digital clicks fairly easily.

Detect Clipping is another very cool new feature. This function will scan audio, and mark where distortion occurs so you can redraw the waveform or perform other repairs.

For recording, you can set up recording parameters — begin recording at a certain time, upon detection of MIDI time code, or when audio exceeds a certain threshold (with a prerecord buffer so you don't miss initial transients). Also, fade curves for fades, envelopes, FM synthesis, pitch bend, and pan/expand are now higher resolution and easier to adjust; additional meters monitor playback and recording levels.

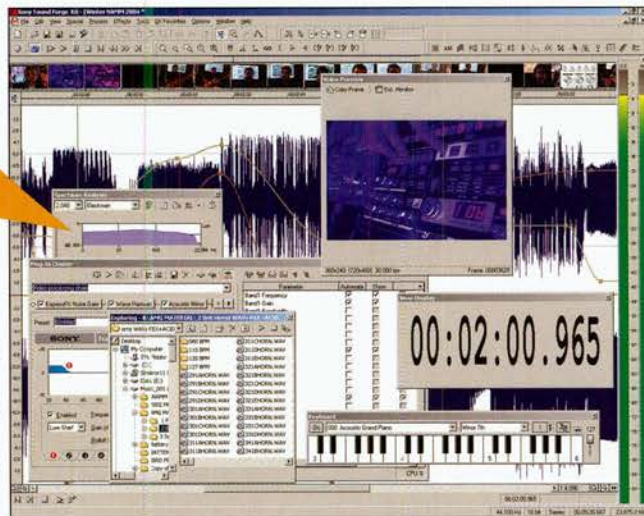
Another change is the introduction of Project Files. When you create a project file, in addition to saving the media on which you're working in a subfolder, it also adds temp files created by editing operations. This means you can undo operations prior to your last save — it's no longer necessary to "save as" under multiple names when you want to play it safe. However, deleting the folder toasts your project... so back it up. Of course, when you're done, you can render the entire file (including edits) and delete the project folder.

Automation is now available for automatable effects and volume/pan. You can either move controls to create an automation envelope (this isn't real time, it's more like an easier way to draw an envelope), or draw an envelope from scratch. Envelopes are editable via break points. Finally, the synthesis options, which make it easy to generate test tones and even the occasional sound effect, now include white, pink, and brown noise. ▶



THE SPECTRUM ANALYSIS VIEW, FORMERLY A SEPARATE PLUG-IN, IS A USEFUL TOOL FOR CHECKING AUDIO ENERGY DISTRIBUTION IN A FILE.

SOUND FORGE HANDLES VIDEO WELL — NOTE THE THUMBNAILS AND VIDEO PREVIEW WINDOW. THE PLUG-IN CHAINER (LOWER LEFT) ADDS A VARIETY OF EFFECTS, INCLUDING AUTOMATABLE ONES; TWO AUTOMATION ENVELOPES ARE VISIBLE SUPERIMPOSED ON THE WAVEFORM. THE EXPLORER MAKES IT EASIER TO FIND AND USE FILES, WHILE THE KEYBOARD CAN SEND NOTE DATA TO A SOUND CARD OR SAMPLER.



# Sony Sound Forge 7.0

## CD AND VIDEO HANDLING

Sound Forge can rip audio and burn CDs. However, the only available mode is Track At Once; for Disc At Once, you'll need something like Sony's own CD Architect. If CDs are too 20th century for you, you can now export to portable devices — either Net MD (Minidisc) or as an MP3 to Clie handheld PDAs. Clever, eh?

SF's rock-solid video window remains an effective way to edit audio for video. You can attach video to, or detach it from, an audio file, as well as preview on an external monitor (assuming you have a suitable OHCI-compliant, IEEE-1394 device). You still can't edit video — that's what Vegas is for, and of course, you can open Sound Forge from within Vegas — although you can re-render to a different frame rate.

## WHAT ABOUT LOOPING?

SF lets you specify a number of beats and a root note for transposing if you want to use a sample within Acid. Acid will take this data and insert default acidization markers. However, I noticed something interesting: If you take a loop that already has tweaked acidization markers (not the default ones), import it into SF, process it, save it, then bring it back into Acid, the acidization markers will remain as you set them manually. But if you bring them into Sonar, although Sonar recognizes the loop as being acidized, the markers revert to default settings.

There's more — processing a loop within Adobe Audition retains tweaked acidization markers in either Sonar or Acid, while processing a loop within Wavelab retains tweaked acidization markers in Acid, but Sonar doesn't even recognize it as an acidized loop — just a standard WAV file. Go figure. . . .

Other looping tools allow marking off a loop via a grid, and moving selection areas left or right. This reminds me of BIAS Peak's "loop surfer" function, although Peak's implementation is more flexible. Another function, rotate audio, moves beats like a shift register. In other words, if the beats in a measure are 1-2-3-4, rotating once changes the order to 2-3-4-1, rotating again changes to 3-4-1-2, etc. SF can also display tempo based on the loop length. You cannot, however, insert acidizing markers.

## PLUG-INS

SF comes with a decent selection of plugs, however I would rate the Wave Hammer dynamics processor/loudness maximizer and Acoustic Mirror convolution reverb as outstanding. Almost 60MB of reverb impulses are available on the Sony website, which you can download in one big glob, or *à la carte*.

## FILE FIXING

To get rid of clicks, the "Interpolate" feature is much slicker than using the "pencil" tool. Locate the click, select a region around it, choose Interpolate, and SF kills the click. Another option, Replace, is more for fixing short audio regions (like vinyl scratches) than isolated events. It replaces selected audio with the audio that preceded it, with crossfading to prevent glitching. For small regions, it's quite effective. With stereo files, another option is to copy data from one channel to replace corrupted data on the other channel.

If you're into one-stop cleaning, the Vinyl Restoration plug-in rocks. Despite the name, its ability to repair clicks, pops, and noise is useful for far more than vinyl, such as digital clicks or background hiss from tape. While not as sophisticated as Sony's Noise Reduction plug-in, SF's tools will take care of many, if not most, of your repair needs.

## SAMPLING

Sound Forge continues to provide sampler support, using SCSI and/or MIDI. A loop tuner tweaks loop start and end points, and there are crossfading tools — which also come in handy when making acidized loops, as you can create a smooth transition from beginning to end.

## STIFF COMPETITION

Compared to Steinberg WaveLab and Adobe Audition, there's no way to go beyond a stereo file with SF. For most people, this won't be an issue; but when burning CDs, it's sometimes helpful to be able to add a transition or sound effect. It's possible to do the same type of thing in SF by mixing/pasting a file from the clipboard, but it's more awkward. And although I seldom use Wavelab's montage feature, there have been times it has been essential.

Overall, though, the differences have more to do with working style. I'd say

SF is more of an industrial type of sound editor that concentrates on getting work done with a finely-honed tool set, optimized for efficiency. Wavelab is a more ambitious, music-oriented tool — for example, there's no video support — but it lacks automation, so doing fine edits requires defining regions and applying DSP, not just drawing a quick curve.

Wavelab has more extensive ways to deal with burning CDs, and it accepts VST plug-ins. However, with Cakewalk's wrapper, SF can accept VST plug-ins and automate automation-friendly ones. SF also has no limitations on how many effects you can stuff into the plug-in chain.

As to Adobe Audition, it remains extremely cost-effective and includes a multitrack option. It has much in common with SF, but doesn't handle plug-ins as elegantly, and I find the interface slightly less intuitive.

The Wavelab/Sound Forge/Audition debate has gone on for years, with passionate partisans on all sides. Yet while they share similar functionality, they do so with different styles and a somewhat different feature set. Ultimately it comes down to personal preference, and what type of work you do — the requirements for chopping up dialog or straight-ahead mastering are different than adding a cymbal crash transition to a CD you're about to burn.

In any event, the cumulative advances that led to SF 7 have managed to add more power while retaining a friendly, efficient interface. Throw in goodies like vinyl restoration, Wave Hammer, Acoustic Mirror, automation, video support, and MIDI sync, and you have an environment that's built for speed, but also includes the tools for serious digital audio editing.

EQ

### Strengths:

- Obvious, clean interface
- Wave Hammer is a fine loudness maximizing plug-in
- Built-in convolution reverb
- Useful click repair and vinyl restoration tools
- Good handling of video

### Limitations:

- No Disc at Once CD burning
- No "montage" option like WaveLab
- No ASIO support, scripting, or batch processing

# ENTTEC

Entertainment Technology

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by Mitch Gallagher

# Fishman Pro-EQ Platinum and Pro-EQ Platinum Bass

Why settle for plain ol' direct boxes?



**Type:** Instrument direct box/preamp/EQ

**Contact:** Fishman Transducers, [www.fishman.com](http://www.fishman.com)

## PRO-EQ PLATINUM

**Connections:** 1/4" instrument input, 1/4" tuner send, 1/4" output, XLR output

**Input impedance:** 10M $\Omega$

**Signal to noise:** -90dB (A weighted)

**Number of EQ bands:** 4

### EQ frequencies/range

**Bass:**  $\pm 12$ dB @ 60Hz and  $\pm 3$ dB @ 350Hz

**Mid:**  $\pm 12$ dB, sweepable from 250Hz-5kHz

**Treble:**  $\pm 12$ dB @ 10kHz and  $\pm 3$ dB @ 2.4kHz

**Brilliance:**  $\pm 9$ dB @ 10kHz and  $\pm 3$ dB @ 7kHz

**Other controls:** Input Gain, Volume, Phase switch, Smooth (high-frequency compression), Notch (sweepable notch filter), XLR ground lift, XLR pre-EQ/post-EQ switch

**Power:** 9v battery, AC adapter, or 48v phantom power

## PRO-EQ PLATINUM BASS

**Connections:** 1/4" instrument input, 1/4" tuner send, 1/4" output, XLR output

**Input impedance:** 10M $\Omega$

**Signal to noise:** -89dB (A weighted)

**Number of EQ bands:** 5

### EQ frequencies/range

**Bass:**  $\pm 12$ dB @ 30Hz

**Low Mid:**  $\pm 6$ dB @ 200Hz

**Mid:**  $\pm 6$ dB @ 1.25kHz

**Hi Mid:**  $\pm 9$ dB @ 5kHz

**Treble:**  $\pm 12$ dB @ 10kHz

**Other controls:** Input Gain, Volume, Phase switch, Depth (12dB/octave lowcut filter sweepable from 15-125Hz), Compression (up to 14dB gain reduction), XLR ground lift, XLR pre-EQ/post-EQ switch

**Power:** 9v battery, AC adapter, or 48v phantom power

A regular DI works well for getting pickup-equipped acoustic guitars, basses, and other stringed instruments into a recording system or PA. For those who want to go beyond the ordinary DI, Fishman Transducers has created the Pro-EQ Platinum series. There are two models, the Pro-EQ Platinum for guitar (and other acoustic instruments), and the Pro-EQ Platinum Bass, for, well, bass. Both units comprise direct boxes, preamps, EQs, and other processing.

## PRO-EQ PLATINUM

As a direct box, the Pro-EQ Platinum (P-EP) is voiced for non-bass instruments. There's a pretty substantial cut in low frequencies, presumably designed to help reduce feedback in live situations. With regular guitar tunings, you won't even be aware of it. If you're into low guitar detunings, you'll notice.

The P-EP has a 4-band EQ: low, sweepable mid, treble, and brilliance. The bass and the treble controls affect two frequencies each; they're fairly broad. The EQ frequencies are well

chosen. Whether you're using the Fishman to fatten up and add sparkle to solo fingerstyle or to punch up hard-strummed rhythm tracks, the EQ works well. It's also great for carving away unnecessary low end when you're trying to seat a guitar part in a track.

The P-EP has other processing as well: There's Notch, a sweepable filter designed for cutting feedback onstage. The Smooth control provides what Fishman calls "Acoustic Compression"; what sounds like frequency-dependent compression, designed to remove the hard edge a DI'd acoustic can have. It works well. If you set it correctly, all the brilliance will be there, but the edge will drop away. Too much, and the sound will be dull.

You can power the P-EP using a 9v battery, an optional 48v power supply, or phantom power. The XLR output can take its signal either pre- or post-EQ.

## PRO-EQ PLATINUM BASS

The Pro-EQ Platinum Bass (P-EQB) has full low-end response — as you'd expect. The two models are otherwise very similar, but the P-EQB has

five fixed bands of EQ. Instead of Smooth and Notch controls, you get "Depth," a sweepable lowcut filter, and "Compression," an automated compressor. Compression is easy to dial in to smooth things out, solidify the tone, or control slapping and popping.

## RECORD PLATINUM

Both boxes are simple to use. The phantom powering is especially nice for studio work. I tracked several electric basses as well as my Taylor steel-string direct into a mic preamp. As pure DI boxes, the Platinums stacked up well with the other active transformer-less DIs in my locker (aside from the low-end on the guitar unit). The sound is full and round. The top end isn't sterile on the guitar; there's a warmth, even without the Smooth control engaged. With Smooth turned up, guitars sound even more natural. Utilizing the EQ, you can shape the tone into whatever you want.

As live stage tools, the Pro-EQ Platinums' usefulness is readily apparent. As all-in-one acoustic instrument and bass recording tools, the Pro-EQ Platinums have what it takes to get good tones down. Why use a DI when you can have so much more? **EQ**

### Strengths:

- Complete direct input solution
- Operate off phantom power
- Well-chosen EQ frequencies
- Flexible tone-shaping controls

### Limitations:

- No mute switch for use with tuner output



# AustralAsian Music Industry Directory

Listings for the Jan 2004 edition now being accepted.  
Free listing deadline Oct 10. Details: [www.immedia.com.au/amid](http://www.immedia.com.au/amid)

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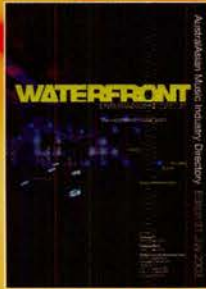
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**audioproducts**  
Australia

by Greg Rule

# Focusrite Trak Master

Platinum-range power for fool's-gold price



**Type:** Single-channel mic pre, compressor, and EQ  
**Contact:** Focusrite, [www.focusrite.com](http://www.focusrite.com)

## Channels: 1

**Inputs:** XLR with +48v phantom power; 1/4" instrument

**Outputs:** balanced +4dBu 1/4"; unbalanced -10dBV 1/4"

**Frequency response:** 0dB at 20Hz to -3dB at 250kHz (mic input); 0dB at 20Hz to -3dB at 200kHz (line input); 0dB at 20Hz to -3dB at 200kHz (inst. input)

**Headroom:** 22dB

**Noise:** EIN = -121dB measured at 57dB of gain with 150Ω source impedance and 20Hz/22kHz bandpass filter (mic input); -94dB using 20Hz/22kHz bandpass filter (line input); -94dB using 20Hz/22kHz bandpass filter (inst. input)

**THD+N:** 0.002% at 1kHz using 20Hz/22kHz bandpass filter (mic input); 0.003% at 1kHz using 20Hz/22kHz bandpass filter (line input); 0.007% at 1kHz using 20Hz/22kHz bandpass filter (inst. input)

**Gain:** -3dB to +57dB (mic input); -10dB to +10dB (line input); -3dB to +40dB (inst. input)

**Optical compressor:** -22dB to +12dB threshold, 3:1 soft knee ratio, 6:1 hard knee ratio, 3ms or 45ms attack/punch, 100ms release, +20dB makeup gain

**Treble EQ:** shelving EQ, 10kHz frequency (Vocal mode); 3.3kHz frequency (Instrument mode); +/- 14dB boost/cut

**Bass EQ:** bell EQ, 50Hz to 800Hz frequency range, +12/-14dB boost/cut (Vocal mode); shelving EQ, 25Hz to 400Hz frequency range, +12/-14dB boost/cut (Inst. mode)

**Presence EQ:** bell EQ, 1.5kHz frequency, +12/-20dB boost/cut

**Phantom power:** +48V

**Misc.:** Optional 24/96 A/D option, which adds S/PDIF, Word Clock input, and sample frequency selector (44.1, 48, 88, and 96kHz)

If you've been craving a boost in the front end, but are a bit short in the pocketbook, Focusrite would like to be your hero. Trak Master, is a Platinum-range class-A preamp — with mic and instrument inputs, plus compression, EQ, and tube emulation — and is streamlined enough feature-wise to hit a budget-friendly price point (under \$1000).

Trak Master has been around for a while, actually, but it recently popped back into the headlines thanks to a special bundle offer called the Trak Master Pak.

You can score not only a Trak Master, but a BLUE Bluebird condenser mic and accessories. Check the Focusrite website for details.

Since we reviewed the Bluebird mic last month, and since this month's cover feature is about preamps, we thought it would be appropriate to fire up the Trak Master and put it through its paces for a proper review. File this one in the Better Late Than Never drawer.

## QUICK TOUR

Those who want instant gratification will surely appreciate Trak Master's ease of use. Focusrite has eliminated much of the guesswork, with simplified controls that are named for the musical results they're intended to impart: Punch, Tight, Presence, Tube Sound, etc. They've also built response curves into the EQ section for vocal and instrument applications. In other words,

this isn't what you'd call a "tweakhead's dream machine," but rather a friendly, get-results-quick device.

## SESSION NOTES

Straight out of the box, Trak Master was racked up and put into service for a vocal session. The timing was fortunate, as the arrival of Trak Master dovetailed with the exit of PreSonus's Eureka (reviewed Feb. '04). How could we not compare the two? Both are silver 1U rack units, both have similar front-panel layouts (mic pre > compressor > EQ > master section), and both are affordable. How would the two units handle the same source material in terms of sound quality?

They both did a fine job adding presence, gain, and "air" to the vocal — and they were both able to compress the performance in a musically pleasing way. This vocal needed it, big time, as the dynamics were all over the map. Neither box gave me quite the convincing, creamy "tube warmth" effect I was hoping for, although Eureka's Tube emulation was more pronounced than Trak Master's. Trak Master's pre-amp section was clearly the star performer here, and the most worthy of the Focusrite name. The compressor and EQ were useful — they certainly got the job done — but I'd be remiss to recommend Trak Master for those features alone.

EQ tech editor John Krogh put Trak Master to work on a

session for his new commercial-music demo reel; he recording live trumpet through Trak Master en route to Logic Audio (props to our in-house brass pro Pete Sembler.) "On solo muted trumpet, Trak Master did an admirable job of preserving the natural tone," John reports. "Setting up and using it was straightforward, and using just a bit of the 'tube sound' stage helped liven things up."

## JURY

If you want Focusrite, and want it cheap, Trak Master is the way to get it. And if you could use another nice condenser mic in your cabinet, run don't walk to get the aforementioned Trak Master Pak, complete with BLUE Bluebird and accessories. Such a deal.

The most direct competitor for Trak Master, spec for spec, is PreSonus's Eureka. Eureka has more control options, but is also more expensive. Another consideration — Trak Master, like Eureka, lacks the honest-to-goodness tube stage of MindPrint's En-Voice II, to name one, but the trade-off is reliability. Tubes, for all their perks, can be finicky beasts. In terms of performance, Trak Master stands out in its price range. This box will surely help budget-conscious project studio owners who lack a decent front end to up their game a notch. **EQ**

## Strengths:

- Easy to use and get results with
- Class-A circuitry
- Digital expansion option

## Limitations:

- Lean feature set
- Coarse visual metering



by John Krogh

# PSP EasyVerb

High-quality native reverb has never been this easy to use

**Type:** Native reverb plug-in

**Price:** \$69

**Contact:** PSPaudioware.com,  
www.pspaudioware.com

**Algorithms:** ambience, room, chamber, club, hall, arena, cathedral, spring, plate

**Formats supported:** VST, DirectX for PC; VST for Mac OS X (AU; RTAS in development)

**Minimum system requirements:** Mac: OS X 10.1, VST host, G4 processor; PC: Windows XP/2000, VST/DirectX host, P4 processor

**Copy protection:** Serial number

PSP is probably best known for their excellent tape saturation and multiband compressor, Vintage Warmer, and the equally impressive Lexicon PSP 42 delay. This Poland-based developer has been on the plug-in scene for a while; however, they've only just added reverb to their virtual offerings. EasyVerb aims to recreate natural room sounds as well as emulate the kind of "vintage" verbs you'd expect to hear from the '60s and '70s. It's a refreshing departure from the current trend of convolution reverb — EasyVerb certainly provides a different flavor from sampled rooms and halls.

## OVERVIEW

Many native verbs have historically been efficient, CPU-wise, but lacked the kind of depth, richness, and programmability of their hardware counterparts. Where reverb is concerned, it's always been a trade-off: efficiency or quality,

"As its name implies, EasyVerb is straightforward and simple to use. Aside from wet/dry balance and overall output level, there are only four controls."

However, in the past couple of years, as CPU power has shot up and programmers have learned to optimize their code, we've started to see more impressive results from native plug-ins of all sorts. EasyVerb is a perfect example. According to PSP, each of EasyVerb's nine algorithms is designed with quality, not

quantity, in mind. As a result, it's a bit of a CPU hog, but the resulting sound is smooth, thick, and virtually free of the grainy, ringy tone that plagues many native reverbs.

As its name implies, EasyVerb is straightforward and simple to use. Aside from wet/dry balance and overall output level, there are only four controls: time (decay), damping, and two shelving EQ bands, variable from 25Hz–10kHz and 50Hz–20kHz, respectively. Oddly, there's no pre-delay. The obvious work-around is to insert a short delay before the reverb. Not ideal, but not a deal-breaker.

If you're a tweaker, you might feel a bit cramped by EasyVerb's Spartan interface. In practice, I found I could dial in a variety of sounds just by learning how each algorithm sounded, and then adjusting the time and damping to fit my tracks. That's the beauty of this plug-in: Parameters such as early reflection, room materials and dimensions, diffusion, etc. are behind the scenes, which means there's less to concern yourself with. Working with EasyVerb becomes about using your ears — what a concept!

Also worth noting: Unlike many other plug-ins, EasyVerb operates in true stereo. Input signals aren't summed before processing.

## IN USE

I tested the plug-in on several systems: a 1GHz Titanium and 1GHz dual-processor G4 tower, both running Logic 6.3.3 and OS X 10.2.8, and a 2.66GHz P4 with Sonar 3 and WinXP. (AU support wasn't



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- Max Ambience
- Central Room Kit
- Basic Room
- Small Room
- Big Room
- Basement
- Underground
- Piano Room
- Basic Chamber
- Damp Chamber
- Empty Chamber
- Long and Dark
- Basic Club
- Small Club
- Empty Club
- Theatre
- Long and Warm
- Basic Hall
- Small Hall
- Big Hall
- Rock Hall
- Lush Strings
- Basic Arena
- Bright Reflections
- Dark Reflections
- Very Long
- Basic Cathedral
- Wooden Room
- Wooden Church
- Stone Room
- Great Cathedral
- Sacred Space
- Stairwell
- Festival Hall
- Basic Spring
- Short Spring
- Typical Spring
- Long spring

## PSP EasyVerb

implemented at the time of the review, so I used FXpansion's VST-AU wrapper.) Installation was up and down. With the PC and laptop, everything went off without a hitch. But on my tower G4, EasyVerb's installer continually gave me an error. Apparently, it couldn't find my VST folder. My solution was to copy the plug-in from the Titanium to the tower.

I ran some comparison tests to see how many instances I could load. On the laptop I hit the processor ceiling with six EasyVerbs. I was able to load eight instances before the computer gave up. The PC was a different story — I was able to load ten instances without a hiccup. In all cases I was bussing a single stereo audio track to multiple instances, each of which used a different algorithm. Taking a more practical position, one has to wonder how many reverbs are necessary for the average pop track. I'm guessing a couple of EasyVerbs will be just fine for most applications.

I auditioned the 50-plus presets with a variety of material including acoustic

and electric guitar, female vocals, and multitracked acoustic drums. To my ears, the stand-outs were the ambience, smaller room, and club selections. As promised, reverb tails were smooth and artifact-free. EasyVerb did an admirable job at creating intimate, warm spaces — perfect for thickening sampled instruments or live tracks recorded in dead rooms. Close-miked fingerpicked acoustic bloomed nicely without sounding artificial in the "mid-sized" spaces, many of which employ the room or club algorithms. I was able to dial in a fairly retro-sounding surf electric guitar using a combination of a tremolo plug-in and EasyVerb's spring algorithm.

I wasn't as happy with the larger spaces. In particular, the arena algorithm leaned toward ringy. Nor was I thrilled with the plate on vocals. It didn't have the kind of richness or "silkeness" of better plate algorithms. To be fair, though, I still tend to use trusted outboard gear for critical tracks such as lead vocals.

### CONCLUSIONS

EasyVerb strikes a nice balance between sound quality and ease of use. For smallish to mid-sized spaces I wouldn't hesitate to stick it on a bus. I have other effects that can handle the bigger spaces, and really, how often do you need to drench a track in reverb? I like that PSP kept the emphasis on useable room simulations. And while there aren't many parameters with which to shape the sound, I found the seeming lack of tweakability wasn't an issue. The plug-in simply sounded good without much need for fussing with it. **EQ**

#### Strengths:

- Room and ambience algorithms
- Smooth tails, nice decays
- Easy to get good sounds

#### Limitations:

- CPU hog
- Few parameter controls
- Larger-space algorithms can sound ringy

by John Krogh

## Tapco S•5 Nearfield Monitors

Contact: Tapco, [www.tapcogear.com](http://www.tapcogear.com)

#### Strengths:

- Multiple input choices
- Voltage switchable between 115 and 230 VAC
- Tone shaping controls

#### Limitations:

- No control for switching between +4/-10 operation



Tapco isn't a name commonly associated with quality nearfield monitors, but that may all change with the S•5 powered monitors. Their back-story is short and sweet: Tapco was the company Greg Mackie started back in '69. They built inexpensive, dependable (*i.e.*, roadworthy) live sound mixers with enough headroom to handle the signal levels of a typical rock band. Fast-forward to the present: Tapco has been reborn as a brand of parent company Loud Technologies, and like the tank-tough mixers of yore, the S•5 powered monitors are aimed at budget-minded musicians.

The S•5 features a 5-1/4" woofer, a 1" silk tweeter, and a separate 60-watt power amplifier for both high and low fre-

quency drivers. Cosmetically, the exterior has a modern, rubber-like look with smooth edges and soft curves. On the rear you'll find balanced XLR and 1/4" and unbalanced RCA connectors, all of which can be used simultaneously. This is useful if you want to monitor a CD and noodle along on your stereo keyboard, for example.

There's not much protection for the tweeter, and as I was moving the speakers around my studio one of the cones was accidentally pushed in. No biggie — I was able to coax it back into shape.

For tonal shaping, high-frequency shelving ( $\pm 2$ dB at 5kHz) and low-frequency peak controls (+2 or 4dB at 65Hz) are available. Tapco claims a flat frequency response from 20kHz down to 64Hz. Indeed, the S•5s are

easy on the ears. (I listened for hours on end without significant fatigue.) If anything, there's a slight low-end bump and a high-frequency roll-off that I found to make the sound a bit boxy. Even with the high-frequency shelving, I had trouble hearing as much detail on the top end as I like. Mixes never sounded muddy, though. In fact, lower mids were clear, focused, and kick drums could be heard *and* felt without being too boomy or cliky.

As with most pro audio gear, choosing a nearfield monitor is largely based on personal preference. I happen to like a brighter sound, but if you're the sort who prefers a darker, more rounded character from their studio speakers, the S•5 is a solid contender that should be given a close look. **EQ**



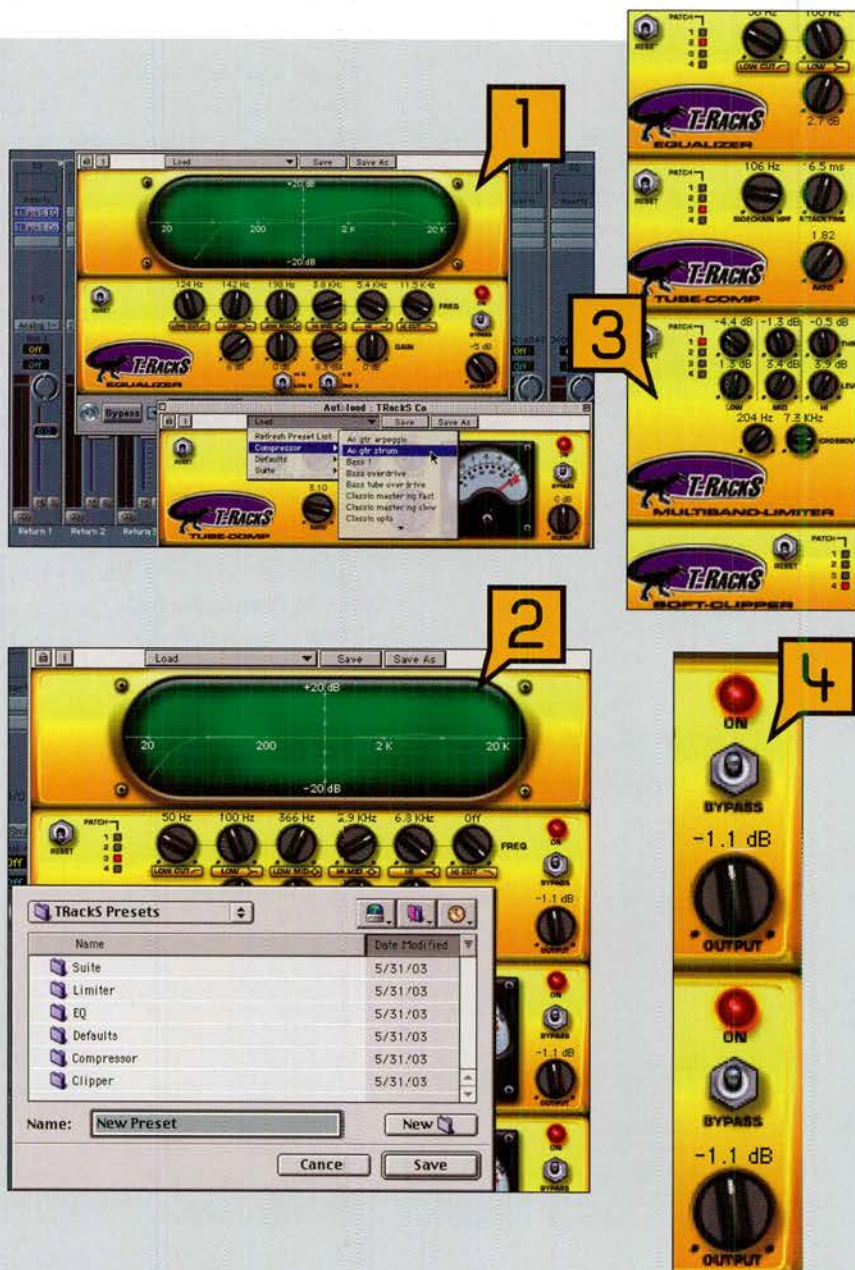
## IK Multimedia T-Racks

Turbo charge your mixes with these hot tips

**Objective:** Use these power-user T-Racks techniques to improve your mix sessions.

**Background:** T-Racks was originally released as a standalone stereo processor for mastering, but was later adapted as a plug-in. It features four components — a parametric EQ, a single-band compressor, a multi-band compressor, and a limiter with a saturation stage. These are all analog modeling devices aimed at recreating the “vibe” and sound of classic outboard gear. The plug-in version offers some interesting options that set it apart from other finalizing tools. The power user tips covered here will help you make the most of T-Racks.

**Step by Step:** Get more from IK Multimedia’s mastering suite of plug-ins with these hot tips.



1 Efficient CPU usage. T-Racks comprises four sections, or processors, which are often thought of as one plug-in, but each processor can be instantiated separately for more efficient CPU usage. With an acoustic guitar track, for example, you may only need the EQ and compressor.

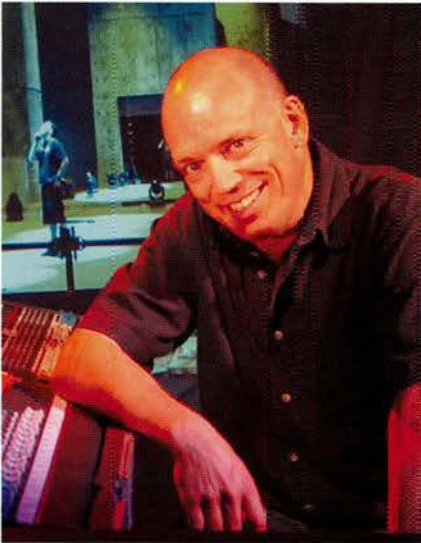
2 Cross-application preset management. Custom settings can be saved and recalled from the host; however, presets saved in this way won't be available to any other compatible program such as a 2-track editor or loop-based sequencer, etc. By saving your settings from T-Racks' Save button (located at the top of the plug-in), you'll be able to recall all your favorite presets from any program.

3 Rearrange the signal path. T-Racks' interface arranges the plug-ins vertically, with the EQ being first, then the compressor, the multiband compressor, and finally the limiter. However, you can change the order of effects using the four small square Patch buttons. In this case, I've put the multiband compressor first, followed by the EQ, then the single-band compressor, and limiter.

4 Individual bypass. As you approach a final mix with T-Racks on the mix bus, start by bypassing all but the EQ. Once you feel you've nailed the balance, engage the next processor, and then fine-tune it to taste. Continue this way until all processors are active. Remember to periodically disable each section to hear how it's affecting the mix.

5 Personalize the factory presets. T-Racks includes a wealth of useful presets for mastering as well as individual channel processing. I'll often start with a preset I like, then tailor the parameters to fit my needs. Sometimes it's easiest to use the Reset button, which returns the selected component to a default state. From there I can dial in exactly what I'm after.

~ Welcome! ~



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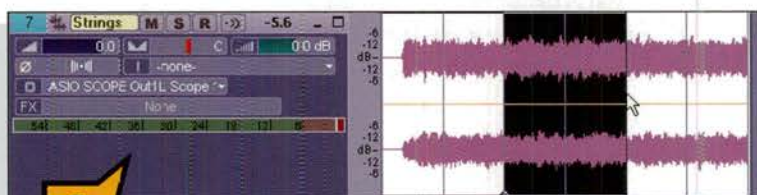
## Cakewalk Sonar

### Creating the Perfect Pad Loop

**Objective:** With sampler-type crossfade looping techniques, you can make a perfect loop with just about any pac or sustained sound.

**Background:** Looping a sustained sound, like a synth pad, drone, or held note, can be difficult as the loop start and end points seldom share the same level and timbre. Looping therefore creates a rhythm that degrades the pad effect. However, you can use Sonar's crossfade function to help make seamless, smooth pad loops, providing there's some audio prior to the intended loop start point.

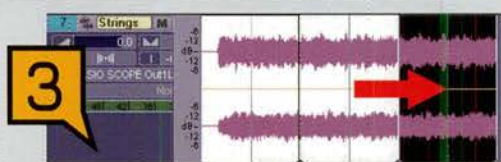
**Step by Step:** Proceed through each step in sequence. Before starting, enable automatic crossfading.



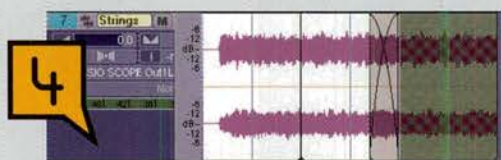
- 1 Isolate the section you want to loop by adding a split at the section's start and end. To do this, place the Now time over the start and type S, then do the same at the end (the region to be looped is highlighted in black).



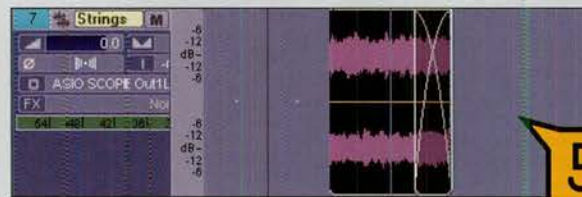
- 2 Delete any audio to the right of the end split.



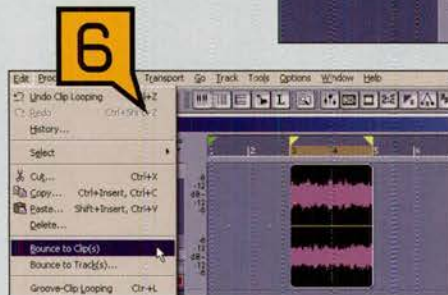
- 3 Ctrl-drag (copy and move) the clip so that the copied section's start point butts up against the end point of the original clip.



- 4 Slip-edit the beginning of the copied clip toward the left, dragging it over the end of the original clip. This creates a crossfade of the original clip's end section and the audio leading up to the clip's beginning.



- 5 Create a split at the end of the original clip, discard any audio to the right and left of the section to be looped, then draw a marquee around the slippedit section and the original loop so they're both selected.



- 6 Go *Edit > Bounce to Clip(s)* to mix the crossfaded section in with the end of the original clip. Loop this clip, and it should transition seamlessly from beginning to end.

### tips

- Under the Snap to Grid options, make sure that Mode is set to "Move To," and "Snap to Audio Zero Crossings" is unchecked. Otherwise the various split points might not end up exactly at measure boundaries.
- Do not normalize any audio prior to using this technique; crossfade looping may increase the level in some regions by a few dB, so there should be at least a few dB of headroom.
- Choose equal power looping (convex fadeout and fadein) in most cases.



# Event & Production College



COURSE CATALOGUE MAY-JUNE 2004

~ Welcome! ~



Julius Media Pty Ltd  
ABN 62 098 850 036  
Mail: Locked Bag 30  
EPPING NSW 1710  
Australia  
College: 10 Bridge street  
Rydalmere NSW 2116  
Australia

RTO number 90388  
CRICOS provider number pending

Phone: +61 2 9876-3530  
Fax: +61 2 9876-5715  
Email: [training@juliusmedia.com](mailto:training@juliusmedia.com)  
Web: [www.juliusmedia.com](http://www.juliusmedia.com)

Bankers:  
Commonwealth Bank,  
Beecroft Road, Epping, NSW.  
BSB # 062 166  
A/C # 1021 2214

Julius Media is an Australian Government Registered Training Organisation, specialising in entertainment and music production. We recently moved into a college facility at Rydalmere, near to Sydney's geographic centre.

We train small groups, to a high standard. We are audited by VETAB, and operate at or above TAFE standards.

Julius Media courses come from National Training Packages, developed in conjunction with the industry.

We have partnerships with a variety of industry organisations, suppliers, manufacturers and associations.

Typical of these is our relationship with Riverside Theatres at Parramatta, a professional performing arts complex located just a few minutes away.

We invite college inspections, and would be delighted to address classes or groups interested in our perspectives on training for the entertainment industry.

College owner and founder Julius Grafton has 31 years experience within the entertainment industry.

*To borrow a popular saying:*

"The best is yet to come!"



## COURSES ON OFFER IN 2004

### **Stage OH&S**

(One day)

### **Worship Sound**

(5 Saturday mornings)

### **Jands Lighting Consoles**

(One day)

### **WYSIWYG Essentials**

(One day)

### **Stage Lighting Basics**

(Five days fulltime, or part time)

### **Live Sound Eng. Basics**

(Five days fulltime, or part time)

### **Audio Visual Basics**

(Five days fulltime, or part time)

### **Music Production Basics**

(Five days fulltime, or part time)

### **Certificate 3 Stage Lighting**

(15 days fulltime, 16 weeks part time)

### **Certificate 3 Live Sound Engineering**

(15 days fulltime, 16 weeks part time)

### **Certificate 3 Audio Visual**

(15 days fulltime, 16 weeks part time)

### **Certificate 3 Music Production**

(15 days fulltime, 16 weeks part time)

### **Certificate IV Technical Production**

(Six months; full time)

### **Advanced Diploma; Stage Management**

(One year; full time)

### **Advanced Diploma, Venue and Event Management**

(One year; full time)

### **Advanced Diploma, Technical Production**

(One year; full time)



## ~ Short Courses ~

### One Day Courses

These one day, intensive courses include:

#### JANDS LIGHTING CONSOLES

Learn how to drive the Hog 1000. With Alex Mair. Saturday August 14. 9am - 4.30pm \$145

#### WYSIWYG ESSENTIALS

Learn how to use WYSIWYG, the show design package. With Alex Mair. Saturday August 28. 9am - 4.30pm \$145

#### WORSHIP SOUND

Learn the essentials from the ground up, for effective Church sound. Held across five Saturday mornings, 9.30am to midday. Juliusmedia will help demystify the complexity of acoustics, equipment and techniques. These small classes will allow participants to detail their own challenges, and will draw on solutions provided by audio professionals all too familiar with the compromises presented by low budgets and large reverberant spaces.

Class schedule: Saturday June 5 for a total of five weeks. 9.30am - midday.

Price: \$290 per person for the full five weeks, or \$250 each if three or more enrolled together.



College student computers feature dual flat screens and DVD burners.

### STAGE OH&S

Our one day Stage OH&S course has proven very useful and popular since we first ran it in April 2002. You earn a formal Unit of Competency from the Entertainment Industry Training Package, and get a Statement of Attainment to reflect this.

The Juliusmedia modules you will cover in the one day course are:

**OHM-01 Height Safety:** Details kinds of safety equipment, arrest and rescue requirements, ladders and high reach devices. What is acceptable, what is not.

**OHM-02 Manual Handling of Show Equipment:** With practical component. What is your legal lifting limit? Shows the best and safest methods for handling large, heavy or un-usual items of equipment.

**OHM-03 Show Electrical:** Starts with basics, what is three phase, what is single phase, relationship between watts, amps and load, earth leakage breakers, and power essentials.

**OHM-04 Show Practices:** Jargon of the industry, glossary of terms, which is 'prompt', etiquette of the stage, etc.

**OHM-05 The Induction, The Laws, and You:** Gives individuals the shocking realisation they can be heavily fined, along with their employer. Details what to look for at a venue, or with a new show.

#### STAGE OHS COURSE DATES:

##### Sydney:

Monday July 5. 9am - 4pm.

##### Melbourne:

July, check [www.juliusmedia.com](http://www.juliusmedia.com)

##### Brisbane:

July, check [www.juliusmedia.com](http://www.juliusmedia.com)

##### Adelaide:

July, check [www.juliusmedia.com](http://www.juliusmedia.com)

##### Perth:

July, check [www.juliusmedia.com](http://www.juliusmedia.com)

Cost: \$180 including notes, morning and afternoon tea.

### BASICS. 5 days full time or 5 weeks part time (2 nights, 6.30 - 9.30pm)

We offer a one week (5 full day) course, in Stage Lighting basics, Vision Systems basics or in Live Sound (Engineering) basics. You can also do the Music Production Basics course, part time, 2 nights weekly.

All 'Basics' courses are the first third of a Certificate III. Doing one of these is an excellent way to 'taste test' our training. Plus, you earn units of competency, which are nationally recognised.

The price of a one week BASICS course is \$875, or \$650 if you enrol three or more people at once.

**Stage Lighting Basics** (code LXB) is an intensive 5 day course that is also delivered part time, 2 nights per week. It is designed to take a beginner from the start to having a working understanding of stage lighting. DATES: JULY 5 - 9 (code LXB-0507) Part time from JULY 26 (LXB-2607-PT)

**Live Sound Engineering Basics** (code SEB) is an intensive 5 day course that is also delivered part time, 2 nights per week. It is designed to take a beginner from the start to having a working understanding of live sound. DATES: JULY 12 - 16 (code SEB-1207) Part time from JULY 26 (SEB-2607-PT)

#### AV- Vision Systems (with Staging)

This is the new, one week course which when combined with Lighting Basics and Sound Basics, makes up one whole Certificate III - Audio Visual. DATES: JULY 12 - 16 (code AVB-1207) Part time from JULY 27 (AVB-2707-PT)

#### Music Production Basics

Learn how to use Cubase SX and various other music production tools. This is the start of the Certificate III 'Big project studio course'. DATES: Part time from July 27 (MPB-2707-PT)

## ~ Assessments ~

### YOUR SKILLS ASSESSED

All registered training organisations are obliged to recognise prior learning or existing skills – whether from previous training, or skills obtained ‘on the job’. At Juliusmedia we are happy to undertake RPL and/or RCC assessments.

#### **You can get a formal qualification without having to do training.**

RPL stands for Recognised Prior Learning, while RCC stands for Recognised Current Competencies. In the jargon heavy world of vocational training, they mean something quite similar.

An assessment can produce a trade qualification without the need to do a course. The full qualification you are assessed for is a Certificate Three, specialising in Sourd, Lighting or Audio Visual.

You choose which one when you book your assessment.

#### **How are you assessed?**

It will depend on your previous skills and experience, and the recency and

nature of your qualifications (if you have some). The form of assessment could be a practical self assessment process on paper, followed by a brief written test, then a written project. We allow about 20 minutes for the first part, then after a break 2 hours for the project. After another break we may do some physical job tasks and trouble shooting. Finally, the assessor sits with you and discusses your assessment results. It's a positive experience.

#### **What are the standards?**

In the Entertainment Industry Training package there are a range of things called ‘Units of Competency’. Each of these is a ‘standard’ that you need to meet. It may be as simple as: “hang a profile spotlight on a bar, and properly connect”, or as complex as “equalise a stage monitor wedge with due regard to tonal balance and gain before feedback”.

There are a variety of standards in each units of competency. It's our job to ensure you are deemed ‘competent’ in each one. If you are not, then you are ‘not yet competent’.

#### **What if you are deemed ‘not yet**

#### **competent’?**

The assessment will produce an outcome. You may be assessed as competent in a range of units, but not in others. Each unit in which you are competent, is completed – and you obtain a Statement of Attainment for that unit. You don't have to re-do the unit.

Where you've fallen short of a standard, your assessor must tell you. You then understand what it is that is deficient, and you can attempt to address this with additional training. The assessment will highlight which lesson modules at Juliusmedia you should do, in order to be assessed again.

#### **Can I have an idea about the range of subjects covered in the assessment?**

You can see all the modules in our Sound, A.V. and Lighting Certificate 3 courses on our website. There are descriptions there for each module. Reading them should give you an idea of what level you need to be at.

#### **What are the logistics of the assessment?**

The assessment process (with a few short breaks) usually takes around four hours. There usually are some other people undergoing assessment at the same time.

#### **NEXT ASSESSMENT DATES:**

**Sydney:** Tuesday June 1; or Monday June 28 . 10am - 2pm

**Melbourne:** July, check [www.juliusmedia.com](http://www.juliusmedia.com)

**Brisbane:** July, check [www.juliusmedia.com](http://www.juliusmedia.com)

**Adelaide:** July, check [www.juliusmedia.com](http://www.juliusmedia.com)

**Perth:** July, check [www.juliusmedia.com](http://www.juliusmedia.com)

COST: \$180.

Book now, call +61 2 9876-3530



## ~ Certificate III ~



### Certificate III in Live Production, Theatre and Events (Technical Operations)

This is a new national qualification from the new Entertainment Industry Training Package (CUE03). *Juliusmedia deliver the C3 in around 100 hours.*

Juliusmedia have structured their Certificate III (C3) so that you choose a speciality: Lighting, Live Sound (Engineering), or Audio Visual (*see next page*).

A Certificate III is THE starting point for working in the technical or management side of the entertainment industry. In times now gone, you used to just hammer the doors of employers until one of them gave you a job. These days with the implications of insurance and occupational health and safety in the workplace, they often won't even talk to you unless you have TRAINING.

A C3 will give you the actual hands on skills and background knowledge that employers will EXPECT you to have. A formal Certificate III is proof that you really do know - and care about - what you are doing.

C3 is the gateway to further training: it forms the foundation for Certificate IV and Advanced Diploma. The units of competency in the C3 are fully transportable and are recognised nation wide.

**EMPLOYERS:** All our C3 courses are registered for TRAINEESHIPS under the New Apprenticeship System. You can employ an indentured trainee, and attract government subsidies. It's easy! Call Juliusmedia, we arrange the paperwork.

#### C3 Lighting Specialisation: c3LX

The broad overview of lighting that is delivered in the Lighting Basics Course is applied in the Cert III to give the students the confidence of working professionally in the real world. Recognising the technology is one thing, actually knowing how to get the best out it will be the outcome of completed this specialisation.

Some of the aspects covered by this Cert III specialisation include in-dept desk use and operation in various different performance environments. Bump-in skills like interpreting and installing lighting designs as well as performance skills like Followspot operation – all to professional standards - will be achievable by the successful student.

**DELIVERY:** 3 weeks full time (5 days weekly) or 15 weeks - 2 nights weekly.

**COST:** A\$2,625. GST exempt.

**DATES:** JULY 5 - 9, SEPT 27 - OCT 8.  
MON - FRI, 9am - 5pm daily. (3 wks)

**Part time:** Start July 26, Mon and Wed nights, 6.30 - 9.30, end Dec 2nd.

#### C3 Live Sound Engineering (c3AU)

We start with Basics, and go through equipment recognition, microphones, effects, theory, mixing and equalisation. Then in the advanced section of the course we dig deep into show structure, planning, use of equipment, and the ultimate delivery of different styles of performance.

Like all Juliusmedia courses, there is a balance between event types: corporate, concert, touring, theatre. We teach that every show is the same: a professional environment for the sound technician.

The course features 'hands on' modern equipment, and at least one field trip to see and hear a very large rig. We try to have fun as well!

**DELIVERY:** 3 weeks full time (5 days weekly) or 15 weeks - 2 nights weekly.

**COST:** A\$2,625. GST exempt.

**DATES:** JULY 12- 16, SEPT 27 - OCT 8.  
MON - FRI, 9am - 5pm daily. (3 wks)

**Part time:** Start July 26, Mon and Wed nights, 6.30 - 9.30, end Dec 2nd.

#### \* UNITS OF COMPETENCY:

##### CUE 30203. Lighting

CUFSAF01B: Follow health, safety and security procedures

CUECOR01B: Manage own work and learning

CUEIND01B: Source and apply entertainment industry knowledge

CUECOR02B: Work with others

CUELGTO9A: Apply a general knowledge of lighting to work activities

CUFLGT02B: Prepare, install and test lighting equipment

CUELGTO5B: Record and operate standard lighting cues

MEM 18.1A B: Use hand tools

CUESTA05A: Apply a general knowledge of staging to work activities

CUELGTO3B: Install and operate follow spots

CUFLGT05B: Repair and maintain lighting equipment

#### \* UNITS OF COMPETENCY:

##### CUE 30203. Live Sound Engineering

CUFSAF01B: Follow health, safety and security procedures

CUECOR01B: Manage own work and learning

CUEIND01B: Source and apply entertainment industry knowledge

CUECOR02B: Work with others

CUESOU07A: Apply a general knowledge of audio to work activities

CUSSOU05B: Install, align and test audio equipment

CUESOU09A: Manage and compile audio replay material

CUESOU03B: Operate professional audio equipment

CUESOU08A: Select and manage microphone and other audio input sources

CUESTA05A: Apply a general knowledge of staging to work activities

MEM 18.1A B: Use hand tools

\* NOTE: These are not lesson modules. Juliusmedia deliver a variety of lessons that map against these national units.



NATIONALLY RECOGNISED  
TRAINING

## ~ Certificate III ~



### Certificate III in Live Production, Theatre and Events (Technical Operations)

#### **C3: A.V. TECHNICIAN (C3VS) -- NEW!**

This is our NEW C3 option for 2004, and it is very popular.

This qualification is broadly pitched, we have been able to combine Live Sound Basics, Lighting Basics, with Vision Systems to make one qualification provide a balanced set of skills for a workplace trainee.

Within this C3 you get basic sound, lighting and vision skills - combined with our Stage OH&S modules, and the Apply General Knowledge of Staging module.

This means you can buy this qualification in bite sized chunks! Simply combine three BASICS courses - sound, light and vision - and you get the Certificate III. Enrol in one, do the rest later.

**TRAINEESHIPS:** All our C3 courses are currently eligible for government funded traineeships. Employers can hire a trainee, who is indentured for 2 years. Juliusmedia provide C3 training, and the trainee works full time for the National Training Wage. (See [www.wagenet.gov.au](http://www.wagenet.gov.au))

**DELIVERY:** 3 weeks full time (5 days weekly) or 15 weeks - 2 nights week.y.

**COST:** A\$2,625. GST exempt.

**DATES:** First 2 weeks: JULY 5- 16, then come back for the final one week component: Jan 3- 7. These are all MON - FRI, 9am - 5pm daily. (3 wks) OR, do the final component at nights, from July 27 to August 25.

**Part time:** Start July 27, Tue and Thur nights, 6.30 - 9.30, end Dec 3rd.

#### **C3 A.V. TECH (C3VS) CUE 30203 UNITS OF COMPETENCY:**

CUFSAF01B: Follow health, safety and security procedures

CUECOR01B: Manage own work and learning

CUEIND01B: Source and apply entertainment industry knowledge

CUECOR02B: Work with others

CUEAUD06A: Apply a general knowledge of vision systems to work activities

CUEAUD03B: Operate vision systems

CUEAUD02B: Prepare, rig, test and modify vision systems

MEM 18.1A B: Use hand tools

CUESOU07A: Apply a general knowledge of audio to work activities

CUELGT09A: Apply a general knowledge of lighting to work activities

CUESTA05A: Apply a general knowledge of staging to work activities

### Certificate III: Music Industry (Technical Production) CUS 30201 (C3MP)

-- **NEW!** This is from the Music Industry Training Package, CUS-01. It is our newest Certificate III course, and it runs part time - 15 weeks on Tuesday and Thursday nights.

#### **This is the BIG project studio course!**

Using MIDI, Digital Audio and Samples you'll learn how to quickly produce and master high quality professional standard demo's and music tracks. Learn what's out there - plus the practical basics of audio theory, electrical maintenance and music industry specific OH&S.

The first section is a 'basics' component. An intensive introduction to understanding the basic theory to operate modern digital audio software audio applications, microphones, mixing consoles and electronic music. It also deals with the safety issues essential to the music industry and planning audio recording production at demo standard.

This section gives participants a strong introduction to understanding the current music industry climate of 'project' computerised studios and production.

The rest of the course is made up of units and modules which show the operation of current, state of the art digital audio software. Learn microphone types, placement, selection and mic plots. Participants will use software based audio programs to create music using MIDI, digital audio samplers and 'real' multitrack music tracks.

A project is run, which allows students to mix multiple sources to a master stereo recording. The college has dual screen workstations with DVD-R, utilising Cubase SX and other great software. We also have a live mix room.

**COST:** A\$2,625. GST exempt.

**Part time:** Start July 27, Tue and Thur nights, 6.30 - 9.30, end Dec 3rd.



NATIONALLY RECOGNISED  
TRAINING

#### **C3 Music Industry (Technical Production) CUS 30201. UNITS:**

CUSBGE01A: Develop and update music industry knowledge

CUSADM07A: Establish and maintain work and contractual relationships

CUSSAF02A: Follow health, safety and security procedures in the music industry

CUSSOU12A: Edit sound using digital systems

CUSSOU05A: Install, align and test sound equipment

CUSSOU06A: Lay soundtracks

CUSSOU09A: Mix sound sources

CUSSOU11A: Operate sound mixing console

CUESOU01B: Repair and maintain audio equipment

CUSMPF07A: Plan, prepare and perform for a demo recording

CUESOU08A: Select and manage microphone and other audio input sources

CUSMGE09A: Use MIDI devices or software to perform music

## ~ Certificate IV ~

### Certificate IV in Live Production, Theatre and Events (Technical Production)

- **Full time course**
- **Enrol now, start July 26**

CUE 40303 from the all new Entertainment Industry Training package.

This is the fast track to professional entertainment work.

The Certificate Four is the new national qualification for a Technician working unsupervised. It follows on from the Certificate Three, which is the new minimum trade qualification.

Our Certificate Four courses is nationally accredited - as far as we are aware, Juliusmedia are the first registered training organisation to offer this new qualification, which was formally endorsed by ANTA in February 2004.

We have chosen to incorporate sound, lighting and vision units so we are delivering a superior technical qualification loaded with hands-on experience. The Certificate IV includes our Certificate III (A.V.) - if you already have units from this course, we will grant you a credit.

The Certificate IV is a full time course, spanning almost six months. You start July 26, and work Monday -

Friday, 10am to 2pm daily. In addition we farm you out for internships and work experience - some of which will be paid. The course finishes Friday December 10. There is a course break between 25 Sept and 17 October inclusive.

The really exciting thing is that this Certificate IV is the first HALF of all of these Advanced Diploma's:

CUE60203 Advanced Diploma of Live Production, Theatre and Events (Technical Production)

CUE60303 Advanced Diploma of Stage Management

CUE60403 Advanced Diploma of Venues and Events

This means that you may have the opportunity to articulate into one of these Advanced Diploma qualifications at the end of your course.

**COST:** A\$6,600 (this course is not available for overseas students).

**APPLICATION FEE:** A\$300 (included)

**ENTRY REQUIREMENTS:** Year 10 equiv. completion, and a keen desire to work in the industry.

**PRE-REQUISITES:** None. This course starts at Basics and works up.

#### CERTIFICATE IV UNITS, CUE 40303

CUETEM01B: Coordinate production operations

CUEOHS01B: Implement workplace health, safety and security procedures

BSBFLM404A: Lead work teams

CUETEM06A: Organise and monitor bump in/bump out

CUEIND01B: Source and apply entertainment industry knowledge

CUEFIN01B: Develop a budget

CUEFIN02B: Manage a budget

CUESOU07A: Apply a general knowledge of audio to work activities

CUELGT09A: Apply a general knowledge of lighting to work activities

CUESTA05A: Apply a general knowledge of staging to work activities

CUEAUD06A: Apply a general knowledge of vision systems to work activities

CUEAUD03B: Operate vision systems

CUEAUD02B: Prepare, rig, test and modify vision systems

MEM 18.1A B: Use hand tools

*\* NOTE: These are not lesson modules. Juliusmedia deliver a variety of lessons that map against these national units.*

#### COLLEGE LOCATION:

10 Bridge street, Rydalmere. Walk to railway station or Victoria road.

#### FACILITIES:

Small cafe, student kitchen, free cappuccino, library, computer lab, mix room, lx programming room. Practicals are held at Parramatta Riverside Theatres.



## ~ The Advanced Diploma's ~

### CUE 60303 Advanced Diploma of Stage Management

- **Full time course**
- **Enrol now, start July 26**

This is a new Qualification, from CUE03 – the Entertainment Industry Training Package. It is designed to produce a multi-skilled stage manager, who has obtained Lighting, A.V. (vision), Staging and Sound units as part of this qualification

The course is taught with equal emphasis on theatre, events and concert.

Aside from formal lessons and classes, many of which are conducted within a working performing arts centre, students are given internships with a variety of leading venues and producers. A work experience component is required to complete this qualification.

Generally, students would be expected to complete the course of study plus the internships within the year allocated.

Our Advanced Diploma's from the new Entertainment Industry Training Package include extensive management modules, including H.R., Strategic H.R., Show and Facility budgeting and accounting, and teamwork. The 'UNITS' shown on our website ([www.juliusmedia.com](http://www.juliusmedia.com)) are statutory titles, and are not totally indicative of the content of the academic year. We choose to show them so that you can obtain credits for any existing units that you have attained.

This Advanced Diploma also features a full Certificate III - Audio Visual. The units for this qualification are completed at the start of the Advanced Diploma, to give every student a well rounded understanding of basic lighting, basic live sound, and vision systems. This trade qualification alone is a superb vocational outcome, and it is usually achieved within the

first term of study.

Classes occupy five days per week, between 10am and 2pm.

The academic year comprises two 17 week semesters.

This advanced diploma may be combined with one other, and the duration to obtain both is reduced to 18 months – due to units in common. If combined with our other two Advanced Diploma's, the duration for the entire curriculum is 2 years full time.

To become an even more effective stage and production manager, combine this Advanced Diploma with

- CUE 60203: Advanced Diploma of Live Production, Theatre and Events (Technical Production).

Then in addition to the Advanced Diploma's you have the equivalent of a Certificate IV - plus you will have three Vision units, making the equivalent of a Certificate III in Vision (AV).

- For the ultimate skills package, do the final Advanced Diploma; CUE 60403 Advanced Diploma of Venues and Events - and obtain management skills.

**PRE-REQUISITES:** Minimum age 17 (Australian student), or 18 (overseas student). Higher School (leaving) Certificate or equiv, unless extraordinary case.

Portfolio of work, experience, and evidence of a prior interest in entertainment generally and stage management specifically.

Entry interview - face to face for Australian students, video-conference (via ip) for overseas students.

**DATES:** This is a full time, full year course. Start dates are: July 26, 2004 and February 7, 2005.

Timetable: for July - December 2004 is 10am - 2pm, Monday to Friday.

\* *Times may change to 9.30 - 1.30.*

### CUE 60203 Advanced Diploma of Live Production, Theatre and Events (Technical Production)

This is a new Qualification designed to produce a multi-skilled production manager who has both Lighting and Sound speciality plus units in vision, staging and flying systems, as part of this qualification.

The course is taught with equal emphasis on theatre, events and concert.

Aside from formal lessons and classes, many of which are conducted within a working performing arts centre, students are given internships with a variety of leading venues and production companies. A work experience component is required to complete this qualification.

Generally, students would be expected to complete the course of study plus the internships within the year allocated.

Our Advanced Diploma's from the new Entertainment Industry Training Package include extensive management modules, including H.R., Strategic H.R., Show and Facility budgeting and accounting, and teamwork.

This Advanced Diploma also features a full Certificate III - Audio Visual. The units for this qualification are completed at the start of the Advanced Diploma, to give every student a well rounded understanding of basic lighting, basic live sound, and vision systems. This trade qualification alone is a superb vocational outcome, and it is usually achieved within the first term of study.

**PRE-REQUISITES:** Minimum age 17 (Australian student), or 18 (overseas student). Higher School (leaving) Certificate or equiv, unless extraordinary case. Portfolio of work, experience, and evidence of a prior interest in entertainment generally and stage management specifically.

## ~ The Advanced Diploma's ~

Entry interview required.

**DATES:** This is a full time, full year course. Start dates are: July 26, 2004 and February 7, 2005.

Timetable: for July - December 2004 is 10am - 2pm, Monday to Friday.

\* *Times may change to 9.30 - 1.30.*

### **CUE 60203 UNITS:**

CUETEM01B: Coordinate production operations

CUEFIN01B: Develop a budget

CUSADM06A: Develop and implement an operational plan

CUETEM03B: Establish and manage production requirements and resources

BSBFLM503A: Establish effective workplace relationships

CUEOHS01B: Implement workplace health, safety and security procedures

CUEFIN02B: Manage a budget

THHGLE22A: Manage risk

CUETEM06A: Organise and monitor bump in/bump out

CUETEM08A: Realise productions

CUEIND01B: Source and apply entertainment industry knowledge

CUESET11A: Develop set construction plans to meet design requirements

CUSADM10A: Establish and manage contracts

BSBFLM404A: Lead work teams

THHGLE16B: Manage physical assets

CUESTA03B: Operate flying systems

CUEAUD03B: Operate vision systems

CUEAUD02B: Prepare, rig, test and modify vision systems

CUSSOU05B: Install, align and test audio equipment

CUESOU04B: Mix live audio

CUESOU10A: Operate wireless audio equipment

CUFLGT02B: Prepare, install and test lighting equipment

CUELGT07B: Record and operate lighting using advanced techniques

CUELGT05B: Record and operate standard lighting cues

CUESOU11A: Set up and operate stage monitor systems

CUELGT06B: Set up, record and operate lighting cues and effects

### **CUE 60403: Advanced Diploma of Venues and Events**

- **Full time course**
- **Enrol now, start July 26**

This is a new Qualification, from CUE03 – the Entertainment Industry Training Package. It is designed to produce a multi-skilled events manager or assistant venue manager who has obtained Lighting, A.V. (vision), Staging and Sound units as part of this qualification.

The course is taught with equal emphasis on theatre, events and concert.

Aside from formal lessons and classes, many of which are conducted within a working performing arts centre, students are given internships with a variety of leading venues and producers. A work experience component is required to complete this qualification.

Generally, students would be expected to complete the course of study plus the internships within the year allocated.

Our Advanced Diploma's from the new Entertainment Industry Training Package include extensive management modules, including H.R., Strategic H.R., Show and Facility budgeting and accounting, and teamwork. The 'UNITS' shown on our web site are statutory titles, and are not totally indicative of the content of the academic year. We choose to show them so that you can obtain credits for any existing units that you have attained.

This Advanced Diploma also features a full Certificate III - Audio Visual. The units for this qualification are completed at the start of the Advanced Diploma, to give every student a well rounded understanding of basic lighting, basic live sound, and vision systems. This trade qualification alone is a superb vocational outcome, and it is usually achieved within the first term of study.

Classes occupy five days per week, between 10am and 2pm.

The academic year comprises two 17 week semesters.

This advanced diploma may be combined with one other, and the duration to obtain both is reduced to 18 months – due to units in common.

To become an even more effective Events and Venue Manager, combine this Advanced Diploma with CUE 60203: Advanced Diploma of Live Production, Theatre and Events (Technical Production). Then you have the equivalent of a Certificate IV plus you will have three Vision units, making the equivalent of a Certificate III in Vision (AV).

For the ultimate skills package, do the final Advanced Diploma; CUE 60303

Advanced Diploma of Stage Management- and obtain stage management skills.

**PRE-REQUISITES:** Minimum age 17 (Australian student), or 18 (overseas student). Higher School (leaving) Certificate or equiv, unless extraordinary case.

Portfolio of work, experience, and evidence of a prior interest in entertainment generally and stage management specifically.

Entry interview - face to face for Australian students, video-conference (via ip) for overseas students.

**DATES:** This is a full time, full year course. Start dates are: July 26, 2004 and February 7, 2005.

Timetable: for July - December 2004 is 10am - 2pm, Monday to Friday.

\* *Times may change to 9.30 - 1.30.*

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E&OE. All course info correct at presstime. Prices, units, dates, times all subject to change without notice. Check website for more info, updates.

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You will be a hands on manager, results driven and must have practical experience in a similar role. The ability to communicate clearly both orally and in writing and to independently plan and organise your activities is critical, as is being able to work to Company guidelines and alongside the various department Manager's and with their respective teams.

You must be able to demonstrate success in a sales management role, have highly developed interpersonal skills, sound business acumen as well as exceptional negotiation and commercial skills.

If you meet the above criteria, are ambitious, versatile, have drive and vision and are keen to make your mark in a quality organisation then please forward your CV to Mr Matthew Kline [mkline@avsound.com.au](mailto:mkline@avsound.com.au)

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**See page 51 for  
info!**

CONTINUED from page 48

like that ONCE, but these raging dickheads would do it every half an hour!

This year, thankfully, the organisers had not arranged such a punishing schedule as previous years. The show was a day shorter, plus it started at a civilised 10 am and finished at 6 pm, leaving time for those who thirsted after knowledge (or those who were just plain thirsty) to join us for happy hour drinks before heading off to dine high on the hog on sausages, more beer, and more sausages.

We occupied our usual corner stand in Hall 4.1, ideally situated near one of the entrances, and in a straight line to the toilets. It was, though, a lo-n-g way to the other halls. So long, in fact, that an enterprising limo company was offering free limo rides to the show and a paid ride back again!

The downside of our location was that people would walk in through the door and think we were the show info booth.

"Informatzjon?" they would enquire.

"Australian" I would reply!

They would look puzzled, mutter amongst themselves, then try again. "Informatzjon?"



Sonora bottle opener - given out on the Sonora stand. Nice name for the "do-it-yourself" circumcision kit

"Australian" I would repeat. Eventually they would wander off shaking their heads.

We were within viewing distance of the EV stand, who always have attractive girls hosting some bizarre Survivor/Gladiators type activity. This year, guys dressed up as Astro Boy had to swim through a pit filled with brightly coloured balls, climb out, avoid being dinged with a giant medicine ball on a pendu-

lum swung by a couple of body builders, and then stick up a Pro Audio sign on a wall. And then do it a couple of times more. I think first prize was a night out with one of the body builders. Second prize was two nights out with them!

I couldn't help but notice that the concept of low fat seemed to be totally alien to the good people of Frankfurt. The hotel had a sumptuous smorgasbord laid out every morning, so you could charge up the batteries with a healthy dose of truly delicious saturated fat! I would start off with a small bowl of muesli, and the milk I happily poured onto it was so rich and creamy that I may as well have just sucked it straight from the cow.

I chose my bowl from a small stack of modern looking ones near the muesli and cereal containers. As I sat down eating it on the last morning, I noticed that near my stack of bowls was another stack of more traditionally shaped breakfast bowls, which, as I scanned the room, everyone else seemed to be using.

It suddenly dawned on me that for the last week I had been eating my muesli out of the ashtrays!



Mackie Fab 5? - Seen around Frankfurt - 'Close eye for the Mackie guy?



No travel article by Duncan Fry would be complete without a picture like this... Urinals at Frankfurt station.

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**CX**

**Advertising Manager:**  
**Louise Brooks**

Direct: +61 2 8268-4426  
louiseb@juliusmedia.com  
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