INCLUDING–

PROJECTOR MAGAZINE

# Connections

PROFESSIONAL AUDIO & VISUAL TECHNOLOGY

OCTOBER 2001 A$4.90 / NZ $6.50

## STUDIO MONITORS & HEAD PHONES... HUGE MARKET REPORT!

- AV CONTROL SYSTEMS – DETAILED
- MILKBAR STUDIO CHALLENGES 301
- BULK NEW LIGHTING FROM PLASA
- SEPT 11 – THE SHOWBIZ FALLOUT

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*Frontman of the Whitlams*

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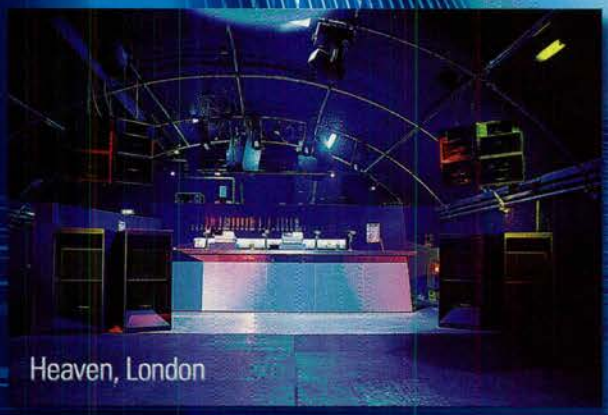
# Worldwide Club Mix

Za Fire, Chicago

Fuel, Miami

Sydney 2000, Jakarta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If your dance clients are as demanding as the world-class DJ's who spin at Heaven, Za Fire, Sydney 2000 and Fuel, you should audition the speakers permanently installed in these and other top clubs from Las Vegas to Miami to London to Jakarta. Turbosound systems enjoy a worldwide reputation among the dance community for delivering the most intense bass, cleanest mids and sparkling highs
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# ENTECH 2002

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# PAST-PRESENT-FUTURE

## CELEBRATING 30 YEARS OF TECHNOLOGY

# CONFERENCE PROGRAMME

### monday feb 4

Morning
Venue Design Forum. Building Better Venues. A panel discussion with stakeholders.

Afternoon
Lighting Designers Forum. LDs from different sectors profile their projects.

All Day
Line Array Day
Meet the contenders, understand the math, ask the questions. Line up!

### tuesday feb 5

Morning
The Art Of The Moving Light. LDs talk about using the thing properly. Stop the wobble!

Afternoon
More with less! Cut to the chase! LDs talk about economy of rigs, shows done well with less.

Afternoon
We're surrounded! Join the Australian Screen Sound Guild for a discussion about what goes where in a 5.1 world.

### wednesday feb 6

Morning
Colour and projection. Indoor / outdoor. Examples, demo's, state of the market, tricks.

Afternoon
Working with LX people. subtitle: Cafine R Us! For managers, production people, AV people. LDs and riggers talk about the time frame.

All Day
The Audio Integrator's Festival. Is this you? Youe install, you commission, you are supposed to know everything! Get with the latest in dsp, test, measurement and specifying. Bond with your own kind.....

### CM Lodestar Hoist & Rigging Workshop

Tuesday Feb 5 and
Wednesday Feb 6
10.30 am - 4pm

### DJ Boot camp

Monday Feb 4,
10.30 am - 4pm

### IPD

Immediately prior to
ENTECH, 29 Jan - 1 Feb
Perfect Image II
All about Audio
Presented by ICIA

### MUCH MORE!

Full programme and Social Events listed at www.conpub.com.au or call 1-800-635-514 for hard copy.

Note all conference programme items carry a cost. Trade show entry free after registration.

# ENTECH 2002

TRADE SHOW Mon Feb 4 - Tues Feb 5 - Wed Feb 6

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## On the Cover...

Marking the extensive Market Report this month on Studio Monitors, Connections got a hold of a couple of JBL LSR25Ps to use for the cover shoot. Photography by Dario Gardiman

# MAC 2000

# Attention to Detail

## Optics

The quality of the MAC 2000 optical system is unparalleled in the lighting industry. Martin engineers have combined an ultra-efficient 10-lens system with efficient parabolic glass reflectors, resulting in extremely high output and the highest quality projection characteristics available.

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**Operation**
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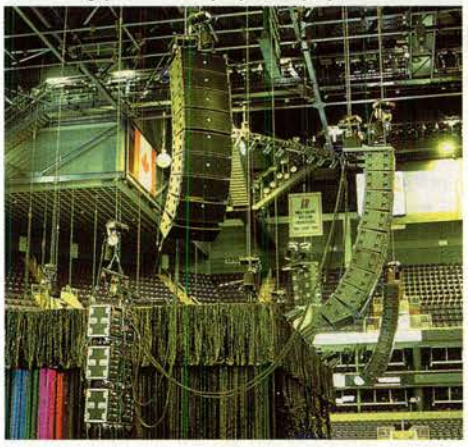
Connections

The Asia/Pacific Professional Audio and Visual Technology Monthly **October 2001**

# Industry approaches 30th birthday

***1972 marked the birth of the solid state era and then things took off. Plans revealed for look back, displays and memorabillia at ENTECH 2002***

1972 marked the dawn of the modern era in show business, a time when transistorised and solid state equipment broke the shackles of the vacuum tube and allowed music, theatre and cinema to move forward at a blistering pace. A display of equipment and photographs from the pioneering days will be featured at ENTECH 2002 next February, as part of the *Past - Present - Future* theme adopted for the show.



How far we have come.

The late 1970's Clair Brother's designed PA stack *(below)* has less output than one new EV X-Line cabinet pictured at left. X-Line is the latest in a crop of line array systems that will debut at ENTECH.

In 1972, the Par Can had not yet been adopted, but it was coming. A Strand Miniset was a high tech dimming system. Even the Winchup Stand had not yet been conceptualised.

But a new wave

*(continued on next page)*

# Up In Smoke – Planet X will rebuild

*Daily backups save film in production as Melbourne facility destroyed. By Mandy Jones*

Planet X suffered more than $2mil dollars worth of damage resulting from a fire on 3rd September in the South Yarra premises. This facility held the Post Production and Digital Media Company – a segment of the Planet X Group. No one was in the building at the time of the fire, and firefighters were able to contain the blaze, preventing it from spreading to nearby buildings. Housed in the same building and also devastated by the fire was the music and audio production company, Gusto Music.

Planet X Group CEO and co-owner, **Martin Gardiner**, said that he has been overwhelmed at the level of industry support and good will during this difficult time.

"We have been inundated with good will phone calls from around Australia. The industry has responded with generous offers of both equipment and office space."

Gardiner has indicated that the company intends to rebuild as quickly as possible.

Despite industry speculation and fears, the feature film "Trojan Warrior" was not lost to the blaze. The film was in the final stages of post production when the blaze occurred. Recovery of the data has allowed the film to be finished with only a minor delay.

"Trojan Warrior" is the first Australian film to use a totally digital post production process, using the latest in high definition technology. Senior Editor, **Chris Reynolds** has been coordinating the recovery efforts. His reliance in daily back-ups was what saved the film from permanent deletion.

Planet X are back in operation at the premises of audio facility, *Music and Effects* in South Yarra. Offices and administration have moved into the premises of multi-media company, *Swish*, in Collins St, Melbourne.

# Coemar to sell

***Italian pioneer to join Stanton USA***

Italian lighting manufacturer Coemar will be acquired by Stanton Group, the American owners of Stanton Magnetics and Tracoman Inc.

The proposed buyout will leave Coemar doing what it does best - designing and building lighting equipment - while Tracoman will assume sales and marketing responsibilities.

"It looks good to us" said Coemar deSisti Australia's Richie Michan. "Tracoman have done really well getting Coemar into production companies in the USA".

Coemar founder Bruno Dedoro has undertaken to continue with the company, pledging more time for product development.

Coemar is one of the top ten manuacturers of professional stage lighting worldwide, and have recently scored significant sales with their CF range of automated moving lights.

# Mackie opens NZ

MackieNZ is the new distributor for US-made Mackie Designs products in New Zealand. MackieNZ is headed by **Tony Waine,** who has spent the last 10 years as Marketing Manager for Australian Audio Supplies, the Australian Mackie distributor.

Tony says, "In the early days Mackie was focussed on improving the sound quality for your average 'muso in the garage', and really, they have never strayed too far from this original ideal. It's been great working alongside a totally new generation of musicians, recording studios and production companies that have got behind Mackie and are now footing it with the very best."

For more information contact +64 9 446 3370.

*Who is doing what?*

## NET for ART

Network Entertainment Technology (NET) have announced they will now distribute ART products in Australia and NZ. Applied Research and Technology began producing professional audio signal processing equipment in 1984. Former employees of the original MXR Innovations created ART, which has become one of the world's largest signal processing manufacturers.

ART make a range of studio and live sound processing equipment, including tube compressors. More info at www.artproaudio.com or call NET on +61 2 9905 5997.

## Stolen Gear

Stolen from Sound & Light Concepts in Ballarat on Sunday 9th September at 11pm were the following items :

1 x Mackie CR1604VLZ : S/N A154803 - a few years old, with red/ blue paint marker writing on it & power connector body coloured in with paint marker.
1 x Tasman CD-RW5000 Pro CD Burner : S/N 09CRW5050970176201 – almost new condition, draws sections of Devon DN2100F dual CD player. Beware of anyone wanting control unit as a spare part (Audio Products notified).
C-Audio Pulse 2/1100 Amplifier : S/N 3002789 (they think) - new condition.

Thieves used large rock to gain entry through small window & were in premises for less than one minute.

Any information please call +61 3 5336 1255 or Ballarat CIU +61 3 5336 6080

# InnovaSON Consoles kick start in NZ

***Revolutionary live digital audio console wins key sale in region***

International television broadcasting company, On Site Broadcasting (OSB) have purchased four InnovaSon Sensory Grand Live digital audio mixing consoles for their new outside broadcast facilities.

OSB has secured a five year contract for New Zealand SKY TV and the new OB trucks will be utilised to cover major sporting events such as: Cricket - Test and One-Day Internationals, Rugby - Union and League, and Soccer.

OSB representatives, Paul Eglinton and Ralph Skendzic formalised the deal with distributor Production Audio Services late September, and inspected the first of the four consoles prior to it being shipped to New Zealand.

"The InnovaSON digital audio console was the best product for our purposes as it offered total snap-shot recall facility in a light-weight compact frame. Not only is there less initial capital outlay but gains continue to be made as a result of its operational efficiencies in preparation, installation and re-configuration time" Paul said.

"Throw into the mix, digital features such as a compressor & gate with 4 band full parametric equalisation on every input channel, 1.3 seconds of delay, 8 bands of equalisation and a compressor & gate on every physical output, combine all this with the 150 metre digital multicore on standard co-axial cable, this affords OSB significant cost and space saving, a major consideration for OB trucks" added Ralph.

Production Audio Services Managing Director, Colin Stevenson said "The InnovaSon console was the logical choice for OSB's needs and we believed that is was only a matter of time before Australian operators grasped the technology that others like the BBC have embraced."

All four consoles will be installed and operational by January 2002.

**www.innovason.com.**

Pictured above with console, from left: *Colin Stevenson : Managing Director – Production Audio Services; Paul Eglinton : Broadcast Services Manager – On Site Broadcasting, Melbourne; Ralph Skendzic : On Site Broadcasting; Graeme Stevenson: General Manager – Production Audio Services.*

## Bogus Barry's Bodacious Bounty

An individual has recently been turning up at Sydney hire outlets, using a fake ID to hire goods which are obviously never seen again. DMC lost over $4,000 worth of DJ equipment, including two Vestax PDX2000 Turntables and an Onmitronic 740 Mixer

It is alleged that a person, using an ID in the name of "Barry Czitan", recently attempted to pull a similar theft at Lots Of Watts. The would-be hirer used the possibly appropriate name "Shadow Productions". When he turned up to pick up the goods and was asked to produce identification, out came the ID.

Philby, hirer manager at Lots Of Watts immediately recognised this as the name involved in the DMC theft, and got in touch with the police via DMC. Unfortunately the police were unable to get to the Lots Of Watts premises before the person fled.

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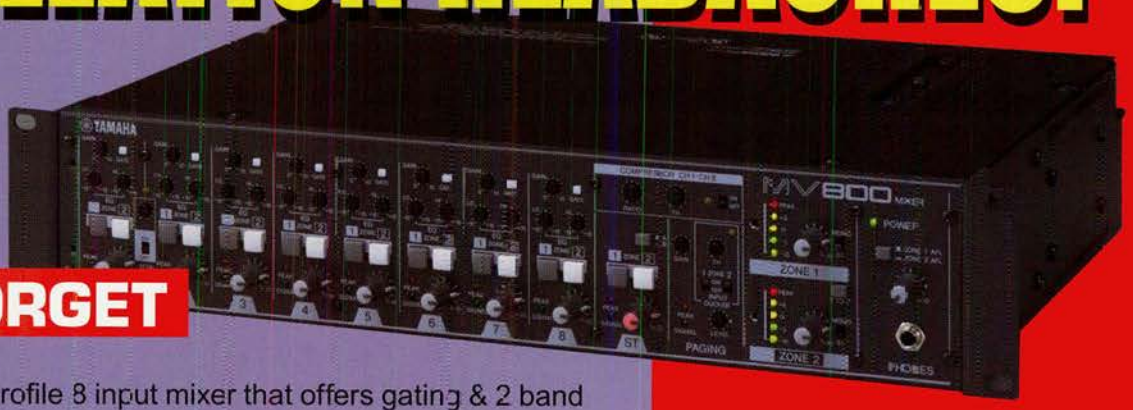
# INSTALLATION HEADACHES?




## SET & FORGET

The MV800 is a low profile 8 input mixer that offers gating & 2 band Eq on every channel and a dedicated stereo input with ducker linked to inputs. With dual zone outputs and master compressor, the MV800 is ideal for installations designed for the minimum of user operation. It's even supplied with a security cover to keep untrained fingers away from input settings! With individual phantom power and both balanced and Euro-Block connections, the MV800 is perfect for practically any set-and-forget installation.

## FLEXIBLE FEATURES

The MV12/6 is a more traditional mixer, with a host of installation specific features. Linear faders, three band eq's, high quality internal effects and master GEQ ensure that sound quality is not sacrificed just because it's a rack mounted unit. The 6 buss and 3 aux design means that even highly complex multi-zone systems are easily controlled. With both balanced and Euro-Block connectors, the MV12/6 has been designed to meet both your audio and installation needs.

YAMAHA

**The new MV series from YAMAHA... The cure to installation headaches.**

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*What will you be using soon?*

# Fairlight's Newest Dream

Fairlight have made sweeping changes to their line of pro-audio recording and editing devices with the introduction of the 'Dream' suite of products. Dream is an acronym of 'Digital Recording Editing And Mixing', and was to be launched at the recently rescheduled AES show in NY. There are three workstations that comprise the Dream suite: Dream Satellite – a stand alone editing workstation, Dream Station - an integrated editor/mixer that is expandable with optional fader modules, and Dream Console - a fully fledged integrated mixer/editor presented as a large format mixing console.

All Dream systems are able to work as a team or independently, delivering 24-bit, 96kHz performance in multiple multi-channel, multi-format configurations, and all are based on an expandable open-architecture framework.

Fairlight have designed this new system to provide very high flexibility and scalability while still maintaining an upgrade path from previously established Fairlight platforms.

One of the key features of the new system is the master control area – which has been dubbed the Binnacle Editing model. The Fairlight Binnacle is an interface control that is designed to offer a leap forward in editing speed whilst retaining a simplicity and ease of use. Fairlight MFX operators will find use of advanced Binnacle Editing model relatively easy.

According to Fairlight, the Binnacle (named after the housing of a ship's compass) is intended to "centralise all editing and transport functions around the jogger wheel and offer the operator a choice of one-handed or two-handed editing. One-handed editing is based on the existing Fairlight MFX3 model, and presents a simple, structured approach to the editing process. This approach is extremely easy to master. Two-handed editing becomes second nature, even after only a short while, and increases the efficiency of the majority of editing operations by up to 50% in many instances.

"Binnacle has dedicated keys for Transpor t & Range, Play/Jog, Jump, From/To, Copy, Cut, Erase, Trim/Slip and Fade. There is also a BLUE function that offers single key shor tcuts to key operations. A dedicated macro keypad offers 27 macros immediately adjacent to the editing controls.

"With Binnacle, editing functions are always available on dedicated keys regardless of where the user navigates in the system... [It] includes commands like Range, Zoom, Jump and Jog. It also defines radically new fundamentals. Edits are 'constructed' on the basis of three components - the type of edit, the options associated with it, and the target of the edit. New editing operations include Track to Track Razor Mode, Multi-layer Cut and Paste with Sync Point. Insert Space, Split Clip/Layer, Fill and Backward/Forward Fill are all available at all times. Using Finger Memory, users can now 'play' keystrokes like a musical instrument, which allows them to employ both hands and enables editing at phenomenal speeds."

The DREAM suite is based on Fairlight's powerful QDC Technology platform, which uses a dual-processor control system with embedded Fast Wide SCSI and Sync System, coupled with an array of independent 40-bit floating point DSP processor cards, each of which contains four pairs of Analog Devices SHARC DSPs, delivering real-time 40-bit mathematics on every processing function in the system. State-of-the-art A/D and D/A convertors in fully optimized circuitry on dedicated I/O boards offer 128 times oversampling at 96kHz.

For more information on Fairlight products, contact them on +61 2 9877 9999 www.fairlightesp.com.au

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## Non-Linear, Non-Destructive 24-Bit/24-Track Hard Disk Recorder

Introducing the newest member of Mackie's hard disk recorder family. The new MDR24/96 is Mackie's price-busting commitment to nonlinear hard disk recording. For the first time recordist or those replacing aging modular, multi-track recorders, the MDR24/96 is the perfect choice.

Ready to go right out of the box with 24 channels of analog I/O, the MDR24/96's familiar tape recorder style controls and simple operation will have folks up and recording in no time. Low-cost removable recording and backup drives make saving and storing projects a breeze.

Non-linear recording is nondestructive and uses drive space more efficiently than linear or "tape mode" hard disk recorders. Basic cut, copy, and paste editing is done using the front panel controls right out of the box. With 999 Undos, creativity comes without risk.

The MDR24/96 is equally powerful for pro users. Combined with the HDR24/96 Recorder/Editor and Remote 48 controller, the MDR24/96 is the perfect 24-track slave at a very low cost. Multi-room studios can install MDR24/96's in the 'B' and 'C' rooms and edit those projects on an HDR24/96 in the 'A' room.

- 24 Tracks – 192 Virtual Tracks – for up to 100 minutes of continuous recording
- Built-in 20Gb internal disk plus pullout bay for extra Mackie Media removable hard drives
- 3.5 inch drive bay for importing tempo maps and software upgrades
- Full Meter Bridge
- Transport Controls, Track Arm buttons, Locate and Loop
- 24 channels of Analog I/O standard
- 100 BaseT Ethernet port built-in
- Sync to SMPTE, MIDI, and Word Clock & Video Black Burst
- Non-destructive cut, copy and paste editing right out of the box
- 999 Undos

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- Digital I/O (standard d8b cards) – ADAT / T-DIF, ADAT Optical, AES-EBU
- M90 20Gb Recording Drive
- Project 2.2Gb Removable Backup Drive
- Remote 24
- Remote 48

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*What will you be using soon?*

# JBL - COST EFFECTIVE 24C/CT MICRO CEILING SPEAKER

The JBL Control 24 is aimed at solving the two main problems with ceiling speakers - clear sound and ease of installation. The Control 24C Micro and Control 24CT Micro speakers are very compact & quite affordable.

The Control 24C Micro is a 30 Watt 4_ inch 2-way (80mm) enclosure with sealed backcan whilst the CT model incorporates a tappable 8 Watt 70V/100V line transformer for constant voltage applications.

According to JBL, the Control 24C/CT Micro speakers offer a viable, cost-effective step up from commodity grade ceiling speakers. In addition, the low profile (100mm deep) backcan allows the Control 24C/CT Micro to fit in areas with shallow clearance.

The Control 24C/CT Micro's very wide coverage angle of up to 150° means fewer Control 24C/CT Micro speakers will need to be used for a given area. The speakers can be used as satellite speakers with the new SMS1-SUB on-wall Powered Subwoofer (controlling up to four Control 24C Micro speakers).
Control 24C Micro $229 / 24CT Micro $249
SMS1-SUB - $1,865

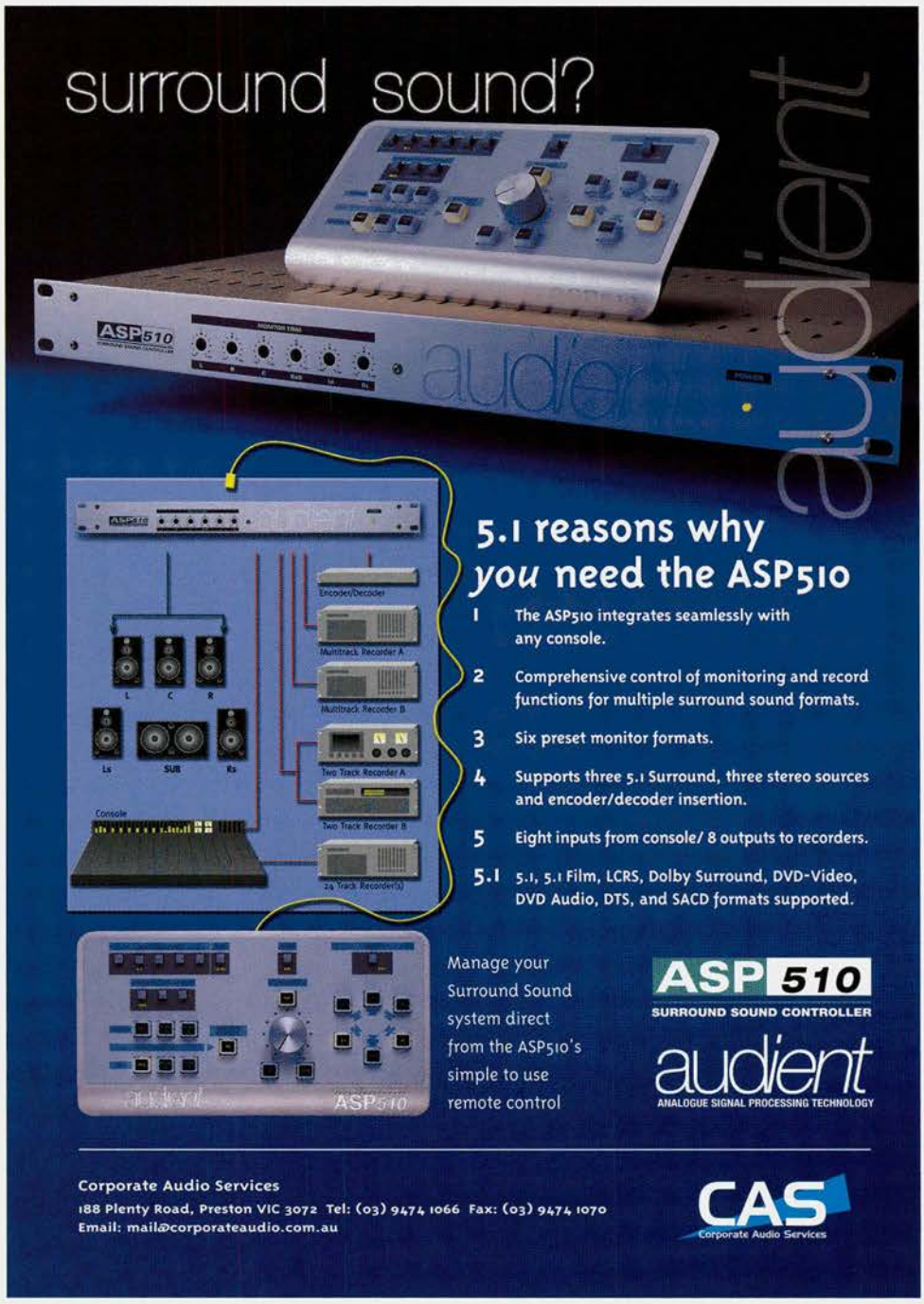
JBL is distributed by Jands Electronics Pty Ltd. For further information, please contact Jands on +61 2 9582 0909.

## Mini-Pre - Vacuum Tube Microphone Preamplifier

After 30 years of producing signal processing devices, dbx Professional Products has now released the Mini-Pre Vacuum Tube Microphone Preamp. The Mini-Pre takes the dbx Tube Microphone Preamp sound and puts it in an easy to use, compact, affordable package.

The dbx Mini-Pre was designed to reproduce a 'classic' tone, while still maintaining portability and affordability. The Mini-Pre offers a feature set that includes: a hand selected, Soviet-made premium 12AX7 vacuum tube (intended to add warmth and tone to any microphone signal), selectable 48 volt phantom power, 20 dB Pad and Phase reverse switch.

dbx is distributed by Jands Electronics Pty Ltd. For further information contact Jands on: +61 2 9582 0909.



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*What will you be using soon?*

# TechMedia Digital Systems

## 'TV studio in the box'

### High Quality Internet and Television Broadcast Production for the Corporate Sector

The Globe Caster Studio is designed to help produce, present and deliver studio quality broadcasts via television, cable, satellite and the Internet. For internet applications, the video can be live or broadcast on-demand.

The product, which can be operated by one person, integrates the functions of the switcher, edit suites, animation tools, video special effect generators, digital streaming video encoders into one unit.

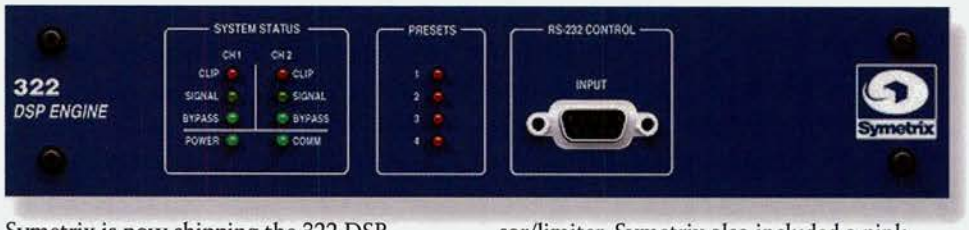
Director of TechMedia Digital Systems, Norman Cantrell describes the system;

"From the in house production studio, a staff trainer or company director can speak to staff via their PC's or via screens placed around the organisations. For live concerts or sporting event the Globe Caster has many advantages, because it is easy to transport and set up. From a marketing perspective, it is ideal as it allows live-to-air sponsorship advertising to be integrated with the live-to-air event broadcast."

GlobeCaster Studio was recently used for the Lions international tour to provide the vision for the big screen as well as for the corporate boxes. The video effects hardware allowed the live video of the match and live sponsorship content from the presenters at the Bundaberg Rum Bar to be integrated on screen.

The price for the unit ranges between $20,000 to $50,000 depending on the optional extras. For more information, contact Norman Kantrell at TechMedia on +61 2 9526 7880.

# Symetrix - new low cost DSP System




Symetrix is now shipping the 322 DSP Engine, the latest generation hardware component in its Audio Workplace line. The 322 is a two-input, two-output, 24-bit multi-function DSP processor for engineered sound applications. Symetrix Audio Workplace 322 software drives the unit, providing real-time control from a Windows 98/2000 environment.

The 322 is loaded with many audio processing and routing modules that system designers would like to use.

The 322 offers a completely user-configurable signal path for the ultimate in flexibility. With a user-friendly Windows-based control application, installers "drag and drop" processing blocks in the audio signal path to create custom setups for a variety of sound system applications. Symetrix loaded the 322 with all the processing blocks a system designer is liely to need, including two to eight band parametric equalizers, high-pass, low-pass and shelving filters, a crossover, a mixer, a gate, speaker alignment delay, bus routing, and a multi-band compressor/limiter. Symetrix also included a pink noise generator for testing and sound masking applications.

The 322 houses a 24-bit Motorola DSP and transparent 24-bit A/D and D/A converters. Its front panel display features system status LEDs to indicate selected preset, clipping, signal presence, bypass, communications, and power. Audio Workplace control data streams through a front panel RS-232 port, leaving the 322's chassis tamper-proof. Euroblock terminal strips provide rear panel audio signal I/O connections. Additional connections include two remote pot inputs (which can control volume or up to four internal, user-selectable parameters), contact closures for remote preset selection, and an RS-485 port for control of multiple units. Users can daisy chain up to sixteen Symetrix 322s using these RS-485 ports. Non-volatile FLASH RAM stores all presets, preventing data loss during power loss or brownouts.

The unit is priced at $1945 RRP(inc gst). For more information, contact Audio Telex on +61 2 9647 1411 www.audiotelex.com.au

# YAMAHA RELEASES 'OAK SERIES'

The newly released 'Oak Series' speakers from Yamaha have been specifically designed to meet the needs of schools, houses of worship, clubs, pubs or anywhere that requires quality audio reproduction in a 'great looking' enclosure.

The two current models, SM10IVOAK and S115IVAOAK offer the same 'oak' vinyl finish that makes them perfect for high-class installs where their natural "wood" finish blends seamlessly into the background. The vinyl finish also allows them to be painted to match custom installation colour schemes.

The S115IVAOAK features ATM-Fly Ware flying points already installed (and two eye-bolts included) and uses a 15" cast aluminium basket woofer and 2" Titanium compression drive. The SM10IVOAK has been designed for use as a floor monitor and uses a 10" bass driver and 1" compression driver horn. The S115IVAOAK ($1595 rrp each) and SM10IVOAK ($845 rrp each) are available now through authorised Yamaha Professional Audio dealers. For more information, contact Yamaha on +61 3 9693 5111.

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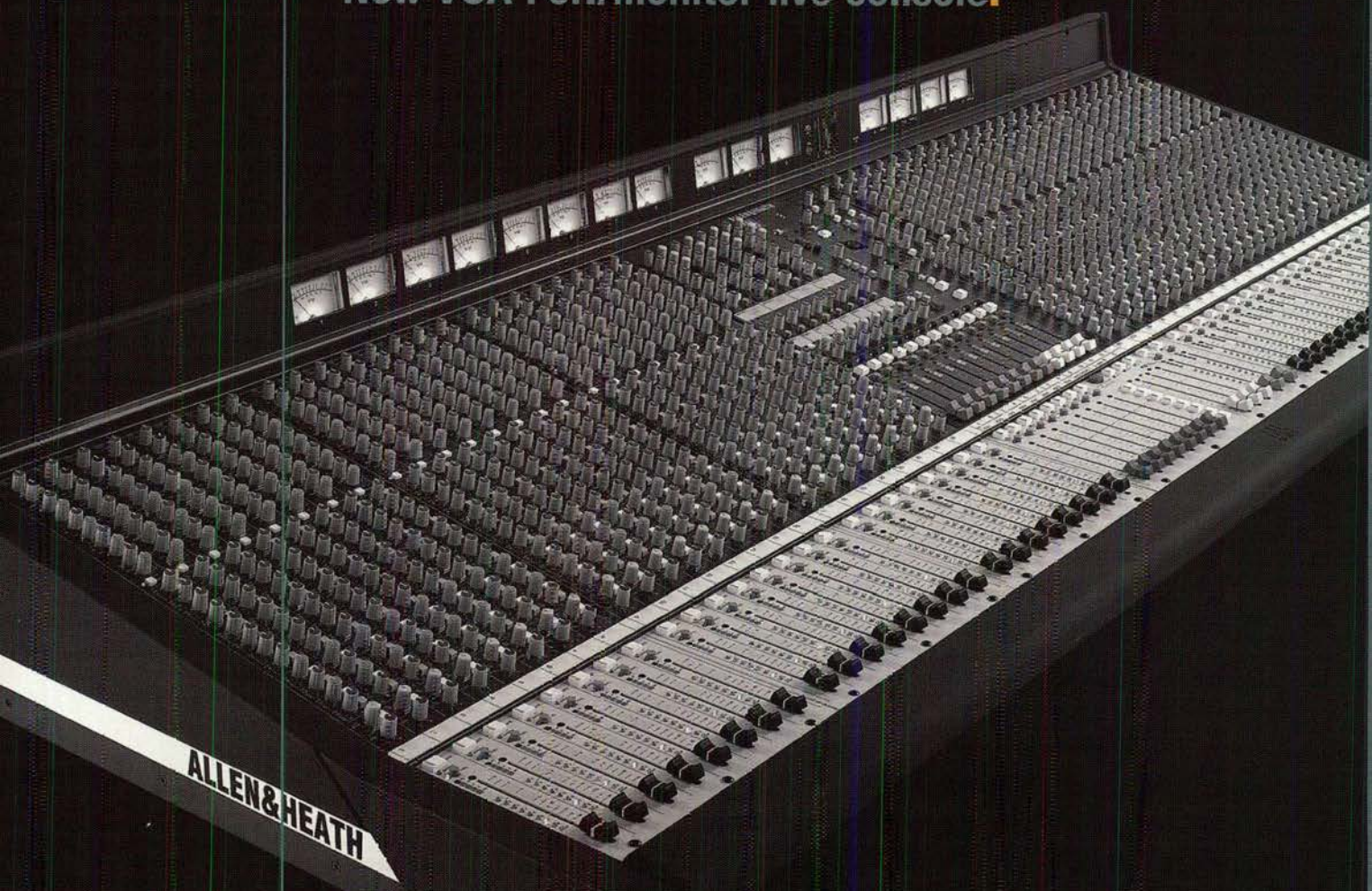


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*What will you be using soon?*

# Laser effects MOBOLAZER RG-Beam

Mobolaser's RG-Beam is that company's first multi-colour projector in the MOBOLAZER ML-8 family. It has eight solid-state laser apertures, 12 beam effect modules and eight stand-alone beam-targeting modes, which produce rapid colourful 'blanket' effects in multiple directions as well as traditional single beam projected designs.

The RG Beam can be controlled by 12 channels of DMX and features red and green lasers (can mix red an green to create orange and yellow colours) with eight beam apertures, 12 modules including graphics & text, 360-degree projection and a laser life of 6000 hours. The unit is C TICK certified and is covered under a full one year LSW warranty for $15999.

For more information, contact LSW on +61 2 9568 2100

# Outdoor-wash light with colour mixing

The Exterior Light 250 by Futurelight is a full CMY colour mixing, level controllable device intended for architectural type applications. Manually adjustable horizontal and vertical beam-shaper allow wide and flat beams as required. Also included in the fitting is a manually adjustable frost-filter and colour correction-filter.

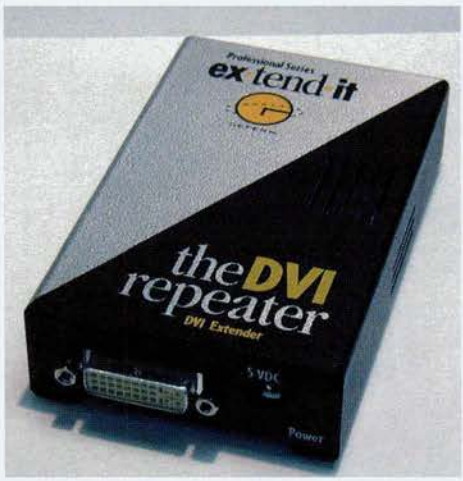
The unit can be infrared remote controlled and uses convection cooling - ie no fans. DMX control requires six channels. For more information, contact Coemar Desisti Australia on +61 3 9467 8666

# Gefen's Ex-Tend-It DVI-Repeater

### Extending DVI Video

For those who need to extend a DVI or ADC digital flat panel monitor or projector more than six feet from a computer, Gefen's ex-tend-it DVI-Repeater may be the solution. The DVI-Repeater works by repeating the DVI signal and then transmitting it up to 150 feet over DVI cable. When used with the ex-tend-it DVI to ADC Conversion Box, any Apple digital monitor may be connected and extended from the computer. Priced at US$399, the item can be ordered online at **www.gefen.com**.

Other DVI products planned for release soon are the DVI-Hub - capable of extending two DVI signals up to 100 feet from the computer, the DVI-Switch - a cross-platform switch for accessing two DVI-equipped computers from the same digital monitor and the DVImate, an economic solution for converting male to male DVI cables to male to female for extension capability.




Lots more new stuff in our coverage of the PLASA trade show - page 54

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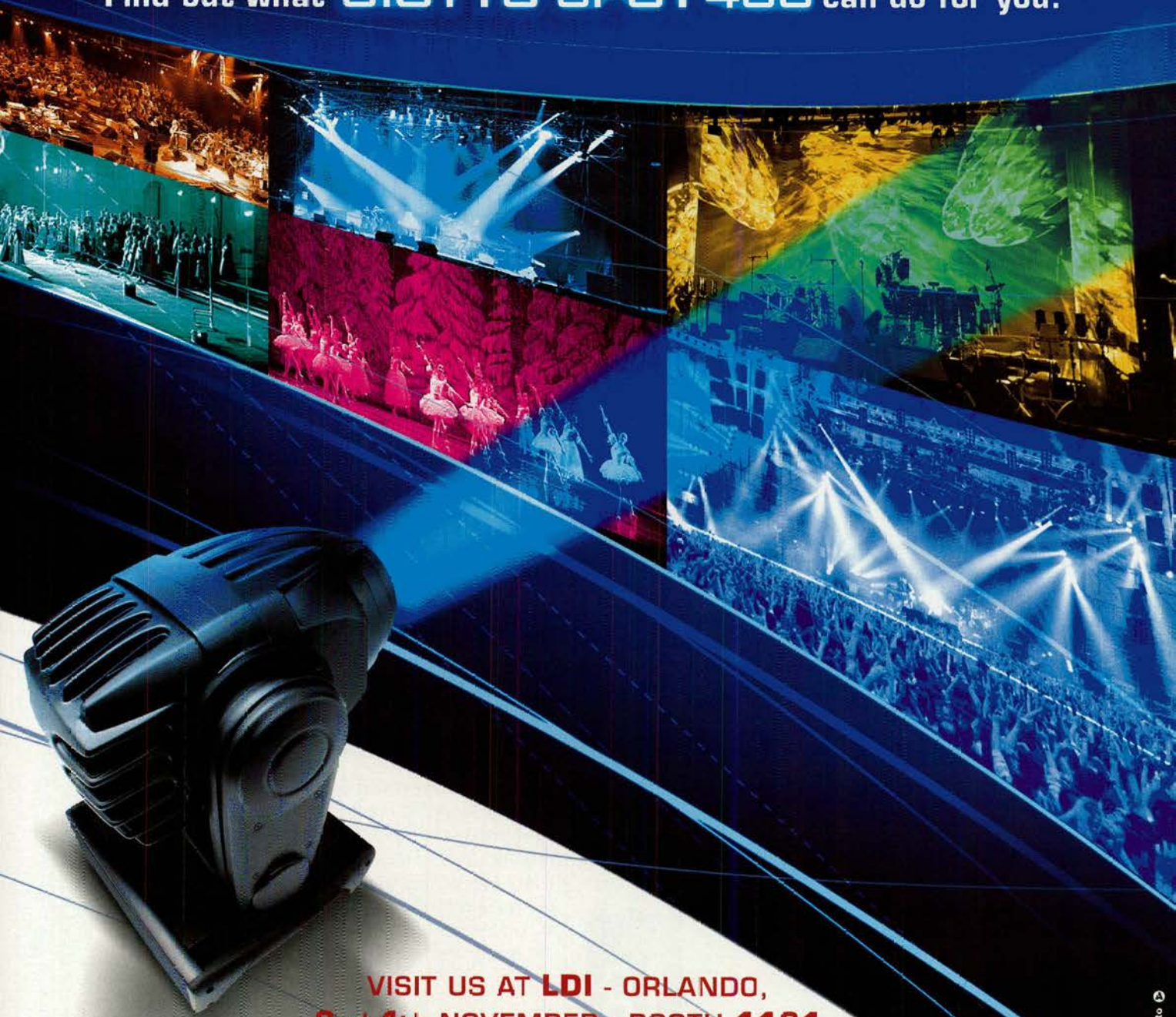

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Acanto

*What will you be using soon?*

# Boss Introduces Compact BR-532 Digital Four Track

BOSS have announced the introduction of BR-532 Digital Studio, a 4-track digital recorder that puts an ultra-simple interface derived from the BR-8 into a convenient, battery-driven design for recording on the go. Up to four primary tracks and 32 Virtual Tracks can be recorded and stored to the included 32MB SmartMedia card, while Insert and Loop effects-plus a built-in Rhythm Guide with real drum sounds-make it possible to create complete songs.

Like the BR-8, the new BR-532 is so easy that anyone can make recordings in minutes. Users can record to any of 32 Virtual Tracks and use any four for playback. Tracks can be bounced digitally even four tracks to a pair of Virtual Tracks if more recording space is needed.

An onboard programmable stereo effects processor provides many types of Insert effects including COSM Amp Modeling, compression, EQ and Bass Simulation, plus Loop effects like reverb, chorus and doubling. Connections include XLR Microphone, Guitar/Bass or stereo Line inputs; and an optical digital output.

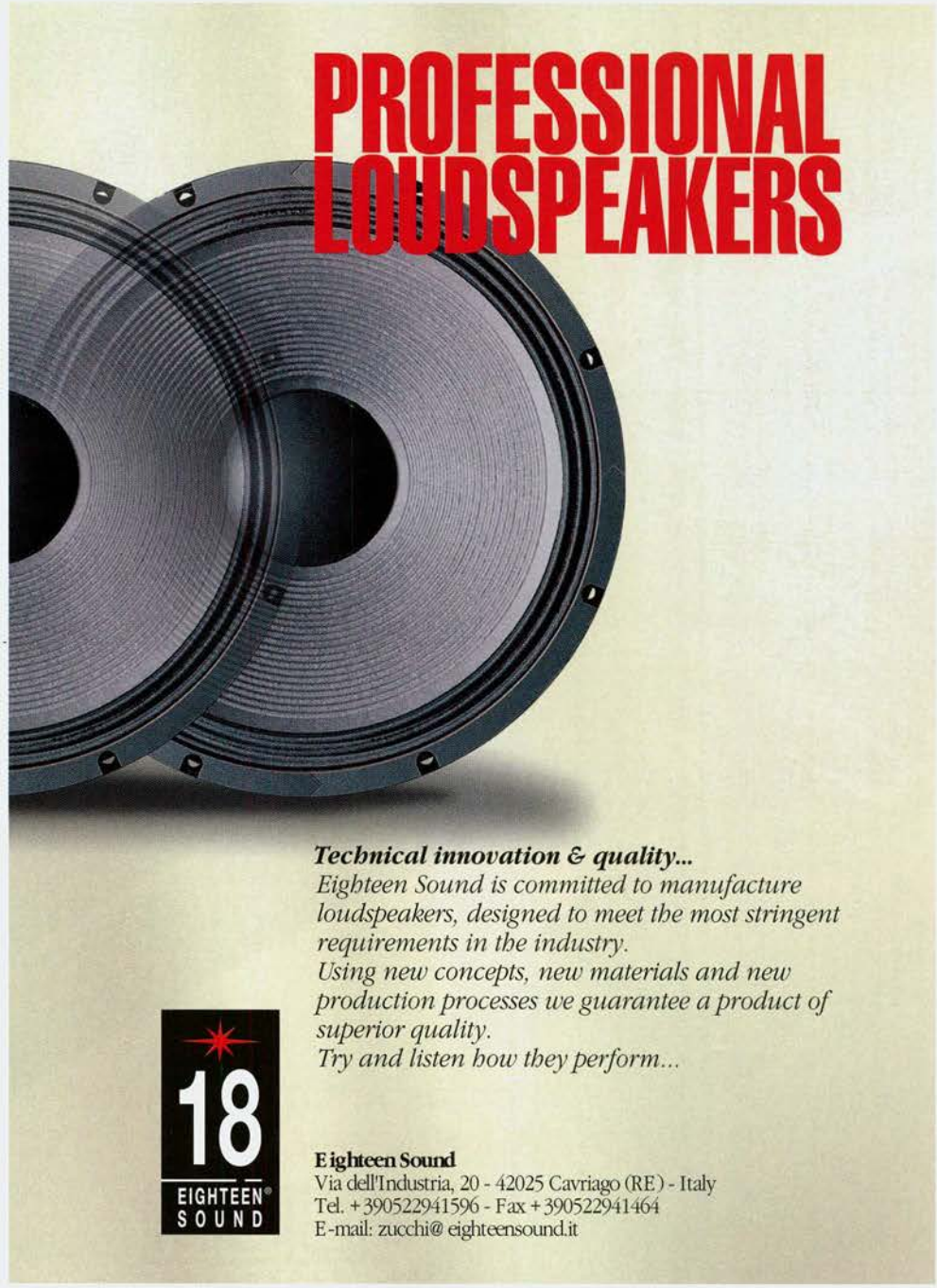
BOSS products are manufactured and distributed by Roland Corporation. For more information, contact Roland Corporation Australia +61 2 9982 8266 www.rolandcorp.com.au.

# New Device and New Price for Mackie 24ch

The Mackie MDR24/96 is the newest member of Mackie's hard disk recorder family. Ready to go right out of the box with 24 channels of analog I/O, the MDR24/96 has a familiar 'tape recorder' style control and simple operation. Couple this with the low-cost removable recording and backup drives makes this device and interesting option for those looking to upgrade their multitrack systems.

The Non-linear recording is nondestructive and uses drive space more efficiently than linear or tape based hard disk recorders. Basic cut, copy, and paste editing is done using the front panel controls, and there is up to 999 Undos to relieve editing 'risks'.

The price is set at $6495 (Normally $7995 RRP). For more information, contact Australian Audio Supplies FreeCall 1800 50 20 15 or sales@ausaudio.com.au



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# STATE OF PLAY AT THE MILKBAR

**Word has gone around that a new premium studio in Sydney was being set up. It is here: Milk Bar Recording Studios, a multi-format facility designed and built from the ground up. DAN GRAFTON took a tour...**

**Essential Facts**
**Milk Bar Recording Studios**
Multi-format Recording Facility
Camperdown, Sydney
(Turtlerock Mastering located in the same premises)
**Three Studios:** 96ch Euphonix; 48ch custom Neve; 56ch DDA, 4 Live Rooms, Multimedia Rooms, Mastering Facility
**Co-owners:** Sammy Kannis and Dave Sykes (General Manager)
**Operational:** Nearly 2 months
**Lineage:** Damien Gerards, Charring Cross, Milk Bar (Coogee)
**Address:** 17 - 19 Gibbens Street Camperdown NSW Australia 2050
**Contacts:** ph: +61 2 9516 4559
**fax:** +61 2 9516 5585 Mobile: 0409 749 570
**Email:** bookings@milkbarstudios.tv
**Website:** www.milkbarstudios.tv
**Opening party:** Soon

(picture) Producer Paul McKercher with band Agaugefour in the Neve Room

"Welcome to Milk Bar Studios," Dave Sykes the easygoing and friendly studio General Manager extends his hand and I am inside Sydney's newest recording facility located in the inner Sydney suburb of Camperdown. From all appearances the place looks good: great location, brand new building, enviable hardware and technical specs, and all in cleverly designed workspaces, but Dave Sykes makes it clear from the outset that this is more than a music recording facility.

Sykes and owner Sammy Kannis have set up the studio to accommodate a range of professional audio and data productions. It's a multi-purpose facility for audio recording, post production and multimedia, with the capacity to expand and 'fit' into other industry initiatives. Kannis and Sykes' combined industry experience tallies up to around 32 years, so they know exactly the potential and the limitations of the Australian studio market.

"The days of a recording facility to do just music are gone. They won't sustain," says Dave Sykes, "We built Milk Bar to be multi-format [and] have as many possible revenue streams to sustain an audio recording facility."

To this end Milk Bar can accommodate all forms of audio production; film, TV, radio, music and turn it around into any audio format, from mono to 7.1 surround. This is where separate company, Turtlerock Mastering fits in.

Dave said that mastering was the only thing they didn't contemplate in the initial studio set-up, "It is an art form; there's probably about 4 or 5 guys in Australia capable of doing it."

So it was timely that Turtlerock was looking for new premises around the same time that Milk Bar happened. Milk Bar has already got a track record; bookings are now coming in and there is a 'vibe' to the place—and these guys are just getting started. Dave tells me that most of the audio installs are in place and operational, with the next phase finessing the data and industry initiatives.

It is rare to have the opportunity to build a custom audio facility from the ground up, yet that's what happened here. Late last year the building they now occupy was an empty shell, an ex-cold storage facility but a bonus was its 9m ceilings and 8000 sq.-ft slab, perfect to build a suite of rooms and studios on. Because of the site's previous use, Dave says, the building shell was well sealed and maintained which helped make for a pristine build.

Gibbens Street Camperdown is 10 minutes to the city, it is near a park in a quiet a dead-end street. In this regard there were a few hurdles in terms of council: "When I first told Marrickvile Council about what we wanted to build they said "you want to do what?!?!" The building's original zoning made it possible, so the go-ahead was granted. Good news, but what was the next step? Even for seasoned professionals, designing and building a premium interlocking studio facility from the ground up would be a daunting prospect. For this reason Kannis and Sykes wisely utilized the experience of respected industry people such as the enigmatic and highly skilled Richard Priddle. He was key to the layout and technical specifications and wears a number of hats; structural engineer, acoustics engineer, electrical engineering, architecture and design.

"Richard came on board when he knew that we wanted to do something different to the best of our capabilities."

In terms of designing for surround sound, a call was put through to contacts in Skywalker Studios and, after telling them their plans asked, 'if you were building such a facility what would you put in it to service the industry?'

Sykes perceived a demand for such a facility due to the increasing amount of film work at the moment. Tied into this, and what must a studio coup, Roger Quested, of Quested monitors, flew out from the UK for two weeks and advised on the studio's referencing design.

"The monitoring rig is being shipped as we speak; amps, cabinets, placements and speaker walls - all custom designed," Dave says. He says that Roger Quested spec'd the perfect monitoring rig for the rooms after taking into account materials used and room sizes, "He was looking for a facility in the South Pacific region to showcase his monitors but hadn't found one which he was happy to

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## Studio Audio

Recording Space "Live Room 1"

"Live Room 2" in use

Euphonix Control Room

Neve Control Room

Dave Sykes and the studio tie lines - the art of black snakes

sign off on. Now, if you want hear Questeds' working properly in Australia in a surround sound facility Milk Bar is the place you go to."

In general Kannis and Sykes' facility wish-list came true, "We didn't cut corners. We put on paper what wanted in a studio and started to design it," On the sticky question of how much was spent, Dave Sykes demurs, preferring this answer: "If you compare it to other facilities built in the last ten years we have spent less than them - but how much less I'm not telling you! Put it this way, we haven't spent more than we wanted to," Fair Enough. Considering the quality of work and technical specifications that certainly is an achievement.

The entire facility is on floating floors with all 6700 contact points throughout the place. I am informed that effort has gone into sourcing best materials with at least 8 different kinds of wood throughout the facility, and they have not skimped on the acoustic rubber either, all studio doors give a reassuring 'whoosh' when closed! Of interest in this regard, Milk Bar is the first studio to use a new fibro-free insulation material from Tontine. They used Milk Bar Studios to showcase the material which up until then hadn't been used anywhere in Australia.

The building has a "L" shape and Dave says they've virtually built a village inside. There are 15 work spaces spread over two floors. Key spaces are the two control rooms, The Neve and Euphonix Rooms, the DDA suite and Mastering (Turtlerock). In addition there are four Live Rooms (plus an isolation booth and overdub room). All spaces look immaculate, beautifully finished and would be a joy to work in. Finally, there is an array of technical support rooms, storage spaces, offices, Green room, kitchen and still to be fitted out, a suite of work-rooms upstairs. These will include a writing studio for artists who want a quiet space to refine material if needed and will be linked into Milk Bars intra-network.

Milk Bar's owner Sammy Kannis ran the original Milk Bar studio in Coogee and recorded various Aussie acts there in addition to his own projects. He is a producer/composer with 15 years experience in both the local and international recording industries which includes #1 records in the pop charts Europe and in Greece (recorded in Coogee AND Greece). He also has a multi-musical ability, "Sammy plays everything proficiently, a great singer and a great pop producer."

Studio Manager Dave Sykes lives for the industry. He has owned and operated recording facilities in Australia for the past 17 years, servicing clients from all over the world. With Marshall Cullen a few years back he took over and operated Damien Gerards (6 years). After then moving into the music management side of the industry he then managed, and later bought, Charing Cross Studios. Sykes told me that in its last three years of operation Charing Cross had 9 free days, which bodes well for Milk Bar.

So how did he hook up with Sammy Kannis? "I have known Sammy since he was 15. He heard what happened with Charing Cross [a long story involving 2 studio moves], and got in touch with me."

In terms of technical staff, apart from Dave Sykes there is a full time studio person and a ready pool of engineers and assistant engineers on call for projects. Milk Bar is currently training 8 studio assistants which indicates a commitment to real industry skilling.

"We put the impetus back on them. We tell them what they need to know; they go and learn it and when they tell me they're ready, I'll put them on a session. With all my assistants and trainees live work is big part of their training because studios are easy to learn in."

Since starting operation in August, noted industry professionals have already put the studio though its paces including Nick Launey, Roger Quested, Tim Whitton, Paul McKercher. In terms of projects Milk Bar have so far mixed Rumanastone's album (with Tim Whitton), a 150 piece choir in the large performance room, and have tracked and mixed the Monarchs, ex-Hoodoo Guru Brad Sheppard's band (which no doubt tested the soldering joins and building acoustics).

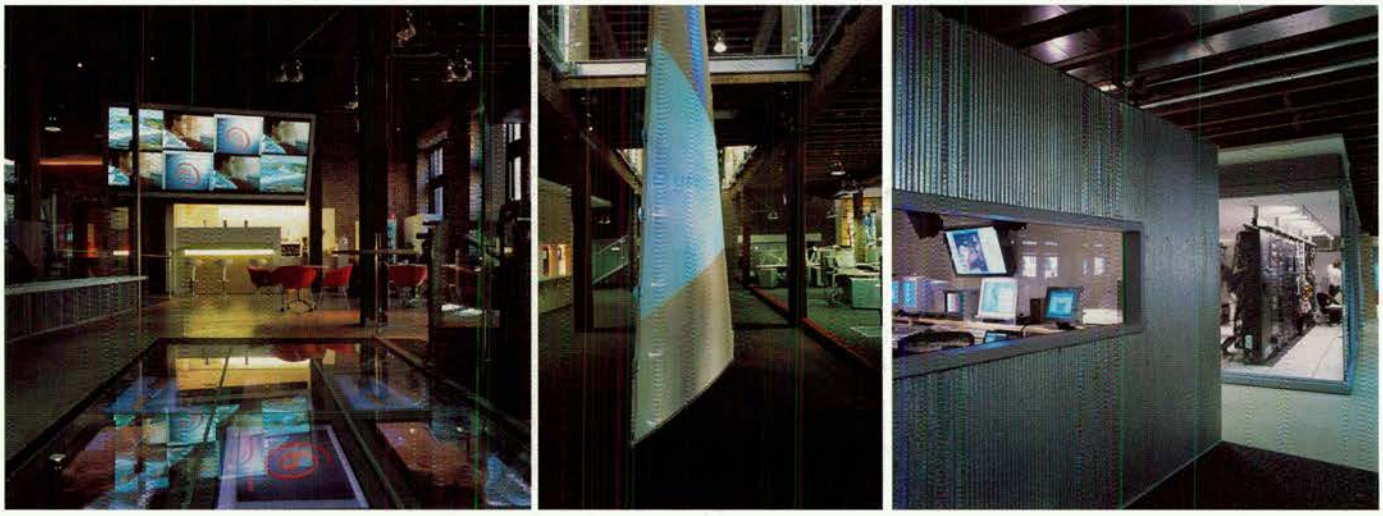
They have also just completed tracking and mixing for an EMI band Speedstar. When I asked about attracting future off-shore work Sykes replied that whilst international acts are welcome and the facility is geared for it, this was not the main driver behind the complex.

"I've heard that story too many times, 'we're building a studio to attract overseas clients', but we didn't want to build a facility that was so expensive that local artists could use it."

Sykes' view is that if overseas acts come well and good, the facility is ready, but Milk Bar is a local facility for the local market. In fact Milk Bar Studios are so passionate about Australian music industry they intend to put in place some positive initiatives to support this such as a label, publishing and a live web channel.

To this end, Sykes says that when a band makes a booking they are accessing more than just high end technical resources, they are tapping into staff knowledge and contacts in the industry. The message here is that the studio will not just do the booking, they will take that extra step where and if they can.

The Euphonix Room is mainly geared towards the film industry such as soundtrack work. It features a vision screen with monitors behind it and the surround Quested monitors are on their way and will be put in place in accord with Roger Quested's specification. The room also caters to live stereo tracking and mixing. Major items include: 96 channel Euphonix CS 2000/3000 PM multi-format Console (as used by Skywalker in US), a 48 x 12



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## Studio Audio

Milk Bar staff at the Euphonix

Cube, an editing pre-post suite, Hyper Surround, 1x Sony 3348 Digital Multitrack, 48 I/O Pro Tools, Martin Sound Multi Max EX Monitoring Controller which gives monitoring control formats such as Discrete 8, 7.1, 6.1, 5.1, or LCRS, DolbyDigital (AC-3), DolbyDigital-Surround EX, DolbyE, Dolby Surround (Pro Logic), DSD, DTS, DTS-ESDVD-Audio, DVD-Video, HDTV, IMAX, RSPCircle Surround, SACD, SDDS and UltraStereo (!)

The Neve Room has a 48 channel custom Neve V51 multi-format console with flying faders, 32 Aux Inputs with EQ and Dynamics on every channel. 2x Otari MTR90MKII 2 inch Multitrack machines, 24 I/O ProTools. More for music recording it is generously sized and like the other rooms well stocked in terms of outboard gear. Paul McKercher and band Agaugefour were working in there that day.

The DDA Room is a 56 channel DDA Digital Editing Suite that caters to top-end demo work or bottom end recording work. Sykes suggests they may upgrade in here to another Euphonix or an SSL soon. Components include: a DDA-DMR12 console (56 fader Dual Input), 32 I/O ProTools 5.1 mix plus system, full MIDI based sequencing and programming facilities and a comprehensive range of synths & samplers.

New in Turtlerock's mastering room is a Sadie rig for 5.1 mastering. "We thought that if you are going to build a surround sound facility with THX spec + more, then you have to go somewhere to get it mastered. In the Northern Hemisphere, Europe and America, Sadie is perceived as the standard issue for surround sound mastering." All control rooms have extensive outboard gear including: AMS, Lexicon, Vintage Neve Modules, Pultec, Amek plus more; Quested Monitors throughout; Extensive tie-lines between each key room means each room can patch into the next with ease.

Now that the facility is open Dave Sykes says that the proof is 'in the pudding'. Roger Quested apparently came through the place and said 'well done' and Australian based producer Nick Launey has said good things too.

"He can't wait to work here - he spends 9 months of the year overseas because he can't get them [acts] to come here due to a perceived risk factor. With this place, the specs are on paper for all to read."

Indeed the strengths of facility are its specifications, location quality and personnel, yet Dave Sykes also sees Milk Bar's strength as having multiple revenue streams.

"We cater to all parts of the audio industry whether film, music, TV, radio, video CD-R and Internet," Creative work has begun at Milk Bar which is the vote of confidence by the market and as it strengthens it will change according to needs.

Dave Sykes: "We will continue to add to the studios to keep them to the spec required. As it is, we had definite plans about what we wanted and we think we've achieved that." •

# DX8

DIGITAL AUDIO MIXER & SIGNAL PROCESSOR

## THE AFFORDABLE DIGITAL PROCESSOR FOR INSTALLED SOUND APPLICATIONS

**The DX8 Digital Audio Mixer and Signal Processor can replace an entire rack of equipment with a single digital processing system...** Its powerful software interface is designed to emulate familiar analog controls, so adjustment is easy and intuitive.

In its base configuration, the DX8 includes 8-by-2 stereo or dual mono mixing from mic and/or line inputs, 2-band shelving equalisation on each input, and 2-band sweepable EQ on each output. A variety of optional software plug-ins allow enhanced signal processing including 1/3 octave graphic EQ, five-band parametric EQ, and compressors.

All level settings are stored in on-board, nonvolatile memory and may be changed either by direct PC connection or from the front panel. All settings can be saved and recalled from 16 memory presets. The front panel can be locked out to prevent access by unauthorised persons.

**High-grade XDR mic preamps, 24-bit analog/digital converters and 32-bit internal processing ensure studio-quality performance....** Two additional line inputs are provided, which feed the mix buses directly. Direct outputs are provided for inputs 1-8, for interface to external amplifiers, recorders or mix-minus systems. In addition, 10 Logic outputs are provided. These control points are fully programmable and can interface directly to external devices such as switches and indicator LEDs.

The DX8 offers two RS232 ports for local programming and interface to standard control systems, as well as a proprietary three wire control bus for use with optional remote controls.

### DX•IOE EXPANDER FOR THE DX8

**...provides expanded Signal Processing** 10 third-octave graphic EQs, 13 five-band parametric EQs, 10 audio delay lines, 18 compressors, 8 gates, 10 crossover filters, 3-band swept EQ on each input. **Mixing** true crosspoint mixing, 8x16 matrix mixing, 32 control groups to link any gain elements, 32 presets, 32 mute groups. 10 logic inputs and outputs to trigger functions such as ducking, in priority schemes.

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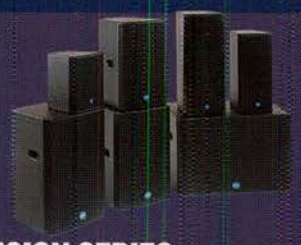


### VISION SERIES

**2-Way Full-Range Loudspeakers**

Accurate, full range sound featuring RCF transducers, built-in LICC crossovers, dynamic HF driver protection, baltic birch plywood construction, and a multitude of mounting options.

### ART SERIES

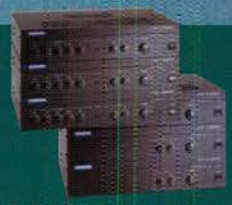
**2-Way Active & Passive Loudspeakers**

Considered by many to be the best sounding small monitors available. They feature both 12 and 15-inch transducers, active and passive models, plus rugged, resonance-free moldell enclosures.

### MONITOR SERIES

**Compact, Unobtrusive Loudspeakers**

Features 5 models, black and white, built-in multi-tap constant voltage transformer (1W, 2.5W, 5W, 10W, 20W), and LICC crossover with high frequency dynamic protection.



### 4000 SERIES

**Reliable Integrated Amplifiers**

Integrated Mixer/Amps with user-friendly controls and high-current power amplifiers ranging from 60 to 160 watts. Plug multiple microphones, CD or tape player and TV/VCR/DVD audio feeds into the 'AM' range. If you need robust amplification with just volume and EQ controls, the 'UP' range are the no-frills solution.

### SOUND PALETTE

**Sophisticated Control For The Non-Technical**

Creates easy-to-use, multi-zone sound systems with voice priority paging. Features SP2400 2-channel controller amplifier and several compact speaker models.

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**Visit** www.mackieindustrial.com

Australian Audio SUPPLIES

# STUDIO MONITORS and HEADPHONES

**This month, we list what is currently available for listening pleasure in the studio. There are three main categories - Powered, Unpowered and Headphones. Within the first two categories, the speakers are sorted into two-way, three-way and subwoofers. Where possible we have attempted accuracy in specification and pricing. All prices quoted are inclusive of GST. The actual words describing the products here were supplied by the distrubutors of that product - so take your "grain of salt" with you as you read on...**

ATC T16

## Powered Monitors (Two-Way)

### Alesis 16/M

M1 Active's Mk2 - These Active Bi-Amplified Near Field Monitors each have has a low frequency 75-watt amplifier powering a 6.5-inch woofer & a high frequency 25-watt amp powering a 1" silk dome tweeter. Combined XLR/ qtr inch connectors. Awesome specs at a budget price. The new standard in nearfield powered monitoring. Shielded for use near computer displays.

• $1,799

### Alesis 16/MON

Monitor One Mk2 - Near Field Studio Reference Monitor. Overcomes typical small monitor "choking" with SuperPort™ technology, 120 watt program / 200 watt peak, frequency response: 45Hz to 18kHz, Shielded for use near computer displays.

• $899

### ATC SCM10A

NEW!! Active 2-Way 5" Soft Dome Mid/Bass with 1" Soft Dome HF. Laminated, Machined MDF Composite with Aluminium Extrusions. 'Grounded Source' 250 + 50w Amplifiers. 105db Continuous SPL weighing in at 10Kg.

• $3,995

### ATC SCM20A

Nearfield 7" Mid/Bass 1" HF 2-Way Active Feature soft dome Mid and HF technology. All Aluminium Construction with built-in 250w Bass and 50w HF Amplifiers. 30Kg. Extreme Accuracy and Soundstage Reproduction.

• $12,995

### ATC T16

Available in 80 colours!! Fully Portable Active 2-Way 1" Fabric Dome HF and 6.5" Soft-Dome Mid-Bass, 200+50w Internal Power Amplifiers, +6dB Bass Boost for Room EQ, XLR In, Configurable Dynamics, Switchable Integral Power Supply for 230, 110, or 100v, Rigorously Damped Aluminium Casing. 17Kg.

• $6,995

### Audix PH150E

RCA inputs, high pass filter lightweight ported nearfield monitor. 50 watts RMS, 5.25" shielded woofer, 1" dome tweeter, internal power supply. Two-way bass reflex design, 3/4" wood composite, Auto on-off function, Stereo amplifier Master/slave design, Video shielding, Acoustic inner lining, Exceptional tonal balance.

• $1,295

### Audix PH3-sE

Near-field monitor with 12 Volt DC adaptor. Ideal for computer workstations. 20 watts, 3.5" shielded woofer, 0.75" tweeter. Master/slave design, Dual RCA inputs, Video shielded, Excellent tonal balance, Two-way bass reflex design, Lightweight & portable, Durable ABS cabinet, Higher overall power handling.

• $745

### Audix PH5vsE

Near-field monitor with internal power supply. Ideal for music playback, home recording reference and distributed sound. 25W, 5.25" shielded woofer, 0.75" tweeter, black. Master/slave design 2xRCA inputs, Video shielded, Excellent tonal balance, Two-way bass

### Brands and Distributors represented in this report...

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| Alesis | Electric Factory Australia | +61 3 9474 1000 | www.elfa.com.au |
| ATC | Technical Audio Group | +61 2 9810 5300 | www.tag.au.com |
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| DAS | Magna Systems and Engineering | + 61 2 9417 1111 | www.magnasys.com.au |
| DB-Technologies | Central Musical Instruments | + 61 3 9315 2244 | www.cmi.com.au |
| Dynaudio Acoustics | Amber Technology | +61 2 9975 1211 | www.ambertech.com.au |
| EAW | Production Audio Services | + 61 3 9415 1585 | www.productionaudio.com.au |
| Gemini | Musiclink | + 61 3 97656530 | www.musiclink.com.au |
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| Hafler | Network Entertainment Technology | 1800 645 081 | www.guet.com.au |
| HHB | Audio Products Australia | + 61 7 5529 8788 | www.audioproducts.com.au |
| JBL Professional | Jands | + 61 2 9582 0909 | www.jands.com.au |
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| KRK | Syncrotech Systems Design | + 61 2 9879 0800 | www.ssd.com.au |
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## Studio Monitors and Headphones

Behringer Event PS 6

Behringer Truth E203

reflex design, Lightweight & portable, Durable ABS cabinet, Higher overall power handling.
• $995

### Behringer Event PS 6

The PS 6 employs a 6.5" LF driver (mineral-filled polypropylene cone, magnetically shielded) with a 1" diameter high-temperature voice coil and damped rubber surround. The HF Driver: also magnetically shielded, has a 25mm diameter ferrofluid-cooled natural silk dome Neodymium. Performance: Frequency Response, 45Hz-20kHz, ± 3dB, Ref. 500Hz; Crossover: 2.6kHz, (active fourth order); LF Amplifier Power: 70W per side, HF Amplifier Power: 30W per side. Inputs: Balanced; XLR and 1/4"; accepts balanced or unbalanced sources, Protection: RF interference, output current limiting, over temperature, turn-on transient, subsonic filter, internal fuse, Indicators: Combination Power On/Clip LED.
• $ 2399

### Behringer Event PS 8

Employing an 8" LF driver (mineral-filled polypropylene cone, magnetically shielded) with a 1" diameter high-temperature voice coil and damped rubber surround. The HF driver, also magnetically shielded, has a 1" diameter ferrofluid-cooled natural silk dome, Frequency Response: 35Hz-20kHz, ± 3dB, Ref. 500Hz, Crossover: 2.2kHz (active fourth order). LF Amplifier Power: 70W per side; HF Amplifier Power: 30W per side. Inputs: Balanced; XLR and 1/4"; accepts balanced or unbalanced sources, Protection: RF interference, output current limiting, over temperature, turn-on transient, subsonic filter, internal fuse, Indicators: Combination Power On/Clip LED, Cabinet: 5/8" vinyl-laminated MDF.
• $ 2799

### Behringer Truth B203

The B2031 is a 2-way active studio monitor with two separate amplifiers for low and high frequencies, 150 and 75 watts respectively, that have plenty of power in reserve. A state-of-the-art ferrofluid-cooled tweeter reproduces the high-end with a 25-mm dome providing extremely high resolution. Other features: a long-throw 8.75" woofer; Phase-optimised wave guide for controlled dispersion pattern; Well-balanced vertical and horizontal dispersion for an extremely wide "sweet spot"; Ultra-linear frequency response from 50 Hz to 20 kHz; Two integrated high-power amplifiers; Overload protection via integrated limiter (separately controlled for low and high frequencies). Inputs are Servo-balanced XLR and 1/4" TRS connectors.
• $1699

### DB-Technologies M-80 & M-160

Compact and lightweight studio reference self powered monitors with impressive specifications. Perfect for home midi studios as well as those hard to fill nooks and crannies in club installations. 80 watt and 160 watt models. • M-80 $489
• M-160 $669

# KF760 SERIES ARRAY DESIGN FINAL EXAM:

Your inventory consists of twenty (20) KF760 and twelve (12) KF761 line array loudspeaker systems. Design left/right main arrays (plus side arrays where needed) for the following venues:

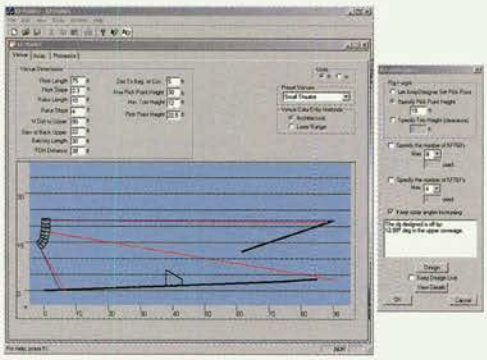
- small theater
- large theater
- amphitheater (shed)
- small arena (side arrays required)
- large arena (side arrays required)
- outdoor festival

Specify the following for each:

- number of KF760 and KF761 modules
- all box-to-box angles
- appropriate fly-bar attachment point for accurate aiming
- coverage pattern (upper and lower edge angles)

You may use your KF760 Series Array Design Wizard.

Time to complete: 3 minutes. Begin.



Use prototype venues or your own measurements.
Design to real or unlimited inventories. Control your DSP.
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# Studio Monitors and Headphones

Dynaudio Acoustics AIR Series

Genelec 1029A

Hafler TRM8

HHB CIRCLE 3A

## Dynaudio Acoustics AIR Series

Due for Australian release this month (October), the AIR Series represents a quantum leap in active monitor design combining the acoustic performance of Dynaudio Acoustics with advanced on-board DSP processing & system management by TC Electronics. The range will initially offer two models of active 2-way nearfields with a choice of three compact subs. All audio signals & control information is distributed via an internal system network to provide central control of features such as level, bass management, preset storage & recall for differing material types and mute/solo of individual monitors etc. In addition, internal precision EQ's and delay lines allow the system to be optimized for differing acoustic environments.

• From around $6,800 / pair (estimated)

## Dynaudio Acoustics BM15A

The BM15A active nearfield system offers an outstanding blend of audio quality, output power and realistic cost. It is an ideal solution for mid-sized rooms and features a unique 240mm (10") LF driver, 28mm Esotec soft dome tweeter and a phase-aligned electronic crossover feeding dual, high-performance MOSFET amplifiers. With its 100mm (4") aluminium voice coil, Dynaudio claim that the BM15A LF driver will outperform most 12" drivers in terms of power output and sheer "punch". This blend of superb accuracy and full range extended bass response has made the BM15A a popular choice for many commercial studios and postproduction facilities.

• $6,590 / pair

## Dynaudio Acoustics BM6A

Designed for the most critical nearfield monitoring applications, the BM6A is a compact, high-performance 2-way system incorporating perfectly matched on-board amplification and system control electronics. The BM6A has received widespread international acclaim for its unique linear phase & frequency response, high output level and pinpoint imaging. All BM6A cabinets are matched to within 1.5dB of each other and standard features include dual 100W MOSFET amplifiers, adjustable LF & HF trims plus a slow-attack optical HF limiter. The performance level of the BM6A's makes them suitable for virtually every aspect of sound engineering & reproduction, including critical 5.1 monitoring.

• $4,690 / pair

## Genelec 1029A

This system, the smallest in the Genelec active monitor range, still commands a formidable presence. Due to its physical size, magnetic shielding and aluminium cabinet, the 1029A can be used in places where uncompromised quality is needed and where space is at a premium. Possible applications are near field monitoring, project / home studios, multimedia work and in conjunctions with digital workstations. The 1029A / 1091A combination is a TEC award winner. Frequency Response: 68 Hz...20 kHz (-3 dB), Peak SPL per pair with music material: 110 dB @ 1m.

• $2,830 / pair

## Genelec 1030A

The 1030A is a magnetically shielded compact broadband system ideal for near field monitoring, broadcast monitoring, surround sound systems and environments where space is limited, for example in project / home studios. The 1030A is a winner of the highly coveted TEC (Technical Excellence & Creativity) award. Frequency Response: 52...20 kHz (-3 dB), Peak SPL per pair with music material: 115 dB @ 1m.

• $4,620 / pair

## Genelec 1031A

When this speaker was released it set then new standard for professional near field monitoring. The 1031A is ideal for recording, broadcast and surround studios, CD mastering, TV and Video post-production, and use with digital workstations. Due to the size of the monitor it will easily fit into OB vans and other situations where space is valuable. The 1031A is also magnetically shielded. Frequency Response: 47 Hz...22 kHz (-3 dB) Peak SPL per pair with music material: 120 dB @ 1m.

• $5,690 / pair

## Genelec 1032A

The 1032A was originally designed as a near field monitor, however in many situations it can also be used as the main monitoring system due to its high output and extended frequency response. The 1032A is magnetically shielded and suitable for recording studios, broadcast monitoring, TV control rooms, mobile vans and CD mastering. Frequency Response: 40 Hz...22 kHz (-3 dB), Peak SPL per pair with music material: 124 dB @ 1m.

• $6,950 / pair

## Hafler TRM6

The TRM6 is a Bi-amped 6", 2-Way featuring a patented output stage configured for "power gain" allowing simpler front-end circuity and lower cross talk. Key features: Linkwitz-Riley crossover (at 2.5kHz); Diamond driver providing up to 14dB additional dynamic range; Mosfet outputs delivering higher output current; Balanced XLR or 1/4"or unbalanced RCA inputs; Bass and treble shelving (up to +/-4dB adjustment); rear firing Exo-Port; Shielded woofer. The monitors have a Power rating of 33 watts @ 6 Ohms (HF) and 50 watts @ 4 Ohms (LF). Because there is no compression the TRM6 produces a wide dynamic range at all monitor levels. Ships with a 3 year warranty.

• $2999 / pair

## Hafler TRM8

Like its smaller cousin the TRM6, the TRM8 is a Biamped 2-way with similar features and performance except with an 8" cone and higher power rating: 75W @ 6 Ohms (HF) and 150W @ 4 Ohms (LF). Key features 123 dB Peak; Trans-nova Diamond; Frequency response: 45Hz-21kHz; 1"Tweeter; 8" Woofer; Magnetically Shielded; Acoustically Matched. Hafler has brought together Trans-nova amp technology and a proprietary loudspeaker system designed to create the ultimate listening tool. 3yr warranty included.

• $3999 / pair

## HHB CIRCLE 3A

The HHB CIRCLE 3A is an active nearfield compact desktop monitor designed for smaller applications, which, despite their scale, require high quality sound reproduction. The custom designed 110mm (4.5") bass / mid driver, with its injected moulded synthetic cone, provides untiring sound characteristics similar to that produced by the CIRCLE 5A but in a much smaller enclosure. Features a 60 watt amplifier to drive the bass / mid cone and a 30 watt amplifier to drive the Ferro-fluid cooled soft dome tweeter. When space is at a premium the CIRCLE 3A's compact nature makes it an extremely desirable monitor.

• $1,999

# M3D™

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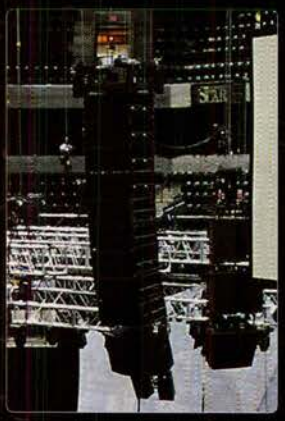
## Control the horizontal



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**The M3D with BroadbandQ technology.**
**Taking the line array to the outer limits of sound reproduction.**

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- RMS™ (Remote Monitoring System) standard
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# Studio Monitors and Headphones

JBL LSR28P

KRK V8

Mackie Designs HR824

Meyer Sound HD-1

## HHB CIRCLE5A

The HHB CIRCLE5A active midfield monitor is the flagship of the CIRCLE range. The custom designed 200mm (8") bass / mid driver, with its injected moulded synthetic cone, is largely responsible for an exceptionally accurate and highly detailed sound, on and off-axis, making the CIRCLE5A ideal for use in a variety of stereo and surround sound professional monitoring applications. A 140 watt amplifier to drive the bass / mid cone and a 70 watt amplifier to drive the Ferro-fluid cooled soft dome tweeter makes this a versatile monitor for a multitude of applications.

• $3,299

## JBL LSR25P

The LSR25P, a Linear Spatial Reference Studio Monitor, is a 5.25" two way bi-amplified workstation monitor with 100W for LF and 50W for HF with full magnetic shielding on both woofer and tweeter, allowing use in close proximity to video display units. User controls include High Frequency control, workstation boundary compensation, Low Frequency alignment, 80Hz high pass filter (for use with subwoofer) and detented input attenuators.

• $2990 / pair

## JBL LSR28P

The LSR28P is a bi-amplified system that builds on the foundations of JBL's proprietary Linear Spatial Reference (LSR) technology, which has created a new standard in studio reference monitoring. The JBL LSR28P consists of two new JBL LSR transducers, the 218F 8" low-frequency transducer and the 053Ti High-Frequency transducer. This system also incorporates other recent JBL transducer technology innovations, including DCD Differential Coil Drive technology and carbon fibre composite enclosure materials. Amplifier Power: Low Frequency: 250 Watts, High Frequency: 120 watts.

• $6390 / pair

## JBL Professional LSR 5.1 Surround Monitoring Systems

Two systems are offered from the JBL LSR range to cater for the demands of professional 5.1 monitoring systems. Both systems are based around the LSR12P powered subwoofer, which features two modes of operation, switchable via a contact closure input to allow A-B comparisons. Mode 1 derives a summed low frequency signal from the three screen channels, and sends a high passed output to the L-C-R outputs. Mode 2 passes full range signals to the L-C-R outputs, and provides a discrete subwoofer input for the sub reinforcement. The system is offered with either LSR25P or LSR28P satellite loudspeakers.

• $10495 (for 5 x LSR25P and 1 x LSR12P) • $18995 (for 5 x LSR28P and 1 x LSR12P)

## KRK Expose 8

For those seeking perfection, we offer the Expose 8. These are by far the most advanced studio reference monitors available. The Expose's uncompromised design combines 2 fully complementary symmetry discrete amplifiers with an active crossover, special double woven Kevlar woofer and an inverted dome Kevlar tweeter. Much more sophisticated than typical power amplifiers, the Expose uses a purist design that would be perfectly at home in the finest esoteric hi-fi systems. Even the Expose's unusual enclosure shape is designed to improve sound quality!

• $10,939.50

## KRK V4

In true KRK fashion, the V4 has separate amplifiers for both woofer and tweeter, which make it extremely clean and virtually eliminating any distortion. Video shielding is standard, making it an optimum choice for small audio workstations. A Neutrik Combo connector gives it ultimate flexibility for both balanced and unbalanced signals, it also gives you the option of using 3 different connectors (XLR, TRS, or Instrument). A big sound comes out of the V4 mini monitor.

• $1,534.50

## KRK V6

Also producing a big sound the V6 too has separate amplifiers for both woofer and tweeter, which make it extremely clean and virtually eliminating any distortion. Video shielding is standard, making it an optimum choice for small audio workstations. A Neutrik Combo connector gives it ultimate flexibility for both balanced and unbalanced signals, it also gives you the option of using 3 different connectors (XLR, TRS, or Instrument).

• $2,348.50

## KRK V8

The new V8 studio reference monitor is the answer for the professional who needs an active near field monitor able to satisfy the most critical listening requirements, yet be portable enough to take on location. The V8 uses a separate power amplifier for the woofer and tweeter with an electronic crossover so that the power and frequency response is tailored to each transducer. The V8's Kevlar woofer is extremely fast and does not have audio band resonances that colour the sound. Using the Neutrik Combo connector, the V8 can handle both XLR and .25" phone plug inputs, and video shielding is standard.

• $3,542

## Mackie Designs HR824

Active 2-Way Studio Monitor. The reason the Mackie HR824 is so accurate is because it's an active design. But more than that, it1s an active design done right. Extremely flat response from 39Hz to 22.5kHz, exceptionally even dispersion, and true active design with two FR Series amps servo-coupled to transducers. In short, instead of having its own distinctive "sound," the HR824 sounds like the outputs of your mixer. Key features: 8.75-inch low frequency driver, 1-inch high frequency driver, 6-inch x 12-inch passive radiator, Linkwitz-Riley 24dB/octave crossover, low-frequency 150-watt amplifier, high-frequency 100-watt amplifier, max peak SPL/pair: 121dB @ 1m.

• $3295

## Meyer Sound HD-1

The HD-1 is a self-powered high definition, bi-amped two-way monitor designed for critical near-field monitoring applications requiring the utmost accuracy. Engineered to reproduce audio signals with extremely low distortion and the flattest possible amplitude and phase response, the HD-1 has come to be regarded as a reference standard for studio mixing and mastering. Complementary power MOSFET 150W and 75W amplifiers drive its 8-inch low-frequency driver and 1-inch dome tweeter, respectively. An active crossover, optimized response correction-filters and loudspeaker protection circuitry are all contained in the HD-1 enclosure.

• $5,000

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# Studio Monitors and Headphones

NHT Pro M-00

Quested F11A

Roland DS-50A

Roland DS90A

## Meyer Sound X-10 Linear Studio Monitor

The X-10 is a self-powered, bi-amplified two-way studio monitor capable of high output with extremely low distortion and near-ideal impulse response. Meyer's revolutionary Pressure Sensing Active Control (PSAC™) technology uses a pressure-sensing device positioned in front of the woofer to ensure consistently linear response from the robust 15-inch low-frequency driver and its dedicated MOSFET 1200W amplifier. The high-frequency section comprises a 4-inch diaphragm driver with a low-distortion waveguide and MOSFET 620W amplifier. The X-800 subwoofer can extend headroom by up to 5 dB maintaining linearity and companion X-01 crossover allows connection of single or dual subs for stereo or 5.1 surround operation.

• X-10 $23,500 (SIM alignment service upon installation; stereo system $6,500 and 5.1 system $9,000), X-800 Subwoofer $7,800 X-01 $5,200

## NHT Pro A-10

Designed for more critical listening applications the A-10 compact monitor system features two loudspeaker modules linked to an easily accessible, rack-mount dedicated stereo amp/crossover/control unit, allowing instant and convenient parameter adjustments. The modular design incorporates a pair of 2-way, acoustic suspension monitors and system-specific Control Amplifier, itself a dual-mono construction. Two fully discrete devices deliver power output of 150W RMS (300W peak) in a compact, efficient two-rack-space enclosure and all controls are located on the front panel making them easily reachable and instantly adjustable from the listening position. The A-10 offers the best features of both active and passive monitoring.

• $2500

## NHT Pro A-20

NHT Pro's flagship compact A-20 monitor is second to none in sonic accuracy and implements an array of technological, ergonomic and functional innovations. Combining 2 x 117 dB speakers w/- 250 watt per channel amp, NHT Pro's reference compact A-20 system is the ultimate in high-end sonics for project, commercial and post studios environments. The A-20 Studio Reference Monitor System is the culmination of all of our experience and technologies, representing the ultimate expression of our belief in excellence of audio design. The A-20 provides a pristine reference standard and practical, fatigue-free tool for the dedicated recording and production professional.

• $3500

## NHT Pro M-00

With flexible inputs, huge output and a tough cast metal enclosure this compact near-field monitor is NHT Pro's "Swiss Army knife" monitor. The M-00 packs tremendous output (over 111dB peak SPL @ 1 Metre!) with surprising bass response and accuracy. Fully magnetically shielded, the M-00s are sold individually for applications as mono monitoring, two-channel, 5.1, daisy-chained configurations or for use in "light" commercial installations. The Pro M-00 is a flexible and powerful product that combines the sonics of a purist mini-monitor in a small, light, self-powered pick-up-and-go form. For more impressive full-range performance, the M-00s can be mated to the NHT Pro S-00 Subwoofer.

• $1499

## Quested F11A

The F11 is a compact active 2 way fully magnetically shielded design which features a 28mm soft dome and 165mm (6") bass driver. The built-in amplifiers produce 100W RMS to the bass and 35W RMS to the HF unit. Quested is the first manufacturer to produce a moulded cabinet using a new mineral loaded material which offers excellent acoustic properties in a cabinet of smaller size than is possible using conventional materials. The cabinet also has the advantage of being very dense and extremely hardwearing. Applications include installations, broadcast, surround sound, project/home studios, mobile, multimedia work adjacent to work stations, and nearfield monitoring.

• $2045

## Quested VS2205

Designed for use as an accurate portable reference monitor, the VS2205 is a compact self- powered bi-amped monitor featuring two 130mm (5") bass drivers and a 28mm Ferro fluid damped soft dome tweeter. The built in amplifier is capable of delivering 50W RMS to the HF unit and 100W RMS to the bass drivers. Switches are provided for input sensitivity and HF and LF equalisation to compensate for room conditions and mounting position. The VS2205, with its low profile, is particularly suited to positioning on the meter bridge, although its small size and powerful output make it suitable for a variety of applications.

• $3310

## Roland DS-50A

With the DS-50A's, Roland brings 24-bit digital nearfield monitoring within reach of all musicians and project studios. Featuring a 50W, bi-amp design with active crossover and 24-bit/96kHz digital input these digital monitors eliminate the noise and hum problems associated with analogue cabling while delivering ultra-flat response and maximum clarity at an unbelievably low price. The DS50A's have adjustable input, Low Frequency, and High Frequency levels. They also include analogue balanced XLR connections and TRS 1/4" input and are magnetically shielded for safe placement near computer monitors.

• $995 each ($1990 a pair )

## Roland DS90A

When Roland's DS-90 Powered Digital Reference Monitors were introduced in 1999 they were the world's first 24-bit digital reference monitors, employing 24-bit digital inputs, analogue inputs, and high-quality built-in discrete amplifiers for the ultimate in flat-frequency response. With a re-designed cabinet the current DS90A's provide the reference standard for the COSM Speaker Modelling effects. This allows the user to listen to a mix as it would sound on a TV, small radio, boom box - even a wide range of popular nearfield monitors. The DS90A's are the perfect companion to keep signal in the digital domain from start to finish.

• $1595 each ($3190 a pair)

## Tannoy Reveal Active

Tannoy's Reveal Active matches a 1" soft dome tweeter with a 6.5" long-throw bass unit, two 50 watt amplifiers and electronic crossover. Both drive units are magnetically shielded, allowing operation close to video monitors. System specifications: Frequency response (1) 62 Hz – 20 kHz; SPL (2) 114 dB SPL. Electronic system details: Input 32 k_ balanced on combined XLR/jack; Sensitivity 0 dBu; Crossover frequency 3000 Hz; Amplifier output power LF channel

# PROJECTOR MAGAZINE

OCT–NOV 2001

A Connections pull out

# The Value Of Comparisons

**by John Grimshaw**

It is very easy to get into the habit of looking at the ANSI Lumen rating for a given projector, and make a value judgement on the so called 'quality' of that projector simply by that number. It begs the questions, just how many people can identify the difference between 5000 and 10,000 in a dark room, or 2,000 and 3,000 in a boardroom.

It is not common knowledge that that ANSI Lumen rating given by some manufacturers bears little relationship to the output of production models that make it to the sales rooms. In fact, it is common knowledge that at projector 'Shoot Outs' like that of Infocomm often have 'overclocked' non-standard stock on the floor because that is what the manufacturer's supply.

Looking at the problem from the point of view of the manufacturer, there is no reason to enter a shootout with a stock model if your competition is going to bend the rules with its entry. In fact, that same reason is a very good reason to not be in a shootout. As a result, the last Infocomm shootout was a dismal failure because the vast majority of the brands people wanted to see and compare could only be seen on their respective stands.

In a side-by-side comparison, ANSI Lumen levels have very little importance (except in extreme differences). The same can be said for much of the optics and imaging engines being used because these days, it is economically viable to have precision optics even on the cheapest projectors.

The two biggest points of difference between any two projector's today is how well the electronics handle the incoming video input, and the abilities of the technician that sets the unit up.

Both points can very in quality quite dramatically, and will affect the picture in different ways in different ambient conditions. So, what is a shootout where you have a number of projectors in a row, each with a different amount of tweaking from their supplying companies and each with a different technician to set them up? Not much use at all. It is a much a look at the differences in the electronics (with some running hot) as a look at the difference between the technicians that set them up.

It is interesting to look at how the main players in Australia's AV installation and rental companies deal with choosing their inventory selections. A prominent Sydney based AV installation company did a valuable comparison where they quietly lined up a bunch of competing projectors. They gave them exactly the same signals, and had a single group of technicians with a unified purpose attempt to get the best picture out of each unit.

This is a true test of a projector's quality, and it is something that you simply can not replicate at a trade show.

So how does Jo(e) Average, AV Manager know which projector to buy? The simple truth is that he/she has to test the requirements specifically for the application. Any person that spends money on a projector without testing it in the situation for which it is to be used is a fool – particularly with the higher end projectors.

One of the first things you are likely to find in the test is that there is a minimum amount of light output that you need for the application, and anything over that level is becomes quickly redundant.

Picture quality largely comes down to minor differences between brands at the various levels of the market. Comparisons will identify these differences, however, it is worth noting that in general use, it is rare for two or more projectors from different manufacturers to be used in the same room. The punter will see a great picture and be happy. That punter will also be ignorant to the fact that there may be a better picture to be had – unless one of the manufacturers makes a quantum leap in quality.

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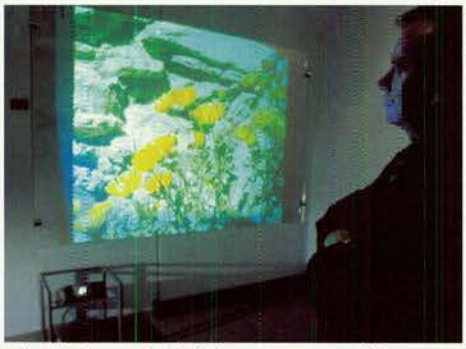
A Connections Publication

Connections

# Hitachi On-Glass Projection System



Hitachi Australia Ltd., have announced the Australian availability of their "On-Glass" projection system which they claim turns any window or glass surface into a super bright video screen ideal for presentations and advertising in retail stores, shopping centres and open spaces.

The system consists of a high brightness data projector and a clear film or screen, which is attached to a clear glass surface such as a store window.

The screen of either 40" or 60" resembles a clear plastic film however it is made from a special material called a "photopolymer" which refracts light similar to a prism. Light coming directly through the screen is unaffected, however angled light at 35 degrees is polarised and presented to the viewer as a bright image seemingly floating in space.

Hitachi claims that because no light is reflected from the screen, images can be viewed clearly from outdoors in bright or sunny conditions.

The Hitachi data projectors used with the "On-Glass" system are high brightness models CP-X980W and CP-X985W with greater than 2,500 ANSI lumens and importantly feature remote digital control of keystone.

The obvious limitation to the system are that the projector must be mounted either on the floor or the ceiling at an angle of 35 degrees to the screen. This is required so that a viewer is not directly looking at the light source. In the case of the 40" screen the projector is best mounted 1480mm behind the screen, and 2220mm for the 60".

The system is available from specialist resellers around Australia. For more information, contact Hitachi Australia Ltd on: 1800 789 799 www.hitachi.com.au

## Correction

In last month's Connections, the projector review of the Sharp XG-V10XE (XGA native resolution) contained incorrect pricing. The prices quoted were for the Sharp XG-V10WE (SXGA native resolution). Please find correct pricing for both projectors below. Connections apologises for any confusion this mistake has caused.

Sharp XG-V10XE (XGA native resolution projector) $29,900
- with ANLV40EZ Lens $35,400

Sharp XG-V10WE (SXGA native resolution projector) $39,900
- with ANLV40EZ Lens $45,400

Sharp sales enquires should be directed to 1300 135 530 www.sharp.net.au

# Buhl Optical Introduces Super Wide Angle 1" LCD Projector Lens

Buhl has introduced its newest advance in wide angle lenses for LCD projectors, the 1" (25mm) lens. This new super wide angle lens offers the user a 1:1 ratio in a compact design. The 1" lens allows users to place a 1.3" format LCD projector approximately 80" away from the screen to fill a 100" diagonal (80" wide) screen.

Buhl's new 1" lens joins the Buhl wide angle family of 1.2"(30mm) and 1.5"(38mm) lenses in a series of newly designed wide angle lenses for the 1.3" format LCD projectors. These lenses are available for projector brands such as Mitsubishi, Sanyo, Eiki, Sharp, Hitachi, & more.

For more information, please call Buhl in the US at +1 412 321 0076, or email info@buhloptical.com.

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18" LCD TV & Monitor

LCDTV 2201A
22" LCD TV & Monitor

Everything's included!

Inputs: Composite, Y/C, PC/MAC **AND** TV (HDTV capable).
Scaler: Integrated scaler **and** aspect ratio converter supports HDTV viewing
Resolution: LCTV 1811A **native** 1280x1024, LCTV 2201A **native** 1600x1200
Amplifier: 2.5 Watts per channel **plus** line outputs and speaker outputs.
Mounting: Standard VESA 75mm mounting point allows for any compatible mount to be used.
Accessories: IR Remote control, VGA cable, table stand, low voltage power supply.

*Additionally they are both Plug and Play compatible and the 2201A has PIP and it's aspect ratio, 16:9 is ideal for DVD, DTV and HDTV.

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by John Grimshaw

# JVC DLA-G3010

It has been more than a year since the first prototype of the JVC G3010 was revealed. Using D-ILA imaging technology, the projector was touted to be the smallest SXGA resolution projector to be released. Much of the excitement comes from the fact that the D-ILA projection quality in the bigger units was significantly in front of LCD and DLP options.

Now, it is a year later - LCD and DLP quality has closed much of the gap on D-ILA; LCD and DLP have significantly higher market penetration; LCOS imaging technology is making its debut; and JVC have not released a new model mid to small size projector in a long time. Will the G3010 mark successful steps for JVC in this very competitive area?

Maybe not – here is what was found during the test...

| | |
|---|---|
| **Brightness:** | 1300 ANSI lumens |
| **Native Resolution:** | 1365x1024 |
| **Imaging Type:** | 3 panel D-ILA (0.9") |
| **Lamp Type:** | 200W UHP (2000hr Life) |
| **Dimensions:** | 290x132x363 (WxHxD) |
| **Physical Weight:** | 6kg |
| **Speakers:** | 1x 1W |
| **Vision Inputs:** | 1x RGB (15pinHD), 1x RGB/Component (BNC), 1x Video (RCA), 1x S-Video |
| **Vision Outputs:** | n/a |
| **Vision Source:** | All standard TV, and computer signals up to UXGA |
| **Operating Noise:** | 54dB SPL ('A' weighted at 1m from air vent) |
| **Price (RRP):** | $16,368 |
| **Sales Enquiries:** | +61 2 9370 8888 |
| **Internet:** | www.jvc-australia.com |

Specifications for the G3010 are quite impressive. The D-ILA system used is 0.9", 3 chip with 1365x1024 native resolution. The native resolution of the device is slightly bigger than the 1280x1024 (SVGA). This was done so that the image size was a true 4:3 aspect rather than the SVGA 5:4 aspect

This amount of resolution in such a small package remains a unique feature for this projector, as competing technologies have not yet put SXGA chips into small projectors (some manufacturers are yet to offer an SXGA resolution projector at all)

First tests with the projector using video sources quickly identified a very distinct problem which seemed to be a combination of limited contrast and an optical problem causing blue halos in the corners of the screen. Subsequent enquiries to indicated JVC that they are aware of the problem (it was if fact the reason for the year long delay to the release), and while it is unlikely to be corrected for this model, it is unlikely to occur in any future model.

The image itself had good colour saturation and was able to cope with fast and slow moving images equally as well. There was absolutely no visible lag between the projected image and the reference monitor. The only real limitation was the lack of contrast caused by very light blacks. Unfortunately, it would seem that reduced size of the optics in this small projector seriously compromises the effectiveness of the D-ILA chip to produce blacks – a problem that it not anywhere near as bad in the bigger units.

Moving to a VGA source to test the high resolution capability of the projector resulted in some interesting surprises. Despite the continued contrast and halo issues, none of the tests carried out showed any serious impairment to image processing. This is very unusual, as normally a projector will have some 'Achilles Heal'. 256 grey scales were uniform and flat, pixel resolution and tight/complicated pixel patterns were displayed with little or no distortion, RGB registration (overlaying) was spot on, and there was even almost no blue halo effect (blue light surrounding single pixel white lines).

**Final Thoughts**

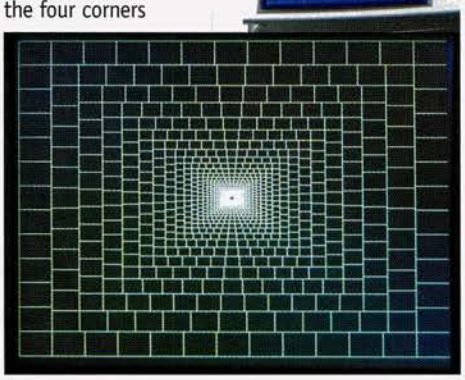
What was obvious was that the pedigree of the electronics driving the imaging was extremely high, or in other words there was excellent image reproduction in all tests. Where the projector needs more work is in the optics. With blacks being displayed as a dark grey it was impossible to get decent 'dark detail' images (not a projector for 'Film Noir'). That coupled with the mysterious blue halo effect in the corners makes this unit very hard to recommend. This projector would be a reasonable solution for someone that requires extremely precise images on a projection surface up to 2m wide, in a room with controlled light.

However, it would be my advice to wait for the next model.

(left) Vision inputs

(right) Control buttons

(below) Extremely enhanced image showing the blue halo in three of the four corners



# Viewsonic Litebird PJ1075

When the Viewsonic projector arrived in the Connections office, I had no idea what to expect from this single chip DLP. I was pleasantly surprised by the quality found...

This projector is squarely aimed at the road-warrior presenter, with simple and fast set up, vertical orientation and lightweight design. At the heart of the projector is a 1024x768 native resolution DLP chip.

First tests with the projector involved simple broadcast and DVD video signals. The focus and zoom were manually set via two rings on the lens (something I personally prefer on smaller devices because of speed and simplicity). The default colour balance on the PAL video signal also required very little adjustment to the settings.

It was immediately apparent that the contrast of this device was one of its best technical points. According to the manual, the ANSI Contrast was 200:1. This was interesting because it visually looked far better than many devices claiming 400:1 contrast and better. This was a perfect reminder that you should never believe the ANSI Lumen or Contrast ratings given by manufacturers – who have a vested interested in better numbers.

Anyway, the projector was up and running with a quite decent picture in under 30secs. Subsequent running of the unit using different source material showed that is coped well with fast, high contrast action as well as slower, detailed movement.

Next tests involved computer signals in the native resolution of the device. The brightness and contrast controls seemed a little "blunt", in that the adjustment steps were a bit course for my liking. Despite this, a very good balance was achieved.

The subsequent tests of the grey scaling of the unit were quite satisfying in that the 256 Grey scale appeared quite uniform, with only subtle variations in the blend. DLP and LCD displays often have trouble with this test. The fact that this unit passed was indicative of good imaging processing electronics.

Colour saturation was good in all tests, and the unit performed surprisingly well in high contrast colours and intensities side by side. Another typical problem with analogue video sources in display devices is that they can end up with very slight shadows to the right of elements in these high contrast tests. Take a look at your own computer monitor, and you will probably see what I am talking about. Two things can cause this, cheap video cables, and cheap video processing electronics in the display device. This unit performs better than most, with shadowing limited to one or two pixel widths.

This shadowing is the likely cause of my only problem with this unit - that I could not get the computer image to be 'pixel perfect' sharp. However, you can expect to get this kind of problem in units without a digital video input to use.

**Final Thoughts**

I would rank this projector as a serious contender for the portable projector market. The upright design gives this projector (and others that use this design) that desirable ability to shoot over the top of obstacles like cables and papers lying on the table surface. Its physical size is quite small, yet the optics remains a decent size – certainly bigger than the ultra-portables coming on to the market. It produces excellent images, and has an enviable contrast quality.

| | |
|---|---|
| **Brightness** | 1200 ANSI lumens |
| **Contrast:** | 200:1 ANSI contrast |
| **Native Resolution:** | 1024x768 |
| **Imaging Type:** | 1x DLP chip (0.9") |
| **Lamp Type** | 150W P-VIP |
| **Dimensions:** | 90x218x252(WxHxD) |
| **Physical Weight:** | 2.3kg |
| **Speakers:** | 1x 1W |
| **Vision Inputs:** | 1x RGB (15pinHD), 1x Video (RCA), 1x S-Video |
| **Vision Outputs:** | n/a |
| **Vision Source:** | All standard TV, and computer signals up to SXGA |
| **Operating Noise:** | 52dB SPL ('A' weighted at 1m from air vent) |
| **Price (RRP):** | $9,219 |
| **Sales Enquiries:** | +61 2 9929 3955 |
| **Internet:** | www.viewsonic.com |

# AV CONTROL DEVICES and SYSTEMS

**This month's AV Market Report takes a look at some of the control systems available at the moment. The brief for manufacturer/distributors was very broad – Stand-alone devices or control systems that are used to control other devices. Thus the two categories for this report were defined, and the equipment distributors set about supplying us with suitable text and pictures for the report. Remember, this is only a guide to what is out there, and it is up to you - the potential customer - to find the system best suited to your purposes...**

Command Systems 'Joey' Colour Touchpanel Remote Control

## AMX VPDirect

The ViewPoint colour touchpanel combines an ergonomic enclosure with a powerful infrared transmitter with sufficient memory for up to 750 infrared commands allowing direct control of equipment. The infrared library consists of up to date models throughout the world and new models can easily be learnt for inclusion into projects. Infrared commands may be sequenced into macros, complete with programmable delays between commands. The screen design is totally flexible; the backgrounds and button designs utilise standard 24bit bitmaps which could easily be scans from full colour photographs or created from scratch using any PC based graphics design program. An optional ViewPort docking station provides a tilted operating angle whilst efficiently charging the battery and both the ViewPort and ViewPoint are available in optional WOW colours.

• $3,300

## AMX VPXpress

The ViewPoint Xpress package utilises the ViewPoint wireless colour touchpanel and RF transmission to a professional Axcess master controller for improved reliability and power. This does not rely on line-of-sight for operation and therefore all the components may be concealed should aesthetics dictate. Another major benefit is the monitoring of power status of equipment, ensuring that everything is switched on or off standby at the required time. The VPXpress software is a very flexible 'wizard', enabling a fully operational system be programmed in a matter of minutes. The touchpanel graphics may then be personalised or the master software enhanced to provide higher levels of customisation. Naturally the system may be expanded to full Axcess system capability at any time, without having to replace any component.

• $7,520 (includes ViewPoint touchpanel, Axcent3 controller, RF receiver and ViewPort docking station)

## AMX Symphony

Symphony is a multi-room audio system that has pedigrees in both control technology as well as aural quality since it is based on the Landmark home automation system. Either 4, 8 or 16 zone systems can be easily installed, allowing selection and volume control in any one zone completely independent of the others. Symphony supports any brand of playback devices such as multi-CD players, soundstores & radio tuners. The standard 8-button keypads are easy to use even for the technological novice. Graphical LCD dynamic menu select keypads are also available as an option. Installation involves cabling, connecting the equipment and simply selecting the models of equipment from the huge database in the included programming software. All Systems include Landmark Cardframe, Master & IR cards, Audio Switcher, Amplifiers & Keypads.

- 4-Zone System (AMX S4ZK) $13,200
- 8-Zone System (AMX S8ZK) $18,700
- 16-Zone System (AMX S16ZK) $34,320

## Command Systems 'Joey' Colour Touchpanel Remote Control (ZTT0800)

Command Systems has just released an innovative new remote control (called "Joey" because it's 100% Australian and fits in your pocket). When you install a projector with its surrounding array of gear, Joey is the ideal way to eliminate that pile of remotes. Palm-sized, with a crisp, bright colour touchscreen, Joey is the ultimate universal remote control. With its Windows software, it's easy to customise Joey so there's no unnecessary buttons or cryptic key markings to confuse your users. Use web graphics, logos, modify existing screens, windows, buttons and load codesets from the comprehensive library. Joey's powerful Digital Optical Wireless output talks directly to most equipment, or use Joey with other Theatre Commander products for even more power and flexibility.

• $1501.50

## Command Systems MicroTC (ZTT0800)

Theatre Commander "MicroTC" is the programmable controller part of the full-sized Theatre Commander range repackaged in a smaller box. It has six IR/RS232/RS485 "flexi-ports", an IRBus control panel port and a dedicated DB9 RS232 port. A PIU port provides access to 40 contact closure outputs, eight DAC outputs and serial port expansion. Four independent timer channels make it the ideal controller for managing LCD projectors and free-running shows with light and sound. MicroTCs are independently addressable and can be simply networked. Using TCWin, with its powerful point-and-click macro language and library of thousands of device drivers, you can program MicroTC to do just about anything.

• $1199

## Command Systems Smart AV Adaptor (ZVR0020)

How often do you see monitors with black screens or snow when they should be showing a promotional video? Command Systems has the solution - a little black box called a Smart AV Adaptor (ZVR0020). Capable of controlling one or many VCRs and TVs, the

### Brands and Distributors

**AMX**
A.V. Technology +61 7 5531 310

**Command Systems**
Command Systems +61 2 9938 4811

**Crestron**
Soundcorp +61 3 9488 1555

**Stumpfl**
ITI-Image Group +61 2 9477 5709

ZVR0020 detects when the program has finished, rewinding the tape and commanding a second VCR to take over the playback. It can tell if a TV is "asleep" and send the necessary command to wake it up. It's ideal for "power on" unattended installations. This is just one application of the ZVR0020 - a fully programmable Video Commander accessory.

• $880

### Stumpfl Control Software – Event Studio

Production Software with graphic user interface for synchronization and programming of any number of switching, analog, DMX512, serial, slide projector, MIDI or IR channels. Any number of soundtracks can be routed to various audio busses; Surround-Panning; full-scale real-time sound editing incl. Cutting, volume ramps, crossfade and auto-ducking, DirectX real time effects, noiseshaping, audioCD import, video cutting and editing functions with any number of transitions and effects; integration of images, any number of virtual screens; real-time inputs and outputs (e.g. MIDI, SCNet, audio, video, etc.); recording and editing of input/ output values; communication with SCMaster and other SCNet Modules. For WIN ME/2000/XP.

• $2,500

### Stumpfl SCNet Master Modules

SC Master Series are MP 3 players with a superordinated show control management for multi-media events. SC Master Light to SC Master 16 models with build-in MP 3 players from 2 to 16 channels. Showstart via Data in/out, RS 232, contact closure, IR. Timed show starts, powerfailure restarts, RS 232 input for integration into other control systems Connect to Stumpfl SCNet series of control units. Storage of sound and control programs on CF cards and Microdrives.

• From $1800 to $4000

Stumpfl SCNet Modules with and without Iso-plug in Series of control modules utilizing Ethernet connectivity and control signal routing via CAT 5 cable. Control modules for Relays; Open Collector; Analog voltage; Serial in/out; IR out; MIDI in/out; DMX in/out.

• From $600 to 900

## SYSTEMS

### AMX Axcess

AMX Axcess is perhaps the oldest suite of software and hardware control products, having proved itself in the field since 1988. It is today the most reliable, flexible and cost effective means of delivering control exactly how, when and where the customer requires. A large range of wireless and wired touchpanels, keypads, interface modules, pan/tilt units and other specialised products are available. Interfacing to every type of control port is offered: infrared, serial, contact closure midi, DMX and so on. Library routines are being constantly developed with AMX's partners, consisting of over 150 manufacturers, to make custom programming easier for installers. The end result after all, is for the installer to deliver a custom programmed system that makes perfect sense to the client. The programming environment utilises the Windows based NetLinx Studio which, when combined with the many library routines, makes software development easy for anybody with basic levels of training.

### AMX Landmark

The Landmark software/hardware suite of products provides immensely powerful capabilities for smart home applications. It embraces all technologies in a home, from sound and vision entertainment systems, to air-conditioning, lighting, security, irrigation, pool and spa control, communications, in fact everything. Landmark allows customising of a home-owner's environment to a very personalised level, catering for every whim and fancy. To help illustrate, here is an example. Recently a project employed directional motion sensing to automatically play a doorbell WAV file through the house (in multi-channel sound of course) within 5 seconds of someone walking towards the front door if they did not open the lock. Likewise if someone walked away from the door, the door is dead bolted and the security system is re-armed automatically. Such traffic monitoring around a home enables the Landmark system to make decisions and react accordingly. The true power and flexibility of the Landmark system lies in its scheduling capabilities which are tied closely to an internal astronomic clock, thereby allowing events to be closely synchronised to sunset and sunrise as well as time of day or season. It is the perfect system to create a fully automated environment that works in true empathy with the home-owner's lifestyle.

### AMX NetLinx

Control systems are utilising existing networks and the Internet as cost effective and reliable means to convey messages and remote control instructions and the NetLinx range of products is no exception. In fact, its nerve centre, a Unix-native ColdFire 260MHz processor combined with a WindRiver real time operating system provides seamless connection to the Internet. Being of true 3-buss architecture, in addition to the 10/100 baseT Ethernet port, the ICSNet bus provides lightening speed distribution of control whilst the AXlinx port supports all existing Axcess products transparently.

AMX Axcess - Accent 3 Pro

AMX Landmark Cardframe

AMX NetLinx Components

★PHILIPS★PROXIMA★SANYO★SHARP★SONY★TELEX★3M★AMPRO★BOXLIGHT★CANON★EIKI★ELECTROHOME★EPSON★FAROUDJA ★HITACHI★ INFOCUS★MITSUBISHI★NEC★PANASONIC★PHILIPS★PROXIMA★SANYO

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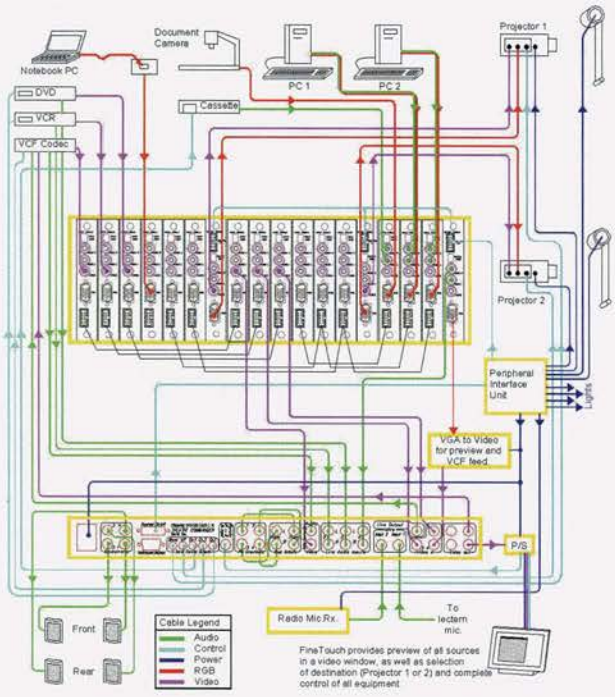


Command Systems Theatre Commander - example of wiring/connection

Some useful applications utilising IP communications are only just presenting themselves. The ability to setup and operate an organisation's many presentation rooms throughout the world from a single location. The ability to search servers and databases without using a computer, and presenting the required information on the user's touchpanel. The ability to browse easily to any system without special software, plugins or licences, and send or retrieve email easily. The surface of what can be achieved in remote control has not even been scratched. The powerful programming environment, NetLinx Studio which is backward compatible with any Axcess program, provides virtually any AMX system an upgrade path of simplicity and minimum expense.

## Command Systems Theatre Commander

Theatre Commander is ideal for conference rooms, boardrooms and lecture theatres. It's a fully integrated system that typically replaces three or four separate items with a compact, 1RU unit. This simplifies installation, often removing the need for a bulky equipment rack and making "all in the lectern" systems practical. Don't let Theatre Commander's small size and easy programming deceive you - Theatre Commander is not short of capability or performance. Many installed systems include two or three projectors, several data inputs plus VCR, DVD, document and conferencing cameras with full routing and preview of everything on the touchscreen. Lighting, blinds, screens and air conditioning control are common. Pin number access control, room activity detection and keyboard-mouse emulation for PCs are a few of the many other options. Such systems provide sophisticated levels of control but require only a TC, PIU and a Modular Switcher to implement - everything else is done in software. Because the audio system is integrated, you can easily automate all aspects of the setup with a single button. The four internal 30w.rms amplifiers provide more than enough grunt for all but the largest lecture theatres. The ability to independently control four zones in the room for program and microphone audio greatly enhances feedback margins. With 10 years of development, a full range of touchscreens and control panels, an extensive driver library and many hundreds of installations all over the world, Theatre Commander has unparalleled product depth. Sophisticated Windows-based development tools and its unique point&click macro language make TC programming accessible to novices and installers without sacrificing the expert's ability to add still more capability to the system.

## Command Systems Video Commander

Video Commander is a two-way cable TV system that brings instant access to any Video/Audio based media - Videotape, DVD, VCD, Laserdisk, Satellite, Videoconference, Digital Video Server, Cable, Film. You can advance schedule material or you can select "channels" and control timing and presentation to suit the audience. It's just like having all the media resources right there in the room with you - without the disadvantages. No breakages, no problems.

Video Commander is now in its fourth generation. It has the unparalleled experience of 24 years of development and is working, right now, in more than 2000 installations around the world.

Video Commander is the only fully integrated system. No coaxial cable, amplifiers, routers, splitters, modulators, interface boxes etc. A complete system - not just a control system.

Video Commander installs directly onto standard Cat.5 cable systems and can work with virtually any make, model or type of equipment.

You can link individual Video Commander systems together to form much larger, fully integrated multi-department and multi-campus systems. From a system with just four sources and eight rooms, a Video Commander system can grow to hundreds of sources and thousands of rooms and, unlike other systems, cannot slow down or run out of bandwidth - no matter how big the system or how many people are using it.

## Crestron Systems

Crestron offers new technology and speed through what it believes is now the fastest processor range on the market. These new processors offer higher speed than ever before with a unique twin BUS structure. A 300Mhz bus offers high speed for LAN, USB and extended non proprietary memory upgrade connection. Future options for Firewire, USB II and more are already being discussed. A welcome new option is an Ethernet card with a built in router and firewall. Now integrators involved in advanced IP connectivity can have their own LAN and IP addresses with full control and protection of LAN traffic through their devices. Crestron has a 4 year history in Ethernet connectivity and the experience is illustrated through its broad hardware and software products for this market and almost 20,000 installations worldwide.

Crestron has always been a leader in touchpanels. The current range is broad and includes many exclusive features. At the entry level is the CT-1000 which is a very affordable 4" touchpanel with WAV file playback. The top end of the range is the flagship the TPS – 6000. This touchpanel boasts 15" XGA resolution producing incredible control displays and video images. WAV file playback is included, but it also includes stereo speakers and a microphone which may be combined with 3rd party products to allow it to be used as a telephone or videoconferencing. Options include composite and S-video connection, XVGA inputs and an Ethernet card allowing it to be placed directly on a LAN. The huge memory available also allows this panel to run the entire program onboard and over the LAN to other Ethernet sub – processors. This configuration enables cost saving through use of existing LAN cabling and less expensive sub – processors in some situations.

Crestron has been very active in Australia for around 12 years and there are many commercial examples of innovative and exciting installations in boardrooms, courts, financial institutions and more. Crestron believes it is also the leading innovator in the residential market with many more products to accommodate that market.

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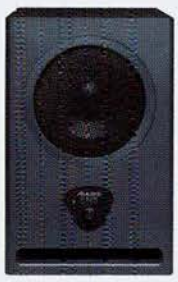
Tannoy Reveal Active

Yamaha MSP10

Audix PH250E

Meyer Sound UPM-1P


Alesis 16/S1

(4 _ load) 50 W RMS; HF channel (4 _ load) 50 W RMS; Output noise (HF channel, 20Hz - 20 kHz unweighted) -80 dBV. Designed for budget conscious project studios and as a playback monitor in larger rooms.
• $1999

### Tannoy System 600A

Employing a 6.5" Tannoy Dual Concentric™ Drive unit the System 600A is an active reference monitor with two 70W amplifiers and an electronic crossover. Specifications: Inputs 10 k ohm balanced on combined XLR / jack; Input sensitivity -10dBu or +4dBu; Frequency response 44Hz - 20kHz; Peak SPL (pair @ 1m) 107dB. Power, RMS, LF channel (6 ohm load) 70 W RMS, HF channel (6 ohm load) 70 W RMS; Crossover Frequency 1600 Hz. In addition, magnetic shielding on the drive units allows use near video monitors and its unique cabinet shape provides optimum acoustic performance. The System 600A is ideal for Left-Centre-Right in a project studio surround system.
• $3365

### Yamaha MSP10

The MSP10 is Yamaha's largest powered studio monitor. Offering a total power of 180 Watts, an 8" bass driver, 1" titanium waveguide loaded tweeter, the MPS10 is ideally suited for use as a main monitor system for small to medium studio's or as a mid-field monitor in very large control rooms. A wide frequency response of 40Hz-40kHz ensures its suitability for DVD authoring.
• $1,595

### Yamaha MSP3

NEW MODEL!! The MSP3 is a 2-way shielded monitor that delivers quality and excellent cost performance. Designed for personal music production systems, the MSP3 features a built-in 20-watt amplifier that drives both the 10cm cone and 2.2cm tweeter. Dual XLR/Phone and RCA inputs with separate front panel level controls and 2-band front panel EQ provide for precise system setting and sound tailoring.
• $395

### Yamaha MSP5

The MSP5 features a bi-amplified magnetically shielded design. Offering 67 Watts into a 1" titanium waveguide loaded tweeter and 5" driver in a ported enclosure, the MSP5 produces a sound that defies its compact size. Available individually for surround monitoring systems. A wide frequency response of 50Hz-40kHz ensures its suitability for DVD authoring.
• $695

## Powered Monitors (Three-Way)

### Audix PH250E

RCA inputs, high pass filter, bass reflex design, mirror image design – can be vertical or horizontal. 60 watts RMS, dual 5.25" shielded woofer, 1" dome tweeter, internal power supply. Two-way bass reflex design, 3/4" wood composite, Auto on-off function, Stereo amplifier, Master/slave design, Video shielding, Acoustic inner lining, Exceptional tonal balance.
• $1,695

### ATC SCM50/100/150/200/300A

ATC's premier range of 3-way full size studio monitors from single 9" to double 15" bass drivers with 3" Soft-Dome Mid and 1" HF. Dedicated amplifiers dependant on model. Extreme Accuracy and Soundstage Reproduction.
• From $23,995

### Meyer Sound UPM-1P

The UPM-1P is a compact self-powered, bi-amplified three-way system capable of high sound pressure levels with very low distortion. It has dual 5-inch cone transducers and a 1-inch titanium dome high-frequency driver on a 100 x 100 symmetrical horn. In addition to its popular role as a front-fill loudspeaker for sound reinforcement projects, the UPM-1P is frequently used in near-field applications such as portable recording studios, 5.1 surround sound and front-of-house monitoring. The versatile UPM-1P can also be used for vocal range reinforcement, and a full-range system can be created with the addition of an optional UMS-1P subwoofer.
• $3,150

### Quested VS3208

New!! Quested's largest self powered monitor, the VS3208 is a 3-way active design which can be used for a variety of applications including mid field reference monitors in larger rooms, main monitors in small to medium sized rooms and installations. The bass drivers are 2 proprietary 200mm 8" units housed in individual driver chambers as is the 75mm 3" mid range soft dome and 28mm 11/8" soft dome tweeter. The built in amplifiers provide in excess of 400W RMS. Switches provide for input sensitivity with an 18dB range of adjustment in 2dB steps and 3 switches for LF, mid and HF equalisation.
• $7220

## Powered Monitors (Subwoofers)

### Alesis 16/S1

The S1 Active Powered Active Subwoofer is an excellent companion to the M1 Actives. Perfect for Digital Surround Sound Mixing using LFE. 250w amp. Selectable crossover points at 60, 80, 100 or 120Hz etc.
• $1499

### Behringer Event 20/20

With its custom 12" long throw subwoofer the 20/20/12 sports the same 250W linear power amplifier as the 20/20/15, providing the high SPL low frequency output necessary for multi-channel production work. It has six discrete, active, balanced inputs, tuneable crossovers and variable phase control. One input is for monitoring the Dolby™ LFE (Low Frequency Effects) channel and signals appearing at the LFE input are fed directly to the 20/20/20 amplifier through a dedicated crossover. The other five inputs are for the fine mains channels. These signals are summed into an additional bass channel.
• $2999

### Dynaudio Acoustics BX30A

For true 5.1 monitoring, a high-quality subwoofer system is an essential component. Dynaudio's BX30A active bass system occupies minimal space whilst delivering extraordinarily high levels of clean LF power. Regarded as one of the most advanced low frequency speaker systems available, it features a single 305mm driver driven by a 130W amplifier and an extensive signal management system. Careful design ensures that the BX30 meets the critical Dolby and DTS™ requirements for accurate signal response up to 120Hz.
• $5,450 / pair

### Hafler TRM10s

This active subwoofer has the capacity to extend sys-

tem frequency range to well below 30Hz, all in a small package. A patented output stage configured for "power gain" allows for simpler front-end circuity and lower cross talk and noise and system features include: a down-firing low distortion 10" woofer (Cellulose Fibre cone); an adjustable symmetrical 4th order Linkwitz-Riley crossover, from 40 – 110Hz; high efficiency amplification (Class G) at all listening levels (200 watts @4 Ohms); balanced XLR and unbalanced RCAs, and adjustable input level sensitivity. The TRM 10 subwoofer system is ideal for 5•1 or 7•1 applications and ships with a 3 year warranty.
• $1899 each

## Hafler TRM12s

An active subwoofer with similar specifications to its smaller cousin the TRM 10 except with a 12" Woofer. Designed for studio environments that require ultra-low distortion energy and true full range monitoring. Also ships with a 3 year warranty.
• $1999 each

## HHB CIRCLE 1

Nobody understands the demands of surround sound monitoring better than HHB. At the heart of the CIRCLE surround sound-monitoring system lies the new CIRCLE1 powered subwoofer. Combining a 300mm (12") low moving mass bass driver with a 100 watt amplifier module, the CIRCLE1 also includes five channel active filtering, making it easy to configure a high performance surround sound monitoring system to meet the most demanding applications.
• $3,299

## JBL LSR12P

The JBL LSR12P powered subwoofer is made up of the 252F low-frequency transducer and the LSR12P amplifier with 250-watts continuous power providing the proper drive levels for optimised frequency response. The LSR12P also includes an integral bass management processing system. A contact closure switch is provided for comparison for mixed with and without bass management. Response (-6 dB) : 28 Hz - 80 Hz.
• $3495

## Meyer Sound UMS-1P

The UMS-1P is a compact, self-powered subwoofer system that provides powerful low-frequency extension for studio applications where both audio quality and cabinet size are critical considerations. Suitable as a companion to both the UPM-1P and HD-1, the UMS-1P's bass reflex cabinet houses dual 10-inch cone driver and a two-channel complementary MOSFET power amplifier with a total power rating of 400W. The UMS-1P yields exemplary performance with remarkably high acoustic power output and low distortion for such a compact cabinet.
• $3,500

## NewAudio Stomper One

The Stomper's innovative design uses natural 3rd order bass reflex techniques to create a uniform and tight response down to 30Hz. Features: 10 inch Carbon Fibre Reinforced Cone driver (with a maximum excursion of 38mm Peak to Peak minimising distortion at high SPLs); Tubular construction minimising frequency response and intermodulation distortions. Specifications: Sensitivity: 92dB @ 1W / 1 metre: Frequency Response: -3dB: 30Hz to 160Hz, -10dB: 20Hz to 180Hz (crossover in),: -3dB: 30Hz to 450Hz, -10dB: 20Hz to 455Hz (cross over bypassed). The integrated amp has a thermal overload protection and output short circuit protection. The Stomper One operates in an uncompressed undistorted mode under all conditions.
• $1,645 each

## NHT Pro B-20

Designed to integrate seamlessly with NHT Pro's flagship A-20 monitors, the B-20 system can enhance any active monitoring system whose satellite speakers reach down to 110 Hz. The B-20 offers stereo 110 dB subwoofers and a dedicated (external) 250 watt per channel amplifier and features (unusually) diminutive 14" cube enclosures with custom 10" long-throw woofers. The B-20 is capable of output below 30Hz at levels well in excess of 100dB and maintains nearly perfect transient response, flat bass response, minimal room mode interaction, and improved soundstage coherence. The B-20 sets a new standard for adding full-range bass response to near-field monitoring.
• $3800

## NHT Pro C-20

1 x 117 dB centre channel speaker w/- amp. An active centre channel speaker/amplifier system featuring components exactly matched to the A-20, and designed complete its expansion into a world-class 5.1 overview system.
• $1750

## NHT Pro S-00

Designed to mate with NHT Pro's M-00 monitors, this active two-in-one system expands the M-00 or any quality monitor into a full-range two-channel or 5.1-channel suite. The S-00 is a self-contained subwoofer featuring a 125W high current built-in amplifier incorporating low and high pass filters and a footswitch for bypass. Its driver is a long-throw treated paper 8" woofer providing output down to 39Hz. Less than one cubic foot in volume, the S-00's cabinet is constructed of 3/4" MDF providing a structurally sound and acoustically neutral enclosure. Ideal for smaller project studios, work station environments and mobile applications.
• $1399

## Quested QSB118

The QSB118 is an active subwoofer with a separate electronics package. The cabinet contains a single 18" driver with a 10mm 4" four layer voice coil, triple rear suspension which allows large peak to peak movements of 20mm. The driver has an external radial chassis and vented magnet resulting in more efficient cooling of the voice coil with the benefits of less power compression, increased output and improved reliability. Power is provided by the AP800 amplifier, giving 450W RMS into 8 ohms. Applications include: main monitors for medium and large control rooms where a split system is needed for physical or performance reasons.
• $6135

## Yamaha SW10

Subwoofer designed for reinforcement of bottom octaves for both music production and as .1 channel in surround sound production systems. Self powered with 180 Watts, the SW10 is capable of producing 25-150 Hz. Utilizing a variable low pass filter (40Hz-120Hz) and 3 XLR inputs and outputs, the SW10 is easily integrated into practically any existing or new system.
• $1,795

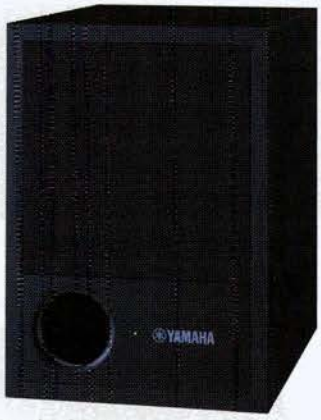
Hafler TRM10s

NewAudio Stomper One

Meyer Sound UMS-1P

NHT Pro S-00

Quested QSB118



Yamaha SW10

Audix N-10

DAS Moritor-8

EAW MS20

## Unpowered Monitors (Two-way)

### ATC SCM10

Nearfield 5" Mid/Bass 1" HF 2-Way featuring soft dome Mid and HF technology. Recommended 250w Amplifier. 80dB @ 1W @ 1m. 10Kg. Extreme accuracy and soundstage reproduction.

• $4,295

### ATC SCM20SL

Nearfield 7" Mid/Bass 1" HF 2-Way Featuring soft dome Mid and HF technology. Recommended 250w amplifier. 83dB @ 1W @ 1m. 23Kg. Extreme accuracy and soundstage reproduction.

• $6,595

### Audix N-10

Ported 2-way premium reference monitor that features exceptional imaging. 1" wood composite cabinet with non-reflective black sand coat, dual 7" Kevlar woofers, 1" dome tweeter. Designed for mastering, Internal bracing, Acoustic wool lining, Incredible detail & imaging, 1" wood composite cabinets, 2-way bass reflex design, Kevlar woofers, Extended bass response, Matched crossover components, High power handling, Gold plated terminals, Handles up to 8 gauge wire.

• $4,195

### Audix N-20

Ported 2-way premium reference monitor that features exceptional imaging. 1" wood composite cabinet with non-reflective black sand coat, 2 x 7 inch Kevlar woofer, 1" soft dome tweeter. Response of 30 - 20k. 4 ohms. Designed for mastering, Internal bracing, Acoustic wool lining, Incredible detail & imaging, 1" wood composite cabinets, 2-way bass reflex design, Kevlar woofers, Extended bass response, Matched crossover components, High power handling, Gold plated terminals Handles up to 8 gauge wire.

• $6,895 (N-20b natural birch finish: $7,195)

### Audix N-5

Ported 2-way premium reference monitor that features exceptional imaging. 1" wood composite cabinet with non-reflective black sand coat, 7" Kevlar woofer, 1" dome tweeter. Designed for mastering, Internal bracing, Acoustic wool lining, Incredible detail & imaging, 1" wood composite cabinets, 2-way bass reflex design, Kevlar woofers, Extended bass response, Matched crossover components, High power handling Gold plated terminals, Handles up to 8 gauge wire.

• $3,495 (N-5b natural birch finish: $3,795)

### Audix Studio 1A

Near-field monitors with startling clear, concise sound reproduction. Composite cabinet with non-reflective black sand coat, 6.5" cast woofer, 1" cloth dome tweeter. Excellent imaging 2-way bass reflex design Compact, Exceptional balance and fidelity, Wood composite cabinet Handles up to 8 gauge wire, Acoustic wool lining, Gold plated terminals Matched crossover components, High power handling.

• $1,595.00 (1A-s shielded version: $1,795)

### DAS Monitor-8

The DAS Monitor-8 was recently selected from a range of other major brand studio monitors as the speaker of choice for the Paul McCartney Liverpool Institute Performance Centre, a state of the art five studio recording complex in the UK. With over 30 years of sound system design and manufacturing DAS now introduce the Monitor-8 Studio Monitor. Unlike other monitors they are rugged enough for standard nearfield monitoring yet more Hi-Fi in sound making the Monitor-8 Studio Monitor a more useful reference unit with a competitive price. Key specifications: Frequency range (-10dB 38Hz - 32 kHz); RMS power: 125W; Program power: 250W; Woofer diameter: 8"/20cm; Sensitivity: 89db SPL.

• $800

### DB-Technologies L-80 & L- 160

With good bottom end and the ability to cope with harsh transients, these robust hardworking cabinets are the choice for home DJ systems and close up monitoring for solo or duo performers. Dual concentric speakers deliver smooth and consistent sound.

• L-80 $419

• L- 160 $549

### Dynaudio Acoustics BM15

The BM15 is the largest and most powerful monitor in Dynaudio Acoustics' BM Passive Nearfield range and is designed for any studio application where high sound pressure levels and extended LF response are required. In many applications, the BM15's astonishing power handling & extended bass response can make it a perfect alternative to wall-mounted main monitors - particularly for, project studios, postproduction facilities and smaller commercial studios. All cabinets are matched to +/-1.5dB of each other and feature a unique 240mm (10") LF driver (with massive 100mm / 4" voice coil) in combination with a special version of Dynaudio's famous Esotec 28mm soft dome tweeter.

• $2,890 / pair

### Dynaudio Acoustics BM5

The BM5 nearfield monitors are deceptively compact, yet deliver true professional performance for critical applications. The 2-way shielded design features a 175mm (6.5") LF driver and 28mm (1.25") soft dome tweeter enabling the system to deliver an exceptionally linear phase & frequency response. Each driver can handle extreme transients without damage or degradation of the audio signal, leading to outstanding dynamic response. Applications for the BM5 cover virtually every area of sound engineering including music & speech recording, edit suites, OB vans, postproduction and broadcast.

• $1,495 / pair

### Dynaudio Acoustics BM6

The BM6 nearfield system represents a genuine breakthrough in cost vs. performance. When used with quality, high-current amplifiers, the BM6 delivers outstanding performance & flexibility for smaller control rooms. Distortion products are generally much lower than many so-called "reference" monitors ensuring a highly accurate sound field with ear fatigue virtually eliminated. Features include a 175mm LF driver (with 75mm voice coil) and 28mm Esotec soft-dome tweeter in a ported enclosure. Despite its compact size, the system delivers an accurate, punchy & transparent sound which is ideal for applications ranging from music studios to broadcast control rooms and OB vehicles.

• $2,270 / pair

### Dynaudio Acoustics M1.5

Dynaudio's M1.5 is renowned for its ability to deliver extraordinarily high output levels from a comparatively compact cabinet and can actually outperform many "main" monitor systems. Suitable for either stand or soffit mounting, the totally passive M1.5 re-

lies purely on component quality for its outstanding performance. The high sensitivity drivers were developed exclusively for this model and coupled with a twin ported cabinet plus an impedance corrected crossover to ensure that optimum loading is presented to the amplifier at all times. Imaging is pin sharp, even in difficult environments, thanks to the directionally controlled tweeters. With a frequency response of 34Hz to 20kHz and a maximum output in excess of 120dB SPL @ 1m, the M1.5 is truly exceptional.
• $7,250 / pair

### EAW MS20

A 2-way full range system (passive LF/HF crossover) in a vented rectangular enclosure. Includes a 7-in woofer and a 1-in tweeter. The MS20 combines reference monitor sound quality with professional reinforcement output (115.8 dB SPL peak). Available in mirror-imaged right and left versions. Six Year Warranty. Applications include: Multi Media, Boardrooms, Dance Clubs, Live Music Clubs, Restaurants.
• $2,395

### EAW MS30C

A 2-way full range system (passive LF/HF crossover) in a vented rectangular enclosure. Includes an 8-in woofer and a 33mm dome tweeter. Available in mirror-imaged right and left versions. The MS30 combines reference monitor sound quality with professional reinforcement output (119 dB SPL peak). Six Year Warranty. Applications include: Multi Media, Boardrooms, Studio Monitor, Dance Clubs, Live Music Clubs, Restaurants.
• $2,870

### Hafler M5

Portable and lightweight the Hafler M5 offers all the qualities of the TRM6 powered monitor in a more compact and un-amplified package. Features include: 70Hz – 21kHz (+/- 3dB) frequency response; TMR6 tweeter/waveguide which provide smooth response, on- and off-axis; TMR6 Woofer Motor Assembly providing greater control at high output levels; Shielded Woofer Magnet, allowing use near computer monitors. Other features: Tweeter Level Control and o/load protection; 4th order Linkwitz-Riley Crossover (at 3.3kHz); 5-way binding post inputs. 6 Ohms nominal weighing in at 5.45kg. The new M5 monitor provides solutions for all broadcast and studio environments. Ships with a 1 year warranty.
• $999 / pair

### HHB CIRCLE 5P

The HHB CIRCLE5P is a passive version of the very successful active CIRCLE5A midfield monitor. The CIRCLE5P is fitted with the same 200mm (8") bass / mid driver, with its injected moulded synthetic cone, and Ferro-fluid cooled soft dome tweeter. Featuring no limiting and polyswitch tweeter protection make this the ideal choice for the discerning studio monitor purchaser.
• $1,699

### HHB CIRCLE3P

The HHB CIRCLE3P is a passive version of the very successful active CIRCLE3A nearfield monitor. The CIRCLE3P is fitted with the same 110mm (4.5") bass / mid driver, with its injected moulded synthetic cone, and Ferro-fluid cooled soft dome tweeter. When space is at a premium, the compact nature of the CIRCLE3P makes this an extremely desirable monitor.
• $999

### JBL 4206

A 2-way monitor with shielded 6" woofer and titanium dome tweeter. Multi-radial baffle aligns the acoustic centres of the high and low frequency transducers. Transducers are magnetically shielded to allow placement near tape recorders and video monitors. Frequency Range: 42 Hz - 21kHz (-10dB) Power Capacity: Cont. Pink Noise: 75 watts.
• $995 / pair

### JBL LSR32

The LSR32 Linear Spatial Reference Studio Monitor combines JBL's latest in transducer and system tech-

Hafler M5

EAW MS30C

HHB CIRCLE 5P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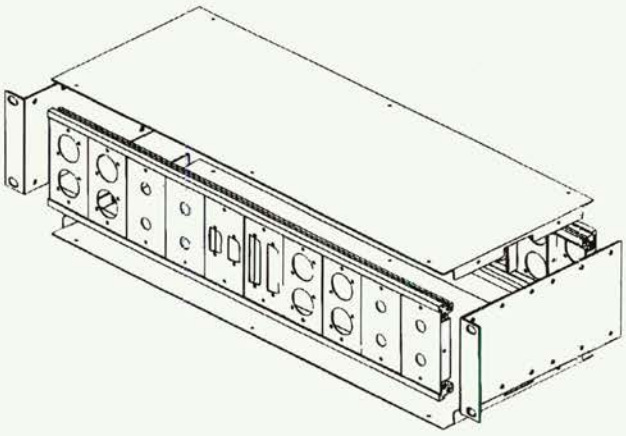

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## Studio Monitors and Headphones

Klipsch RB-5

New Audio Spatial One

Quested VH2108

KRK RoKit

nology with recent breakthroughs in psychoacoustic research to provide a more accurate studio reference. Features: Differential Drive® Technology with dynamic braking for extended low frequency response and low power compression; Neodymium Midrange with 2" voice coil and Kevlar™ cone material for extended frequency response and low distortion; Titanium Composite High Frequency Device with Elliptical Oblate Spheroidal Waveguide and Damped Pole Piece; Carbon Fibre Composite Baffle for low cabinet resonance and stable inertial ground. Linear Dynamics Aperture Port Design eliminates port noise and reduces port compression. 200 W RMS Capability.

• $6395 / pair

### Klipsch RB-5

The Klipsch RB-5 is a 2-way reference system. It employs a 1" K-105-K magnetically shielded, titanium dome compression driver with a 90° x 60° Tractrix Horn, and one 8" magnetically shielded aluminium cone woofer. 150 watts continuous (400 watts peak); Bass reflex via wide flare, rear firing port; 96dB @ 1W/1m; weight: 10.5 Kg. The RB-5 delivers as a stereo pair or matches with a variety of Reference Series models to create clear and detailed imaging for superb response and dynamic range where it is needed most. The Reference Series RB-5 is available in three handcrafted wood veneers - mahogany, medium oak and black oak.

• $2199 pair

### KRK K-RoK

The highly successful K-RoK is the industry standard for project studios. This personal monitor plays louder (without sounding strained) than any other speaker in its class. Competitively priced, it's also used by world class facilities like Universal Studios and Microsoft. The K-RoK has a 7" proprietary latex coated, long stroke woofer and a 1" silk dome tweeter. Available with video shielding as the K-RoK/S.

• $1,457.50

### KRK M 6000/S

The KRK 6000 is a high quality compact monitor prescribed for all close-field applications. Weighing a convenient 18 lbs. each (shielding versions weigh 4 lbs. more), the portable 6000 combines extremely smooth frequency response with very low distortion. Modestly priced, it derives its sonic attributes from the ever-popular Model 7000 and shares the same special design inverted dome 1" Kevlar tweeter. The 6000 is available fully shielded for video applications as the Model 6000/S.

• $2,739

### KRK M 7000B/S

The 7000B close-field monitor is the industry standard for top-of-console placement. Now in its second generation, the 7000B offers improved frequency response and lower distortion, a Kevlar woofer and tweeter, and features KRK's phase alignment design. The 7000B is also very portable. Each Monitor weighs 25 lbs., and their compact dimensions (14.25" x 11" x 11") makes them perfect for fitting neatly into facilities with limited space. Due to the larger 7" woofer and larger cabinet, the bass response of the 7000B extends lower than the 6000. The 7000B is available fully shielded for video applications as the Model 7000B/S.

• $4,075.50

### KRK RoKit

Small and mighty, the RoKit ultra-compact personal monitor will give you great sound anywhere. Don't let its small size fool you; KRK designed the RoKit to be the finest sounding personal monitor. It introduces the sound, musicality, and power handling that has make KRK famous at the lowest possible cost. Video shielding is standard.

• $1,023

### NewAudio Spatial One

An innovative design uses a RPG (Reflective Phase Grate) to create a uniform phase front on the tweeter, which means that sound and image are constant and extremely accurate whether close monitoring or listening at the back of the studio. Sensitivity of 88dB @ 1 watt 1 metre, Frequency Response: -3dB: 59Hz to 18kHz, -10dB: 50Hz to 20kHz. Drivers: 1" Inverted Cone Kevlar Tweeter and 6.5" Polypropylene Rubber Surround Woofer. Maximum Power Handling Short term is 200 watts, Long term power 100 watts. Weight is 10kg each. Protection is through robust parts and crossover power rating. Optional extra include the Stomper One Active Sub Woofer.

• $1,584 / pair

### Quested F11P

The F11P is a compact 2-way passive speaker that uses the same cabinet as the active self powered F11. This mineral loaded material offers exceptional acoustic properties being 50% denser than MDF. A compression brace increases mass & rigidity. This innovative design produces tight, punchy and extended bass performance, In addition, the F11P uses the same high quality Ferro fluid damped soft dome high frequency driver used in more expensive Quested models. Other features include: audiophile quality passive crossover; polypropylene capacitors and air-cored inductors throughout; front mounted clip warning LED; built in mounting points, and full magnetic shielding. The F11P is suited to a wide variety of applications.

• $1335

### Quested H108

The H108 is a compact passive 2-way design for applications where there is a limited space, but still a requirement for high level power handling and an accurate and neutral sound delivery. The wide dispersion, low distortion, and accurate stereo imaging allows hours of use without listener fatigue. Although compact, the H108 is not compromised. It has a 200mm (8") excursion bass driver with cast chassis and double rear suspension, and a 28mm (1.125") softdome Ferro fluid cooled tweeter, components that can be found on Quested's larger monitors. Applications include installations, broadcast, surround sound, project/home studios, mobile, multimedia work adjacent to work stations and nearfield monitoring.

• $1885

### Quested VH2108

A 2-way design with the same drivers as the H108, this system has a larger enclosure that results in an extended bass response. This monitor is designed to be easily converted to active operation by replacing the back panel containing the passive crossover with the VS2108 amp module. The connectors are gold-plated binding posts that allow for bi-wiring. Although a sml speaker, the VH2108 offers sonic accuracy & is capable of high level outputs without distortion. Suitable for nearfield use or as the main speakers in smaller rooms such as mobile, broadcast, editing and voice-over suites, post-production project/home studios.

• $2335

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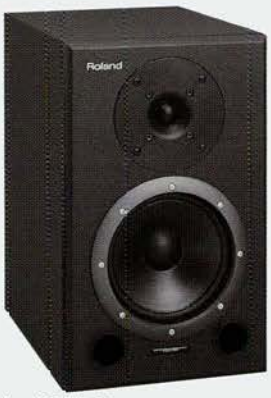

Roland RSM-90

Tannoy System 600

EAW MS53

## Roland RSM-90

The RSM-90 Studio Monitor is a two-way nearfield monitor with proprietary crossover circuitry and front-firing dual bass ports (allow for positioning near walls and for phase-correct imaging) They have an ultra-flat frequency response, sound incredible and are affordable! This means the RSM90 is the perfect choice for recording studios, multimedia applications, home theatre and more. The RSM90 is magnetically shielded for placement near computer monitors and accepts up to 270W input power.

• $695 each ($1390 a pair)

## Spirit (by Soundcraft) Absolute 2

High definition Linear Phase design, Superb sonic accuracy, Neutral, balanced sound for accurate monitoring, Magnetically compensated High-quality crossovers with film capacitors and air-cored inductors. Custom-designed drivers - ferro-fluid cooled soft dome HF driver 165mm cone LF driver with solid-cast chassis and 30mm edge-wound voice coil. Terminals allow bi-wiring. Vented cabinet with special port for smooth low-frequency performance. Power Handling (programme) 100 Watts RMS.

• $1045 / pair

## Spirit (by Soundcraft) Absolute Zero

High definition Linear Phase design, Flat on and off axis frequency response, Wide, controlled dispersion, CAD optimised, low loss crossover, Custom designed drivers - Long throw 170mm LF driver, 25mm soft dome HF unit on proprietary waveguide. Ported cabinet for extended LF response at all listening levels. Power handling (typical music signal content): 95 Watts RMS

• $835 / pair

## Tannoy Reveal

The Reveal is a 2-way discrete near-field monitor with a 1" soft dome tweeter and 6.5" bass unit. The curved baffle has been designed to reduce diffraction and the 40mm thick enclosure provides a rigid mounting platform for the drive units. A 25mm soft dome tweeter is matched with a 165mm long-throw bass unit by a hard-wired, low-loss crossover. Both drivers are magnetically shielded, allowing operation close to video monitors. Performance: Continuous power handling 50W / 100W; Sensitivity 90 dB / 2.83 V @ 1m; Nominal impedance 6 ohm; Frequency response 65 Hz - 20 kHz; Power Handling (RMS/Programme) 50W / 100W.

• $865

## Tannoy System 1000

A 10" Dual Concentric driver in the same unique cabinet design as System 600 / 800. Also employing Dual Concentric™ Point Source design, the System 1000 is suitable for a wide range of midfield monitoring applications from music/project studios to broadcast and multimedia. Frequency response (1) 45Hz–20kHz; Recommended amplifier power 60 to 200 watt RMS into 8 ohm; Power handling Average: (2) 100 watt Programme: 200 watt; Nominal impedance 8 ohms; Sensitivity (3) 94dB/1w@1m. The System 1000 is capable of producing accurate, high quality sound for a wide range of applications.

• $3089

## Tannoy System 1200

The System 1200 Reference 12" midfield monitoring system is capable of accurate reproduction at very high sound pressure levels for a wide range applications. Designed for use as a midfield monitor or for main monitoring in smaller studios, its key performance specifications include Dual Concentric™ Point Source design; Frequency response: (1) 40Hz–20kHz; Recommended amplifier power 100 to 300 watt RMS into 8 ohm; Power handling Average: (2) 180 watt Programme: 350 watt; Nominal impedance 8 ohms; Sensitivity (3) 95dB / 1w@1m; Distortion <0.4% 40Hz–25kHz; Dispersion 90 degrees conical; Crossover frequency 1.3kHz.

• $4295

## Tannoy System 600

A 6.5" Dual Concentric, reference class near-field monitor at a sensible price. Conventional monitor designs lock you into a tiny 'sweet spot' monitoring position – move to adjust a fader and the sound changes. Not the Tannoy System 600; its Dual Concentric™ Point Source design creates a coherent wavefront that is consistent both on and off axis providing consistent accurate sound over a wide mix position. Frequency response (1) 52 Hz – 20 kHz; Recommended amplification power 50 to 150 W RMS into 8 _; Power handling Average (2) 80 W RMS; Programme 160 W RMS. Nominal Impedance 8 _ ohms; Sensitivity (3) 90 dB SPL / 1 W @ 1 m.

• $1325

## Yamaha NS10M

The industry standard near-field reference monitor is discontinued and is no longer available.

### Unpowered Monitors (Three-way)

## EAW MS103

A 3-way full range system in a vented rectangular enclosure. Includes a 15-in woofer, a 7-in midrange cone in a sealed Sub-enclosure and a 33mm dome tweeter on a Wave Guide Plate™. Powering mode is switchable: passive (3-way cross-over) or bi-amplified (passive MF/HF crossover). Available in mirror-imaged right and left versions. The MS103 combines reference monitor sound quality with professional reinforcement output (125.8 dB SPL peak). Six Year Warranty. Applications include: Multi Media, Reference Monitor, Boardrooms, Dance Clubs, Live Music Clubs, Restaurants.

• $10,775

## EAW MS63

A 3-way full range system (passive LF/MF/HF crossover) in a vented rectangular enclosure. Includes a 12-in woofer, a 7-in mid-range cone in a sealed sub-enclosure and a 33mm dome tweeter on a Wave Guide Plate™. Available in mirror-imaged right and left versions. The MS63 combines reference monitor sound quality with professional reinforcement output (127 dB SPL peak). Six Year Warranty. Applications include: Multimedia, Reference Monitor, Boardrooms, Dance Clubs, Live Music Clubs, and Restaurants.

• $8,495

## JBL 4410A

A 3-way monitor with 10" woofer and titanium dome tweeter, designed as a vertical line array. The system delivers incredibly fine transient response and spatial details. Frequency Range: 33 Hz - 30kHz (-10dB). Nominal Impedance: 8 Ohms Power Rating: Pink Noise: 125 watts.

• $2990 / pair

## JBL 4412A

A 3-way studio monitor with 12" woofer and titanium dome tweeter, designed for applications requir-

ing maximum low frequency output from semi-nearfield sized monitor. Frequency Range: 30 Hz - 30kHz (-10dB) Nominal Impedance: 8 Ohms. Power Rating: Pink Noise: 150 watts.
• $3290 / pair

### Quested VH3208

The VH3208 is a new passive version of H208. This compact enclosure is suitable for a wide variety of installations. It can be freestanding or soffit mounted and can accept both bi- and tri-wiring from amplifiers in the 200 to 700 Watt range. The VH3208 has custom 200mm (8") bass drivers which are loaded in their own chambers, as are the 75mm (3") softdome and 28mm (1.125") tweeter. Applications include broadcast, post production, project studios, midfield reference monitors and main monitors in small to medium sized control rooms.
• $4825

## Headphones

### AKG K141M

A proven "workhorse" throughout the recording industry, the K141 M serves as the reference standard for supra-aural (on-the-ear) monitor headphone designs. A small coupling volume in the ear cup, combined with an "integrated semi-open" venting system behind the transducer, gives the K141 M its trademark sound: punchy, accurate and crisply defined. The K141 M will deliver high sound pressure levels without distortion and it is solidly built to withstand around-the-clock session use.
• $249

### AKG K240

A classic design which has become a standard in monitoring. The "integrated semi-open air" design incorporates a highly accurate dynamic transducer, and an acoustically tuned venting structure behind the element produces a naturally open sound quality. The circumaural (around-the-ear) pads are designed for hours of wearing comfort, while the steel-cable, self-adjusting headband construction and single-sided professional quality audio interconnect ensure extended reliability in demanding professional studio applications.
• $319

### AKG K240DF

The K 240 DF follows the criteria specified by the Institute of Radio Technology (IRT) in Munich for a "diffuse field" equalization curve that provides headphone listeners with the sound pattern, characteristic of a room with reflective, non-anechoic surfaces. Each K 240 DF is rigorously tested to assure strict adherence to the IRT standards for frequency response, channel separation and sensitivity.
• $339

### AKG K270S

The patented Parabolic Transducer Array in the K270S has two optimized transducers in each earcup, both precisely configured in a tuned enclosure to focus sound waves at the entrance to the ear. The result is a dramatically increased perception of spaciousness, extremely accurate response, and no audible distortion at output levels far beyond the capability of single transducer headphones.
• $439

### Audio-Technica ATH910PRO

Professional quality headphones featuring a closed back design. By using large diaphragms and Samarium Cobalt magnets, the ATH910PRO offers a wide 20Hz-22kHz frequency response. Weighing in at only 205 grams, they are comfortable enough for extended listening sessions.
• $195

### Audio-Technica ATHD40

Studio quality enhanced bass headphones featuring closed back design. Using identical design and construction to the ATHM40, the ATHD40's offer a boost in the bass region designed specifically to allow drummers and bassists to monitor easily, even in complex cue mixes. With padded earpieces and headband and weighing just 250 grams, the ATHM40 remains comfortable even during long sessions.
• $245

### Audio-Technica ATHM40

Studio quality headphones featuring closed back design. With large diaphragms and Neodymium magnets, the ATHM40 offers a super wide 5Hz-23kHz, flat, uncoloured frequency response. With padded earpieces and headband and weighing just 250 grams, the ATHM40 remains comfortable even during long sessions.
• $245

### Beyer DT 770 Pro

Utilising an innovative bass-reflex-system, the DT 770 Pro is a closed studio headphone equalized to meet diffuse field EQ requirements. Specifications: Dynamic Transducer; Nominal frequency response 5 Hz – 35 kHz and Nominal impedance 600 ♀; Nominal power handling 100 mW; Ambient noise isolation 18 dB (A); Nominal SPL 96 dB SPL. Other features include a robust spring steel headband; single-sided cable; soft head-pad and gold plated jack-plug.
• $369

### Beyer DT150

The DT 150 is a dynamic studio headphone for use in broadcasting, film and recording studios and other audio monitoring applications where size, comfort and performance are primarily requirements. Due to its closed design (circumaural) it features excellent ambient noise isolation for reference monitoring. Other features include: Wide frequency response: 10 - 30,000 kHz; High long-term wearing comfort; Excellent isolation from ambient noise; Rugged construction and Extended bass response.
• $369

### Beyer DT250

Designed for reference monitoring, the DT 250 is a stylish, closed dynamic headphone offering excellent ambient noise isolation and linear response. Key features: Compact, lightweight, low-profile design; Reference-quality closed ear monitors; Neodymium magnet assemblies; Advanced cushion systems; Closed circumaural earcups and a Modular cable assembly. Performance: Transmission: 10 – 30,000 kHz; Nominal impedance 80 ♀ (250 ♀ systems available); SPL at 1kHz 98 dB at 1mW=0.28 V to 80 ♀; Nominal Power Rating: 100 mW = 118 dB = 0.28 V to 80 ♀. The DT250 is suitable for a wide range of professional audio applications where size, comfort and performance are required.
• $369

### Beyer DT990 Pro

Similar to the DT 770 Pro the DT990 Pro Open studio headphone is also engineered to meet diffuse field EQ

Quested VH3208

Audio-Technica ATHD40

Beyer DT250

Pickering PC 100

Sennheiser HD 265

Sony MDR-7505

Sony MDR-7509

Stanton DJ Pro 2000 S

requirements. Performance: Nominal frequency response 5 Hz – 35 kHz and Nominal impedance 600 ؊; Nominal power handling 100 mW; Ambient noise isolation 18 dB (A); Nominal SPL 96 dB SPL. Also features a robust spring steel headband; single-sided cable; soft head-pad and a gold plated jack-plug.
• $389

## Gemini EM 300

Closed headphones. Designed for DJ use with 50mm transducers, expandable headband, double padding for durability, foldable design for compact transport. 20Hz – 20kHz frequency range.
• $269

## Koss A-130

The Dynamic Element construction of the A-130 utilizes Neodymium iron boron magnet structures which assures accurate acoustic sound reproduction. Other features include: Oxygen free copper voice coils for signal clarity; Closed leatherette ear cushions for maximum isolation and deep bass and Extra-wide headband for maximum comfort during extended listening periods. Performance specifications: Frequency Response 16-23,000 Hz; Impedance 60 ohms; Sensitivity 98 dB SPL/1mW and Distortion <0.1%. Weight 8.1 oz. The A-130 has a detachable headband for easy travel and storage, a straight, dual entry 8 foot cord and includes 1/8" and 1/4" stereo plugs for home and portable use.
• $299

## Koss R-200

Suited for a wide variety of critical listening applications the Koss R-200 combines smart engineering with performance. Features include: Neodymium iron boron magnet structures for accurate acoustic sound reproduction; Oxygen Free copper voice coils for signal clarity; Padded, cloth-covered ear cushions for improved bass and maximum comfort; Pivoting ear cups for flexible movement during extended wear and an Adjustable headband adapts to any head size or shape for added comfort. Frequency Response 18-23,000 Hz; Impedance 60 ohms; Sensitivity 84 dB SPL/1mW and Distortion <0.3%. Weight 7.6 oz. Includes a Detachable 8 foot, single entry coiled cord and 1/8"/1/4" stereo plugs.
• $219

## Pickering PC 100

Closed Headphones. New brand and new design from the Stanton Magnetics group. Foldable design. 10ft coiled cord. 50mm transducers. 20Hz - 30 kHz frequency response. Comes with carry pouch.
• $199

## Roland RH25

Lightweight and compact, the Roland RH25s are comfortable enough to wear for extended periods of time and provide excellent sound. The added value is the gold plated jack that offers low noise level and a folding headband design that enables portability and easy storage. Discover the comfort of a 2.7m single-sided connector cable when playing a musical instrument. Connector: 3.5 mm stereo jack plug with 1/4" (6.3 mm) adaptor; Frequency range 10-22,000 kHz; Maximum Power input 700mW 100mW; Impedance 32 ohms; Sensitivity 106 dB SPL at 1000 Hz.
• $29

## Roland RH50

The Roland RH50 headphone system will expand and enhance the enjoyment of various audio sources such as TV, VCRs, stereo receivers/amps, personal stereos and CD players. With a superb transparent digital sound, this high durability unit reproduces high sound pressure levels and pure sound. The 3-m single-sided connector cable provides comfort whilst playing a musical instrument. Connector: 3.5 mm stereo jack plug with 1/4" (6.3 mm) adapter; Frequency range 10-22,000 kHz; Maximum Power input 700 mW 100 mW; Impedance 32 ohms; Sensitivity 106 dB SPL at 1000 Hz.
• $89

## Samson PH60

These personal headphones are designed to offer great sound in a lightweight, high style "see-through blue" design for personal stereo listening on the go. The Samson P60s use a special 34mm Mylar driver with an isotropic Ferrite magnet for a surprisingly big, open sound not typically found in these kinds of headphones.
• $29

## Samson RH100

Combining professional specifications, exceptional comfort and high quality audio at a very accessible price, the RH100 reference headphones from Samson use a newly designed high performance transducer along with a high output Neodymium magnet and leading-edge headphone circuitry. Engineered for comfortable listening over extended periods of time and natural, uncoloured audio, the RH100s sound great in any kind of studio and/or home music playback situation.
• $79

## Samson RH300

Offering unparalleled audio quality and a comfortable listening experience, Samson's mid-line RH300 Reference Headphones also benefit from the latest transducer technology along with a special driver and Neodymium magnet. An open-ear design and specially designed acoustic mesh fabric provide an enhanced ambient listening experience while reducing listener fatigue. Endowed with a wide dynamic range and linear frequency response of 20Hz to 22kHz, these phones are ideal for any number of playback situations.
• $99

## Samson RH600

Samson's. top-line Reference Headphones use a specially designed, high performance driver with a thin, responsive 40mm diaphragm coupled with a high output Neodymium magnet and sophisticated circuitry to provide true "reference quality" audio. Its ambient open-ear design with special acoustic mesh fabric ensures clear, transparent sound and a comfortable listening experience. The RH600s also feature a very wide dynamic range and a linear frequency response from 20Hz to 22kHz for accurate, balanced audio reproduction.
• $129

## Sennheiser EH 1430

Natural sound reproduction and an excellent bass response make the EH 1430 a true all-rounder. These headphones are very lightweight, extremely rugged yet comfortable – an ideal choice for extended monitoring sessions. They feature Neodymium magnets for wide dynamics and a 3m cable made from highly

conductive OFC copper. Designed and engineered in Germany and include a 2-year guarantee.
• $79

### Sennheiser EH 2200

Powerful dynamics make the EH 2200 the ideal general-purpose, closed-back monitoring headphones. Due to their lightweight design and exceptional comfort they are ideal for long monitoring sessions extended use. The 3m Kevlar-reinforced cable is detachable and can be replaced easily, excellent attenuation of ambient noise (-25 dB max.) and include Neodymium magnets for high efficiency. Designed and engineered in Germany and include a 2-year guarantee.
• $179

### Sennheiser EH 2700

These audiophile closed-back monitoring headphones are ideally suited for a wide range of applications, from hi-fi environments to professional studio work. Performance characteristics include: Excellent attenuation of ambient noise (-30 dB max.); Innovative damping element for controlled diaphragm oscillation; Optimally adaptive to the shape of the head; Easily replaceable parts for long life and a 3m Kevlar-reinforced, single-sided, detachable cable.
• $269

### Sennheiser HD 265

The HD 265 from Sennheiser are closed dynamic stereo headphones that are equally suited to hi-fi environments and professional monitoring where fine reproduction of detail is required. They feature extremely lightweight aluminium voice coils for excellent transient response; Neodymium ferrous magnet systems for optimum sensitivity; Diffuse field equalised for unadulterated listening; Ergonomic design; Detachable OFC copper cable and very low handling noise. Designed and engineered in Germany they also include a 2-year guarantee.
• $349.95

### Sony MDR-7502

The MDR-7502 are professional-use headphones with dynamic 30mm drivers in a closed-ear design for comfort and reduction of external noise. Comes with soft case and features gold connectors and oxygen free cord. Specifications: Frequency response 60 -16kHz.; Sensitivity 106dB/mW; Power capacity 0.5W; Cord length 2m. Weight 145g and a Unimatch plug is supplied. Sony Corporation has one of the largest ranges of headphones in the world for both professional and consumer applications. All models are supplied with service parts list. MDR-7502
• $119

### Sony MDR-7505

Compact, sealed-ear, professional stereo headphone with dynamic 40mm drivers for clear, high quality sound reproduction. Swivel mount cups allow flexible positioning for off-ear monitoring suitable for live sound engineers and DJs. Comes with soft case and features gold connectors and oxygen free cord. Frequency response 60 - 22kHz; Power handling 1000mW. Cord length 3m, weight 280g. Unimatch plug supplied.
• $198

### Sony MDR-7506

Large diaphragm foldable headphones designed for professional studio and live/broadcast applications. The rugged design includes dynamic 40mm drivers in a closed-ear design. Comes with soft case and features gold connectors and oxygen free cord. Frequency response 10 - 20kHz; Power handling 1000mW; Cord length 3m; weight 220g. Unimatch plug supplied
• $258

### Sony MDR-7509

High quality reference headphones. Amorphous diamond diaphragms for critical listening applications. Circum-aural closed earpiece design for dynamic 50mm drivers. Comes with soft case and features gold connectors and oxygen free cord. Frequency response 5 - 30kHz; Power handling 3000mW; Cord length 3m; Weight 220g. Unimatch plug supplied.
• $436

### Stanton DJ Pro 2000 S

The DJ Pro 2000 S is a high quality stereo headphone designed for the professional DJ. Built to withstand the roughest DJ treatment, its rotating and swivelling earcups allow for flexible positioning and single sided or shoulder rest wearing styles. DJ friendly features include replaceable 10 foot coiled cord, integrated stereo or mono monitoring, and closed earcups for excellent sound isolation. An impressive 20Hz-30kHz frequency response is delivered from 50mm drivers for clear low end and excellent power handling. The DJ Pro 2000 S delivers the performance and reliability you'd expect from much higher priced headphones.
• $229

### Stanton DJ Pro 60

Don't be deceived by their size. The DJ Pro 60 headphones deliver clear high-end frequencies to 28 kHz, and amazing bass response right down to 3Hz (!) from a pair of 40mm drivers. The DJ Pro 60 S headphones are extremely portable, folding into a tiny package that's perfect for transporting around in your backpack or pocket. Featuring a self-adjusting headband for maximum comfort, the DJ Pro 60 S headphones confirm that big things do indeed come in small packages.
• $129

### Stanton DJ Pro1000 MkII S

The DJ Pro 1000 MkII S headphones share many traits of its big brother, the DJ Pro 2000 S such as a replaceable connector cord, high efficiency 50mm drivers and excellent sound isolation. With a frequency response of 20Hz-20kHz, the Pro 1000 S headphones are great for working DJs who need reliable headphones without the expense.
• $179

### Stanton DJ Pro50 S

The DJ Pro 50 high quality stereo headphones feature a 40mm super thin driver with Neodymium magnet. Frequency response is between 20Hz to 20 kHz, so they're highly capable of delivering the full spectrum sound of today's dance music. A bargain buy for all DJ's, they're also great for home stereo and Walkman use.
• $69

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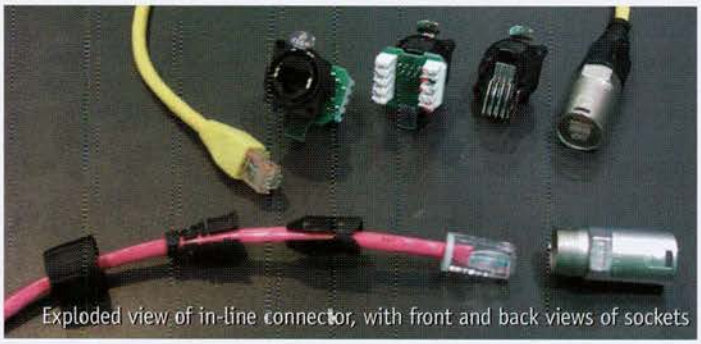
## Martin Mac2000 gets a facelift

While the Mac2000 seems to be enjoying wide acceptance in the lighting community worldwide, the people at Martin decided to keep tinkering with the design. The results were on display at PLASA – the Mac2000 Performance. This model has many of the features of its predecessor, while adding the ability to shutter the light path in the same way as a conventional profile light. Another new ability for the Mac2000 is gobo animation – an animation disc has been included to help create fire and water type effects. The disc can be reversed and shifted up to 90degrees to control the angle of the effect.

The most significant difference between this new model and the new Clay Paky model with shuttering is that the Mac2000 retains most of its previous abilities, specifically CMY colour mixing and gobo/prism effects. What has been removed to accommodate the changes is a colour wheel and one of the gobo wheels.

Martin is distributed by Show Technology +61 2 9898 1111

## Neutrik Releases EtherCon


Exploded view of in-line connector, with front and back views of sockets

After more than 2yrs of development, Neutrik released a new range of connectors & add-on shells for RJ45 plugs & sockets (std for Cat 5). Neutrik have come up with a unique design that is very likely to become an industry standard. The 'in-line' version can be fitted over a pre-terminated RJ45 connector. The main locking ring is passed over the plug, with two segments of the locking sleeve slipped onto the cable via a vertical slit in each. The final metal shell is fitted last, with the plug sliding into the shell from back, & locked in placed with the locking ring.

The sockets currently come in 2 versions – IDC (Krone type) and PCB (solder) terminated. The sockets can be fitted to plates designed for standard XLR-A series connectors. For colour coding, there are also nine coloured rings as well as black and nickel metal rings. Traditionally terminated cables and sockets can be interconnected with the Neutrik modified ones, though in the case of the in-line version, the external shroud needs to be temporarily removed.

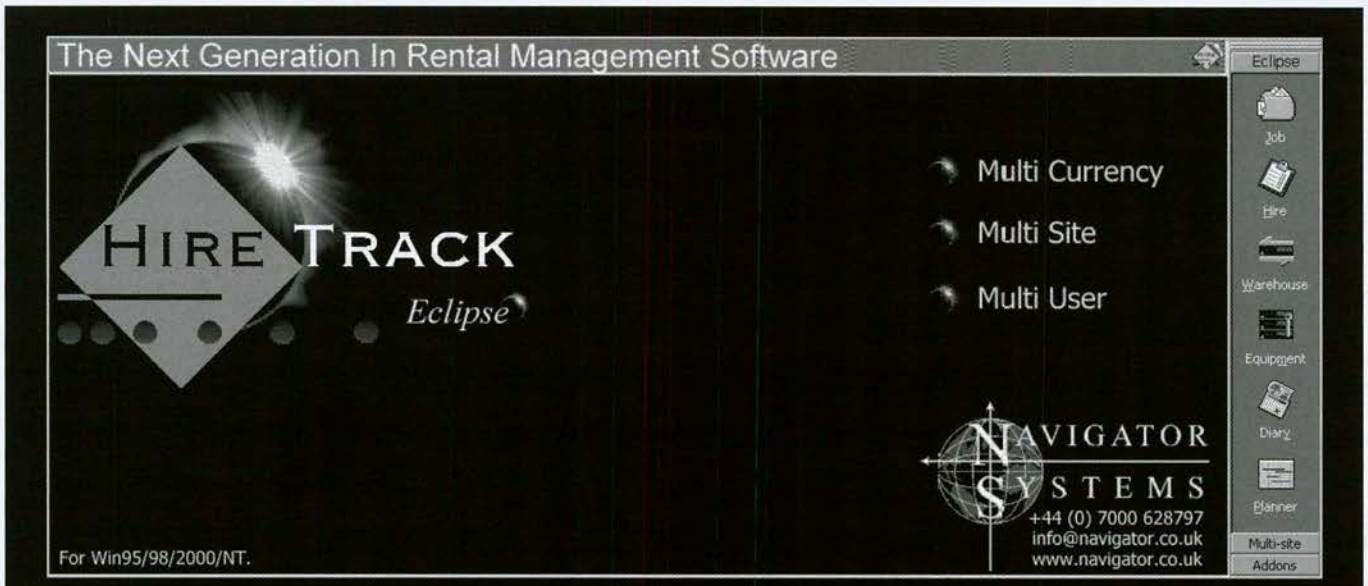
Neutrik is distributed in Australia by Amber Technology +61 2 9452 8600.

## Bytecraft Removeable Dimmers

On display at PLASA were Bytecraft's new VST and APC dimmers, incorporating the new quick-release system they have developed. The dimmers are supported by sliding rails that allow the dimmer to be pulled out of a rack for maintenance. The three phase supply, dimmer outputs and data I/O are all automatically connected and disconnected when the dimmer is inserted or removed. The design of the pins is such that the power supply to the dimmer is disconnected before the load outputs are, thus removing the possibility of arcing and damaging the terminals as they are disconnected.

The system is designed to be used with an intelligent master control box that monitors the rack, and automatically identifies and updates any patching and other information in a dimmer that is re-inserted.

For more information, contact Bytecraft Entertainment on +61 3 9587 2555

**Distributed in Australia by Premier Technology Group**
33 Wyandra Street, Newstead QLD 4006. Contact Craig Ryder Tel: (07) 3257 0443. Email craig@premierlighting.com.au

# "Wanted DEAD or ALIVE"

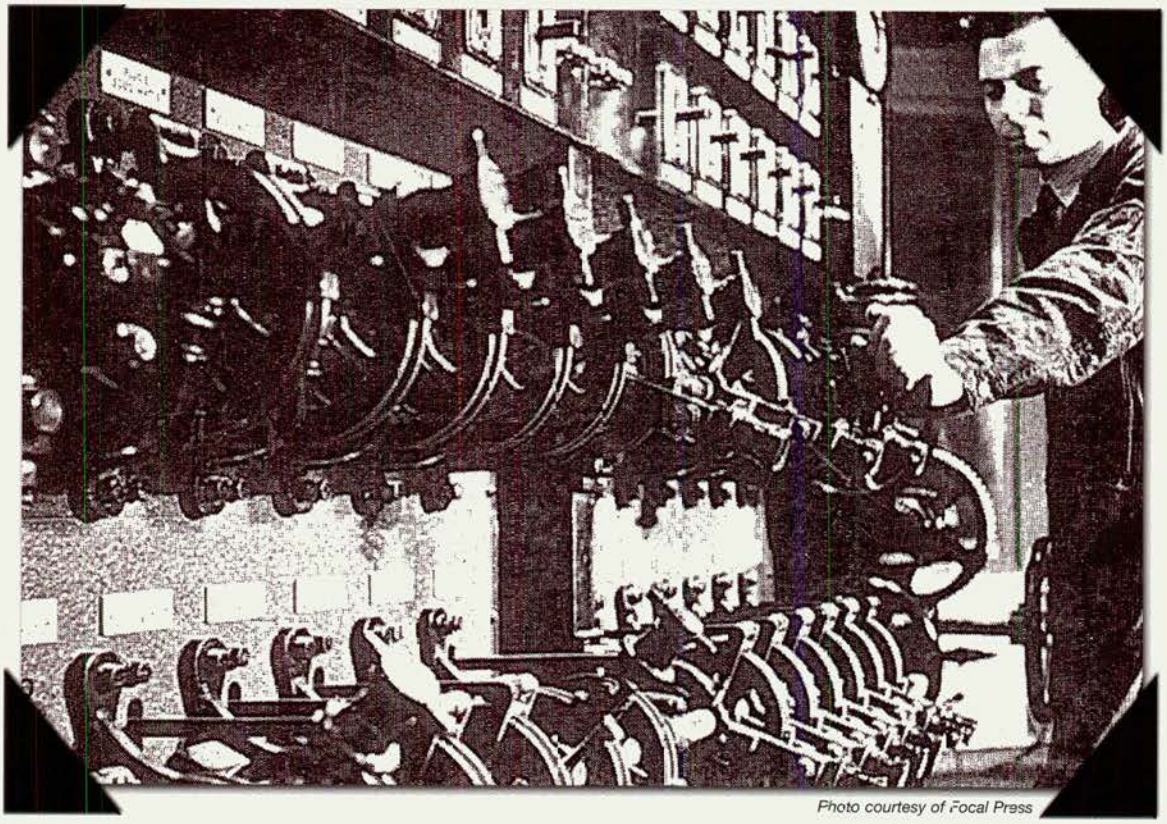


Photo courtesy of Focal Press

Jands, together with participating dealers have come up with a great deal.
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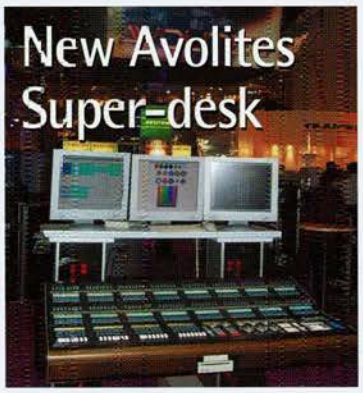
## New Avolites Super-desk



Avolites chose PLASA to unveil their new Diamond 4 lighting console – this is a BIG desk. It has a whopping 128 preset faders, each with a user customisable LCD display to show what is loaded. The LCD becomes very important when you consider there are 200 pages of these presets that you can set up.

The desk can cope with more than 1000 moving lights at the same time. There are 6 DMX universes, with additional available via an Ethernet output. The features list includes 200pages of 28 Cue Playback masters, Dual Theatre and Multiple Cue List playbacks, storing of times with pallets (allowing live recalling of palletts during performances), backup from the local hard disk via Ethernet or floppy, and numerous other features.

• ULA, call 1800 648 111.

# Clay Paky - a suite of new lights

The R&D department of Clay Paky must have been working overtime in the last few months, as their stand at PLASA had an impressive range of new products. One of the key improvements is the creation of 'SV' fittings. The SV stands for Silent Version, and as the name suggests, it is designed to bring the Clay Paky range into the theatre, where the slightest fan noise has previously slowed the use of intelligent lighting. As a result, Clay Paky now offer a Stage Zoom 1200 SV and a Stage Color 1200SV.

A new addition to the 1200 range is the Stage Profile 1200 SV. Looking identical to the Zoom model, the Profile includes the ability to shutter light like a conventional profile lamp. To physically achieve this, much of the guts of the traditional Zoom model has made way for a shutter assembly. All that remains are a 7 colour (and open) colour wheel, an iris, and lens control for focus and for zoom between 16° and 24°

At the show, one of these was on display to show off the shuttering capability, & it was certainly impressive. There was very little focus difference between horizontal and vertical shutters (remember, they cannot be in the same plane, or they will bash into each other – but they must be as close as possible to avoid focusing differences between the planes). The shutter assembly can be rotated through 90°.

A new mid range of 1200w moving head lights has also been introduced. Called 'Golden Spot 1200' and 'Golden Color 1200', both units have the same external shape as the Stage Color 1200, but are less featured versions of the 'Stage' units to allow for cheaper pricing.

Another range of lights on display at PLASA were the CP Color units - colour changers that come in various sizes (150, 250 and 400). The units require 4x DMX ch to control the intensity and the CMY colour mixing. Beam angle is controlled by adding optional diffusion filters. Also available with barndoors.

Also on display at the stand was a new long life 300w discharge lamp. Named HTI 300 W/DEL, the lamp has been tested for more than 3000hrs in numerous Clay Paky 300w fixtures with 'pleasing' results. The lamp it replaces was only able to last 750hrs. Clay Paky is distributed by Show Technology +61 2 9898 1111

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## Zero88 introduce the Bull Frog

Zero88 have increased their range of products and found a new Australian distributor since its merger with the former DynaliteUK distributor. The latest product offering is the Bull Frog lighting control desk. The desk outputs two DMX universes, controlled by 96 channels of conventional channels and up to 24 intelligent lights.

According to the documentation, memories and times can be recorded as scenes or chases. AS you would expect, these can be controlled by the 'Go' button or the crossfade master. There are 9 pages of 24 submasters (total 216 submasters).

Managing Director of Zero88 – Peter Brooks – with the Bull Frog

For the moving light world, there are four pallete types (group, colour, beam & position), with up to 48 pallettes for each type. For those unfamiliar with moving light control, this allows for the presetting of various moving light positions and effects that can be recalled instantly as required.

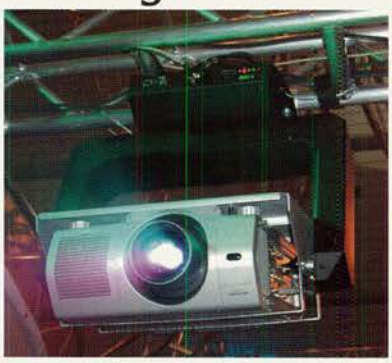
The Zero 88 Bull Frog 48/96 + 24 movers RRP $13,795; Fat Frog 24/48 + 12 movers RRP $7250; Frog 24/48 RRP $4995. All have disk drive & monitor output. Zero88 is distributed by Clearlight Shows +61 3 9553 1688

## SGM Giotto 400 Wash Launched

Launched at PLASA, the Giotto 400 Wash to compliment the Giotto Spot 400. Featuring a MSR 400HR discharge lamp (Hot re-strike). A uniform light beam is produced with the dichroic reflector and Ø130 mm PC lens combination, and the fitting has a full CMY + CTO colour generation system, electronic zoom 9°-24°, dimmer strobe. The Giotto 400 has a built-in beam shaper with 2 simultaneously adjustable blades 20-100% aperture, ±90° rotation. Giotto uses an electronic ballast as standard, making the fixture very light weight. Like the Giotto Spot models, the Giotto Wash is convection cooled, and safety cooling fans only operate in the event of overheating.

For more information, contact ULA on 1800 648 111

## Moving Heads and Moving Pictures



Amptown is a German company that does numerous DMX products including dimmers and moving lights. While this company does not have a local distribution deal in this part of the world, it does have numerous interesting products that may be exactly what someone is looking for to solve a unique problem.

The item that caught my eye at the show was the moving head video projector. They have two models, one is based on a the smaller XG-P10 projector, and the other uses the newer XG-V10 models. Each has full pan and tilt control, numerous projector controls (inc focus, zoom, lamp control) and video/RGB connection in the base of the unit.

Other moving head devices that they make include high output fans (for moving smoke effects), smoke machines and 4- way Par36 'blinders'.

For more information, contact Amptown on +49 40 6460 0440 (www.amptown-lichttechnik.de) or fax +49 40 6460 0445

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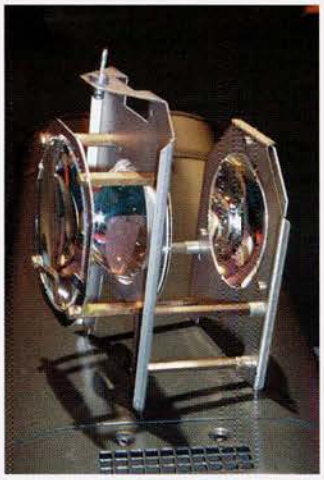
# Robert Juliat Followspots

The Robert Juliat company has a long 80 year history of building and designing lighting products. More recently they have become well known for their high quality followspots, and at PLASA they revealed the latest addition to their range. Francois Juliat, grandson to the founder, took Connections through the Marius, a medium throw followspot.

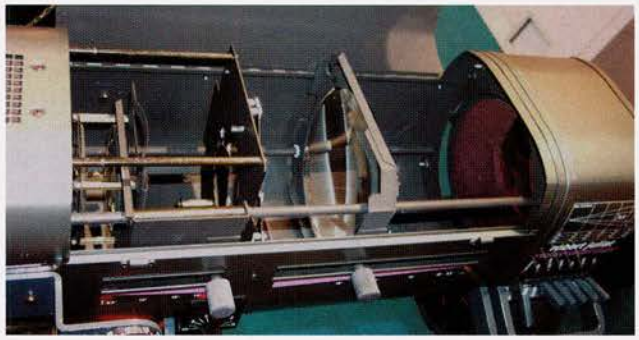
The Maurius is a 1200W, 8.5 to 16 degree followspot with all of the benefits and refinements of the top of the range units. Opening the access panel for the lamp housing reveals the MSR lamp and the twin condenser lens tray. The MSR lamp is locked into the lamp base with an externally controlled locking pin. This was done to eliminate the extreme wear incurred when lamps are pushed into traditional 'sprung' lamp bases. It also proves a positive, firm electrical connection. The lens and reflector tray can be removed for cleaning by unlocking a single pin – locators in the base of the tray providing the stable fixed position when the unit is in use.

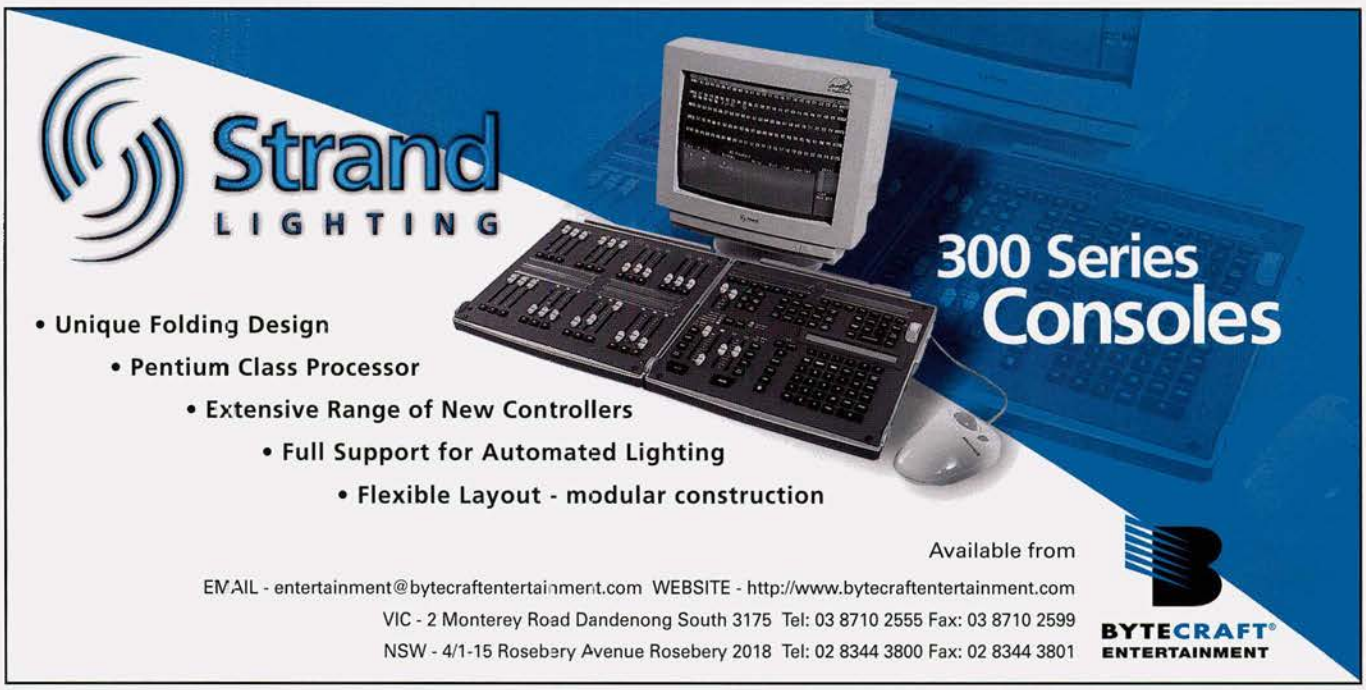


Inside the lens tube reveals a very accessible lens array, with smooth running rods and guides making the lens movement very clean and easy. The mechanical dimmer/douser is located between the two main lenses, and is designed with four overlapping leaves to provide a very smooth fade to black.

The design of the colour changer system contains some very useful features. The removeable colour frames are simple enough to be able to be modified mid-show if necessary. Each frame consists of an outer ring and separate inner ring to hold the gel in place. The inner ring also provides a handy template for cutting the gel. Standard Robert Juliat features such as latch type colour changer mechanism, smooth running focus, pan and tilt are all present on this unit.

The Robert Juliat "Marius" is expect to be price around $8500, and is distributed by Bytecraft Entertainment +61 3 9587 2555



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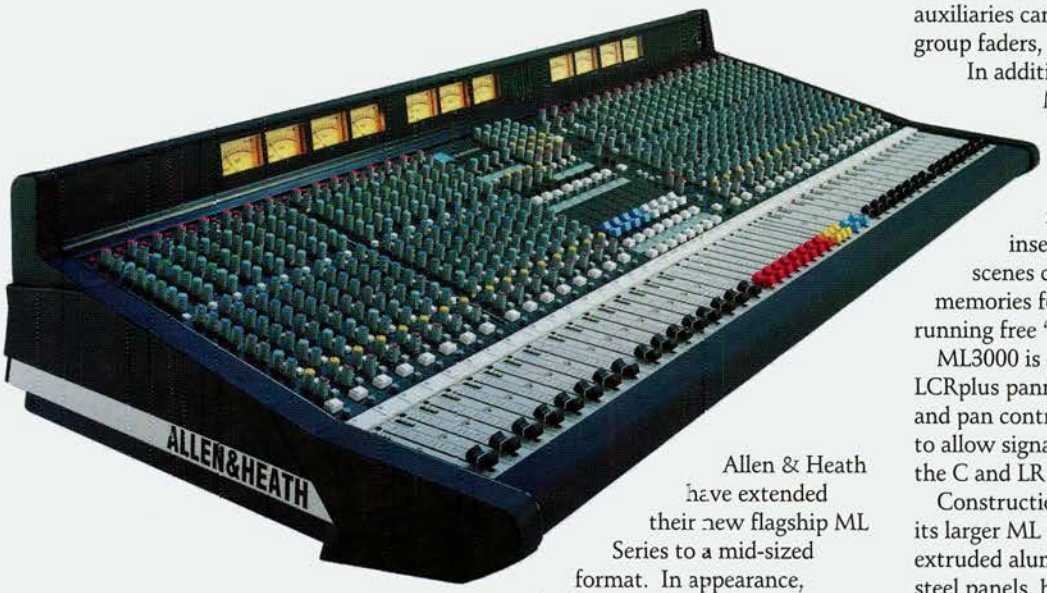
# Allen & Heath Compact VCA Console




Allen & Heath have extended their new flagship ML Series to a mid-sized format. In appearance, facilities and technology the new ML3000 borrows heavily from the concert touring spec ML5000/ML4000 incorporating 8 VCA's and a 15-buss dual function output architecture.

Described by the design team as a 'VCA console for the real world' the new ML is aimed squarely at rental companies and small venues requiring advanced functionality in a small-footprint, affordable mixer. The ML3000's flexibility as hire stock or as a house desk is enhanced by Allen & Heaths dual functionality concept, allowing it to be used in front-of-house, monitoring or dual roles. For monitoring work, some or all auxiliaries can be swapped onto the 100mm group faders, with insert and full metering.

In addition to its 8 VCA groups, ML3000 provides 4 audio groups, 8 pre/post switchable auxiliaries, 8 mute groups and an 8x4 matrix with external inputs and inserts. VCA assignment and mute scenes can be saved to 128 snapshot memories for show automation using a PC running free 'archiver' software.

ML3000 is equipped with Allen & Heath's LCRplus panning system, using paired blend and pan controls on all channels and groups to allow signal positioning anywhere across the C and LR busses.

Construction follows the same format as its larger ML Series siblings with robust extruded aluminium beams and 16 gauge steel panels, housing individual, vertically mounted circuit boards and rotary controls anchored to the front panel using steel nuts.

ML3000 is available in three frame sizes, 24 mono channels plus 2 fully featured stereo channel strips at $19,995RRP, 32+2 at $23,995 and 40+2 at $27,995. In New Zealand $NZ25,995, $NZ31,195 and $NZ36,395 respectively.

**Allen & Heath is distributed in Australia and New Zealand by Technical Audio Group, +61 2 9810 5300 www.tag.au.com**

# Midas Legend 3000

Another of the interesting audio launches was the Midas Legend 3000.

One of its key design features of this new desk is it ability to fully handle the main audio mix as well as separate foldback mixes via a completely independent set of faders, and EQ controls for each channel. There are 12 auxiliary sends that can be used individually as foldback, or as normal effects sends.

The Legend is described by it documentation as a "semi-modular multi-application live production mixing console." What this means is that the desk is set up with modules of 8 channels, the VCA module and the main control module. The main reasoning behind this was to bring the price of the whole desk down – larger group modules are easier to build than the 'module per channel' model the Midas Heritage desks use.

The desk is very much built on the success (and the components) of it predecessors – using the XL4 preamps, and the XL3 EQ. There is separate input metering is provided for each input.

**Midas is distributed in Australia by EVI Audio Australia Pty Ltd +61 2 9648 3455.**

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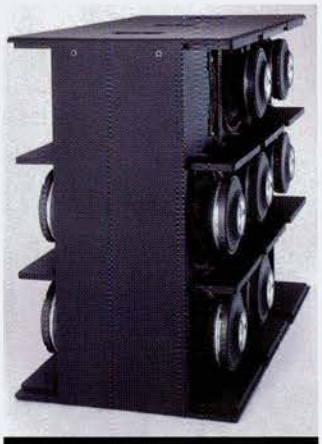
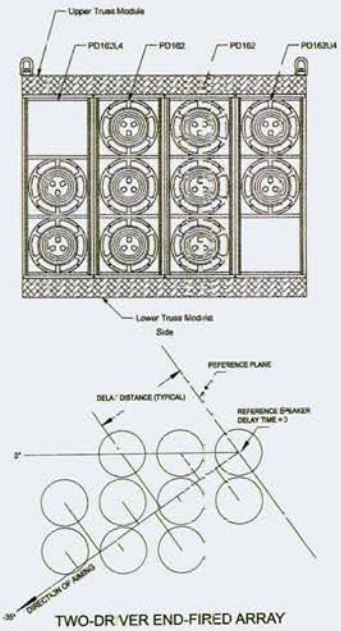


JBL Professional Precision Directivity™ Mid Bass Arrays PD162L4 (front); PD162 (middle); PD162U4 (back)

JBL Professional Precision Directivity™ PD743 Coaxial Mid/High Enclosure With 60° x 40° Coverage

**The PD162 Based Low-Frequency Array:**




TWO-DRIVER END-FIRED ARRAY

JBL have taken some concepts learnt in some custom arena installation jobs, and turned them into new line of very high output, precisely focusable speakers. The 'Precision Directivity' (PD) line of speakers are designed to use a full range, full bandwidth total system approach.

Currently the JBL PD range consists of seven speaker types: PD162 (Mid bass array with six 12" drivers per enclosure), PD162U4 (Mid bass array with four 12" drivers), PD162L4 (Mid bass array with four 12" drivers), PD125 (Dual 15" low frequency array), PD128 (Dual 18" very low frequency subwoofer array), PD743 (Co-axial mid/high frequency enclosure with 40° x 30° coverage), and PD764 (Co-axial mid/high frequency enclosure with 60° x 40° coverage)

The mid/high frequency loudspeakers utilise a new co-axial design, with specific coverage angles that allow the sound to be aimed precisely at individual sections of the audience area for high intelligibility and maximum fidelity. The PD743 looks like it has come from a 1960's era sports field, however by using JBL's latest generation dual-voice coil Neodymium Differential Drive technology, this speaker is capable of long-term sound pressure level performance of 104 dB SPL (continuos) at 65m.

Another problem that PD technology aims to solve is how to provide low frequencies evenly to the audience. JBL Engineering developed what they call Precision Directivity technology, effectively allowing the low frequencies to be "steered" at specific areas of the arena to assure even bass coverage throughout.

For the PD162 mid-bass arrays, the steering is accomplished by progressively delaying each pair of low-frequency transducers to a reference plane that is perpendicular to the direction in which the array is being steered. (see picture)

To maintain wide horizontal coverage, the array is kept as narrow as possible in that direction. In another unique design innovation, the transducers are mounted "motor out" to reduce the horizontal width of the array and to assist in cooling, which reduces power compression. The PD125 and PD128 work in a similar fashion, but with a different mechanical configuration dictated by the larger size of the drivers and their requirement for greater internal enclosure volume.

PD has progressed beyond the idea or prototype stage. Fully functional systems are already installed in high profile arenas and an outdoor sports facility.

"PD Series is the result of a fast-track development program by the JBL Custom Shop and JBL R&D in conjunction with some of our key customers and the Harman Professional Projects Group," explained JBL Professional President Michael MacDonald. "Last year, in discussions with the designers of several large arenas, we felt we had a new approach to help them design large speaker systems with predictable and manageable coverage patterns."

These speakers are rolling off production lines now. JBL is distributed in Australia by Jands +61 2 9582 0909.

# HIGH PERFORMANCE OVERHEADS

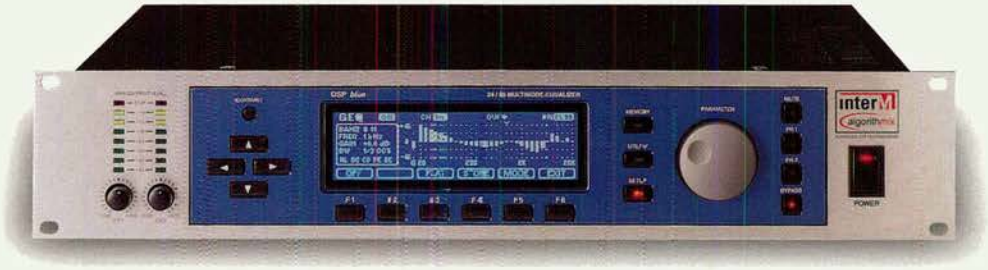
**Sennheiser has expanded its evolution range of dedicated instrument microphones with the introduction of a competitively priced, high quality condenser model, the e664.**

Designed for applications such as drum kit overheads, or highly accurate acoustic instrument miking, such as for guitars or strings, the e664 features low noise electronics, high output and a highly sensitive capsule for both studio and live performance applications.

Sennheiser tell us that the e644's cardioid response pattern provides highly effective feedback and rearfield signal rejection. The metal bodied mic features a matt-black, anodised, scratch-resistant finish. A switchable low fequency roll-off filter protects against low level hum and rumble, while the capsule provides a 40 - 20 kHz frequency response (± 2.5 dB) and a 130 dB maximum SPL rating. *A$699*

**Sennheiser is distributed in Australia by Syntec International +61 2 9417 4700.**

# The EQ with no equal.



## The MEQ-2000/24/96 Multimode EQ by Inter-M.

**Delivering warm analog sound and outstanding features thanks to the High quality converters with a constant internal sampling rate of 96kHz with absolutely precise low-noise digital processing functions.**

- 31-Band graphic/8-Band parametric equaliser supported by a 6-Band notch low-cut and high-cut filter.
- A combined limiter/compressor provides for a finished sound to a mastering mode standard.
- A reliable peak-limiter for loudspeaker protection in reinforcement mode.
- Separate channel delay adjustment for loudspeakers or spot microphone positions.
- The processor offers two full independent channels that can be coupled for stereo use.

interM

**Australia:** Magna Systems & Engineering, 2/28 Smith St, Chatswood NSW 2067 Tel: (02) 9417 1111 Fax: (02) 9417 2394 www.magnasys.com.au
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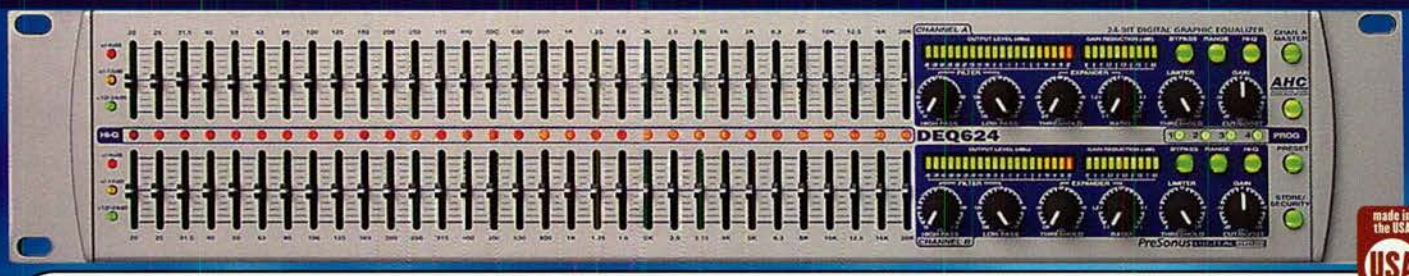


made in the USA

# DEQ624 24-Bit Digital Graphic Equaliser

The PreSonus DEQ624 utilizes 24-Bit Digital Signal Processing yet gives you a familiar analog interface. The two 31-Band Equalizers offer three switchable ranges of operation: +/-6dB, +/-12dB or +12/-24dB. A Security feature on the DEQ624 locks out all of the front faceplate controls using a programmable password-style of access. Once engaged, the DEQ624 will retain all of the settings programmed by the installer, regardless of power shutdown. The user has the ability to recall up to four presets on the DEQ624.

In addition, the DEQ624 features a brick wall limiter with variable threshold as well as a downward expander featuring variable ratio and threshold. A unique feature on the DEQ624 is **AHC** (Adaptive Hum Cancellation). When engaged, this algorithm identifies 60-Cycle Hum caused by ground loops and dimmers and uses phase cancellation to eliminate the problem without causing any alteration to the audio.

The DEQ624 also features High and Lo Pass Filters (20Hz-20kHz) as well as Hi Q for selected frequencies. When the Hi Q button is engaged, it changes the standard Q (4.75) to a tighter notch (8.0). A 'Channel A Master Mode' which when engaged allows a mirror image of Channel A's controls to be duplicated on Channel B, while keeping the audio paths independent. The inputs and outputs of the DEQ624 include XLR Balanced, 1/4" Unbalanced and Barrier Strips. Do you feel in control?

PreSonus [audio electronics]

For more info, contact **Australian Audio Supplies** TEL (03) 8415 1466 EMAIL sales@ausaudio.com.au WEBSITE www.ausaudio.com.au

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SONG TITLE: Three Dimensions
ARTIST: Something for Kate
PRODUCER: Trina Shoemaker & Something for Kate
ENGINEER: Trina Shoemaker
ASSISTANT ENGINEER: Matt Lovell
STUDIO: Mangrove
MIXING: Trina Shoemaker @ Mangrove

SONG TITLE: Four on the Floor
ARTIST: Spiderbait
PRODUCER: Magoo & Spiderbait
ENGINEER: Magoo
STUDIO: Sing Sing
MASTERING: Steve Smart @ Studios 301

## New South Wales

| ARTIST | PRODUCER | ENGINEER | SESSION |
|---|---|---|---|
| **Aphek Studio** Greg Dixon greg@aphekstudio.com.au 24tk digital/soundcraft ghost console | | | |
| Aramaic | Band | Greg Dixon | EP |
| Cartel | Band | Greg Dixon | Demo |
| 3's a Crowd | Band | Greg Dixon | Demo |
| Shane Elsmore | Shane Elsmore | Greg Dixon | EP |
| **A#Sharp** Jeff Cripps +61 2 9153 9988 24tk Analogue/32tk digital | | | |
| Vermicion | Jeff Cripps | Jeff Cripps | CD |
| The Atlantics | Jeff Cripps | Jeff Cripps | CD |
| Darren Jack & Third Degree | Jeff Cripps | Jeff Cripps | CD |
| Fun Factory | Jeff Cripps | Jeff Cripps | CD |
| Skydome | Jeff Cripps | Jeff Cripps | CD |
| **Boulder Bay** Rob Godwin +61 2 4984 2008 16tk Hard Disk, Neumann Akg Rode, Shure Audio Technia Mikes | | | |
| 2 Ton Monk | R Godwin | R Godwin | 2xDance Mix Demos |
| Baby Genius | R Godwin | R Godwin | Pre-productions for new EP |
| **Bush Tracks Pty Ltd** Ruth Miller +61 2 6689 1290 Air conditioned digital multitrack studio | | | |
| Durga Babies | Tonkin/Turner/Nancarrow | Dave Highet | Album tracks |
| **Damien Gerard Sound Studio** Marshall Cullen & Di Dofel +61 2 9555 1710 2" 24 tk Analong/Pro Tools Digital | | | |
| Grow Your Own 2001 | Marshall Cullen | R Pilling/K H ll/A Beck | Compilation |
| Thumlock | Thumlock | Russell Pilling | Album |
| Steve Balbi | Steve Balbi | Russell Pilling | Album |
| Ghostwriters | Rob Hirst | Russell Pilling | Album |
| Rose Tattoo | PeteWells/Angry Anderson | Russell Pilling | Album Production |
| **Nu-Town** Greg Hopping +61 2 9516 3306 Recording & Pre/Post Production | | | |
| UTOF | Greg Hopping & Sofie Loizou | Mark Worrall | Single |
| Kelly Ophel | Greg Hopping | Greg Hopping | Album Demos |
| Crossan | Greg Hopping & Sophie Loizou | Mark Worrall | Album |
| Phonecia | Greg Hopping & Sophie Loizou | Greg Hopping | Single |
| Groovy "D" | Sofie Loizou | Sofie Loizou | Album |
| **Q Recording** Michelle Barry +61 2 9212 4851 SSL G+Studer 24tk | | | |
| Blue Pie Productions Phil Munru | Phil Munru | EP | |
| Julie | Jordon | Michelle Barry | Tracking |
| Bubble Vicious | Danny Calvo | Beau Sherrard/Sandra Gatsby | EP |
| **R & R Recording** Rob Zimola +61 2 9672 4494 16tk Analog Motu Daw | | | |
| Jargon | Jargon/R Zimbola | R Zimbola | CD Album |
| Midnight Riders | Band/ R Zimbola | R Zimbola | CD Album |
| Dungeon | Lord Tim | Lord Tim | Drum Tracks |
| Kirby Productions | | R Zimola | Voice Overs |
| **Rockinghorse** Anthony Lycenko +61 2 6688 4005 48ch neve vseries Console studer A820 24tk Protools mix24 | | | |
| Stringyansassy | Artist | Anthony Lycenko | EP Tracking & Mixing |
| FATS | Scott Tinkler | Anthony Lycenko | Album Tracking |
| Able | Brendan Anthony | B Anthony & A Lycenko | EP Tracking & Mix |
| Lancaster | A Lycenko & Ben McCarthy | A Lycenko | Album Tracking |
| **Sound Level** John Soang +61 2 9552 3200 24tk Tape & Hard Disk | | | |
| GTO | Andrew Wilson | JordenBrebach/Paul Captain | Drum Recording |
| Mr Blonde | Jorden Brebach | Jordon Brebach | Demo |
| 3AM | Darren Moffatt | Jorden Brebach | Pre-production |
| The Modernists | Jorden Brebach | Jorden Brebach | Demo |
| You Am I | Greg Wales | Greg Wales | Demo |
| **Studios 301** Steve DeFina +61 2 9698 5888 Recording studios | | | |
| Ion | Craig Portiels | Craig Portiels | Recording |
| The Whitlams | Daniel Denholm | Daniel Denholm | Recording |
| The Quiet American | Composer Roger Mason | Glen Phimister | 50 pce Orch Film Score |
| Midnight Oil | Warne Livesey | Warne Livesey | Album Mixing |
| Chill | Craig Portiels | Craig Portiels | Recording |
| **Studios 301 Mastering** Jacqui Espie +61 2 9211 7301 Mastering Facility | | | |
| Zoobombs (Japan) | Zoobombs | Michael Macken | Live Tour CD |
| Aneiki | Daniel Jones (Savage Garden) | Don Bartley | Forthcoming Single |
| Tania Kervaghan | Andrew Farris | Don Bartley | Forthcoming Album |
| George | Geroge & David Nicholas | Oscar Gaona | Forthcoming Album |
| 28 Days | | Steve Smart | "Say What" Forthcoming EP |
| **The Vault** James Cadsky +61 2 9555 8298 48tk Analogue Protools SSL Mix & Recording | | | |
| The Wiggles | Band | Alex | Album |

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Email. jseller@infocomm.org

| ARTIST | PRODUCER | ENGINEER | SESSION |
|---|---|---|---|
| Love Me | Band/James Cadsky | James Cadsky | Album |
| Ghostwriters | Rob Hirst | James Cadsky | Album Mixes |
| Machine Gun Felatio | Band | James Cadsky | EP Rec Mix |

**Trackdown Digital** Mike Duffy +61 2 9550 6890 64tk digital audio post

| | | | |
|---|---|---|---|
| Moulin Rouge | Bazmark Inq | Simon Leadley/Tim Ryan | DVD Music Editing |
| Old Tom | Yoram Gross/EMTV | Torei Lista/Damian Candusso/Scott Ryan | TV Series Post & Mix |
| Tabawga 2 | Yoram Gross/EMTV | Torei Lista/Damian Candusso/Scott Ryan | TV Series Post & Mix |
| Flipper 2 | Yoram Gross/EMTV | Torei Lista/Damian Candusso/Scott Ryan | TV Series Post & Mix |
| Aracne | High Benjamin/Double Helix Films | Simon Leadley | Short Film Mix |

**Troy Horse** Mickey Levis +61 2 9319 1799 Recording Studio Protools Mastering

| | | | |
|---|---|---|---|
| Army of Prawns | Lachlan Mitchell | Lachlan Mitchell | Album |
| Kyser | Worrall/Band | Mark Worall | Album |
| Cathy Mac | Bertrand La'lane | Danny Golightly | Album |
| Kool Skools (Port Hacking HS) | Martin Fox/Golightly | Danny Golightly | Multimedia CD |

**Velvet Sound Recordings** Dave McCunn +61 2 9267 2915 Pro Analogue & Digital recording, mixing & editing

| | | | |
|---|---|---|---|
| Aneiki | Frank Monteverde | Daniel Clinch | Singles/Roadshow |
| Psi kore | Nik Tropiano | Lachlan Mitchell | EP/Chatterbox |
| GT & Chris Bailey | Groove Terminator | Daniel Clinch | Singles/EMI |
| La Gosta | | Adrian Grigorieff | Album Mixing |
| The Utopian Babies | Dave Wilkins | Daniel Clinch | EP/USA |

## Queensland

**Coral Sea Studios/ Select Sound** Jan Sarchfield +61 7 4059 2888 Digital Recording Studio

| | | | |
|---|---|---|---|
| Seaman Dan | N. Pegrum & K. Neuenfeldt | Nigel Pegrum | Overdubs |
| Don MacGregor Instrumental Flutist | D. MacGregor/N. Pegrum | Nigel Pegrum | |
| Infamous Izzy | Infamous Izzy | Nigel Pegrum | Remixes to EP |
| "Colours of the North" | David Hudson/June Vale | Nigel Pegrum | Live Theatre Soundtk |

**OPM Studios** Daniel Seymour +61 7 3374 0066 Adats & Logic Audio

| | | | |
|---|---|---|---|
| Astriaal | Band | Daniel Seymour | EP |
| Hekawis | Band | Daniel Seymour | EP |
| Alchemy | Craig Thomson | Daniel Seymour | Album |
| Vister | Daniel Seymour | Daniel Seymour | Demos |
| New Settlement Rogue | Band | Daniel Seymour | EP |

**Stargate Music Productions** Dash McIvor +61 7 3260 6294 Paris Protools Adats Logic New & Vintage Outboard

| | | | |
|---|---|---|---|
| Kerry Kennedy | Dash McIvor | Dash McIvor | Single |
| Keetarah | DashMcIvor/Keetarah | Dash McIvor | Album |
| Kalyn Professional Health Group | Dash McIvor/Lyn Hand | Dash McIvor | Resource CD |
| Masis | Dash McIvor | Dash McIvor | Single |
| Ian Muir | Dash McIvor | Dash McIvor | Album |

**Taramalin Sound** Allan Lahey +61 7 32089736 32tk Digital 16tk Analogue Pro Tools 40ch inline, drum booth

| | | | |
|---|---|---|---|
| Gumboot Renegade | Gumboot Renegade | Allan Lahey/Craig Loyns | Album |
| Jennifer Cameron Project | Allan Lahey/Ben Kerswell | Allan Lahey | EP |
| Sid Muchow | | Allan Lahey | Mastering Album |
| Alan Harrison | Alan Harrison | Allan Lahey | Poetry Album |
| Leisa Kerris | Lindsay Masters | Allan Lahey | Mastering Album |

**Vandersound** Eric Vandersande +61 7 5546 8100 Audio engineering school & production

| | | | |
|---|---|---|---|
| Thelmas Grapes | Eric Vandersande | Paul Jackson | EP Editing |
| Mullet | Eric Vandersande | Justin Skehan | Editing |
| Witness Protection Program | Colin Laggan | Mix & Master | |
| Back Porch Effect | Eric Vandersande | Lucas Joyner | Mix & Master |
| Dorothy Dunmore | Eric Vandersande | Eric Vandersande | Post Production |

## Victoria

**Audrey Studios** Craig Pilkington +61 3 9415 8599 Analogue Digital Hard Disk Studio

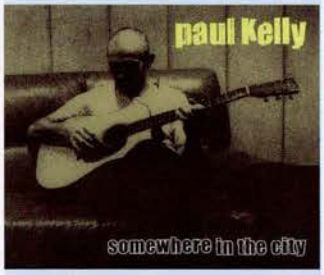
| | | | |
|---|---|---|---|
| The Drowners | C Pilkington/Mick Thomas | C Pilkington | Mixing Album |
| Jack Howard | Jack Howard | C Pilkington | Recording TV Songs |
| The Killjoys | C Pilkington | C Pilkington | Single Mix |

**Backbeach Recording/Elevation** Mark Rachelle +61 3 5988 6948 Studio 24tk Auto Mixing Protools Mix 3 & Digital Mix

| | | | |
|---|---|---|---|
| Musk | Alan D | Mark Rachelle | Mixing |
| Comfortable Addiction | Denny/M Rachelle | Mark Rachelle | Mixing |
| Rogue Traders | Denny M Rachelle | Mark Rachelle | Mixing |
| Aus Stereo | A Van/M Decristo | Mark Rachelle | Radio Ads |
| Bamboo Records | Hess/Nick | Mark Rachelle | Mixing |

## CHARTS

SONG TITLE: Special Ones
ARTIST: George
PRODUCER: David Nicholas
ENGINEER: David Nicholas
ASSISTANT ENGINEERS: Justin Tresidder & Evan McHugh
STUDIO: Festival Studios
MIXING: David Nicholas @ Studios 301
MASTERING: Oscar Gaona @ Studios 301




SONG TITLE: Somewhere in the City
ARTIST: Paul Kelly
PRODUCER: Mark Wallis & Paul Kelly
CO-PRODUCED & PROGRAMMED: James Sanger
ENGINEER: Adam Rhodes
STUDIO: Sing Sing South
MIXING: Sing Sing South

**listings!**

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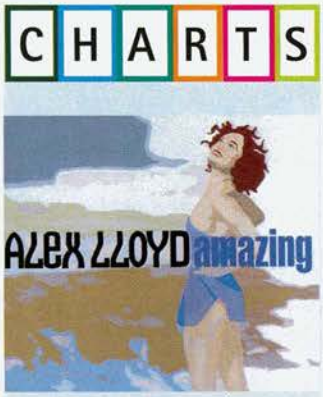


SONG TITLE: Amazing
ARTIST: Alex Lloyd
PRODUCER: Magnus Fiennes & Alex Lloyd
ENGINEER: Niven Garland
PROGRAMMING: Magnus Fiennes & Alex Lloyd
PRO-TOOLS: The Weatherman & Rick Featherstone
STUDIO: Town House
MIXING: Jeremy Wheatley for Town House Management

SONG TITLE: Can't get you out of my Head
ARTIST: Kylie Minogue
PRODUCER: Cathy Dennis & Rob Davis
ENGINEER: Tim Oxford
STUDIO: 19 Productions

SONG TITLE: Enough to Know
ARTIST: The Superjesus
PRODUCER: Ed Buller
ASSISTANT ENGINEER: Evan McHugh
STUDIO: Festival Studios in Sydney
MIXING: Paul Lani @ Royaltone Studios Los Angeles

| ARTIST | PRODUCER | ENGINEER | SESSION |
|---|---|---|---|
| **Crystal Mastering** Joe Carra +61 3 9326 2318 Mastering Suite | | | |
| The Anyones | Greg Wales | John Ruberto | Mastering |
| Oversize | Band | Joe Carra | Mastering |
| Addiction 64 | Band | John Ruberto | Mastering |
| Canopy | Band | Joe Carra | Mastering |
| Underside | Band/Rachelle | John Ruberto | Mastering |
| **Dex Mastering** A. Dempsey, K. Shulman, D. Collett +61 3 9372 2266 Mastering & restoration Sadie 24.96 &cust analogue | | | |
| Walt Disney Records | WDR | Ken Shulman | Atlantis Storyteller |
| Paul Colman Trio | Wes Jay | Adam Dempsey | Tour Promo CD |
| Vada | Aaron Choulai | Adam Dempsey | Album |
| Pot Pourri | Ben Hurt/Band | Ben Hurt/Adam Dempsey | Album |
| Gear Muff | Band | Adam Dempsey | EP |
| **Honeyface** Mark Hilton +61 3 9507 2967 32tk digital & analogue recording, mixing & mastering | | | |
| Tom Griss | Mark Hilton | Mark Hilton | Album |
| Dom Jurcec | Mark Hilton | Mark Hilton | Album |
| Sycamore | Mark Hilton | Mark Hilton | Album |
| **Lo Ricco Sound Studios** Marcello Lo Ricco +61 3 9701 6220 Recording Studio | | | |
| Calabria Mia | Jonathon Wade | M Lo Ricco | Album |
| Ricky Loca | Band/ M Lo Ricco | M Lo Ricco | Demos |
| Sean Clooney | Sean Clooney/M Lo Ricco | M Lo Ricco | EP |
| Natasha Gueli-Quaresma | Al Taweel | M Lo Ricco | Demo |
| Mac Robertson Girls School design/editing | M Lo Ricco | M Lo Ricco | Location Recording/sound |
| **Studio 52** Paul Higgins +61 3 9417 7707 3 Major Music Production Studios | | | |
| Various Schools "Kool Skools" | Paul Higgins | M. Keny/J. Scott | National Proj 50 Albums |
| Russell Morris & The Music Men | Trevor Carter | Trevor Carter | Single |
| Various "Airspace" Interviews | Ed Nimmervoll | Trevor Carter | Radio Prog Interviews |
| Peak | The Band | Mitch Kenny | EP Production (Indy) |
| White With Nunn | Chris White | Jared Scott | Tracking New Project |
| **True Form Recording** Neil Gray +61 3 9391 0907 Mackie HDR 24/96 Soundtracs 36 ch.inline console | | | |
| Pillar | Neil Gray/Band | Neil Gray | EP |
| Klinger | Neil Gray/Band | Neil Gray | B Sides |
| Dinks | Neil Gray | Neil Gray | Live Demo |
| Craig McDonald | Neil Gray/Craig McDonald | Neil Gray | Album Mastering |
| **Wombat Rd Rec Studio** Barrie Clissold +61 3 5145 4204 24tk digital & 16tk analogue | | | |
| T Warf | Barrie Clissold | Barrie Clissold | Demo |
| VET Students | C Chochran/Barrie Clissold | Demo CD | |
| Katlin Williams | K Williams | Barrie Clissold | Demo CD |
| Live Orchestra Recording | R Woodhouse | Barrie Clissold | CD |
| BATS Video | R Woodhouse | Barrie Clissold | Video |

## South Australia

| | | | |
|---|---|---|---|
| **Earsight** Steve Fieldhouse +61 8 8370 3869 PT's 5.2 TDM MixPlus for Mix, Edit, Remix & Recording 5.1 soundtracks | | | |
| Found Objects | S. Fieldhouse/Chris Lambert | Steve Fieldhouse/Chris Lambert | Albums |
| The Mournful Congregation | DamonGoode/S. Fieldhouse | S. Fieldhouse/D. Goode | DblCD Mix/Master |
| Ramshackle Jack | John Oldman/Steve Fieldhouse | Steve Fieldhouse | CD Re-mix |
| Aura | Kevin Freeman/Shock Records | Steve Fieldhouse | Single Tracking/Editing |
| **Mixmasters Productions** Mick Wordley +61 8 8278 85-6 Protools | | | |
| Tracker | Rolf | Mick Wordley | Film Soundtrack |
| Borderers | Jim Paterson | Brett Taylor | Album tracking |
| Symphony Orchestra | Julian Barnett | Jed Palmer | Album |
| Agatus | Demetrius Dorian | Jed Palmer | Mix |
| Wrench | Matt Maddock | Matt Maddock | Mix |

## Western Australia

| | | | |
|---|---|---|---|
| **Bonsai** Tom Thorpe +61 8 9246 4408 Protools Studio | | | |
| Pete Stone | | Tom Thorpe | Album Mix |
| Yogi | | Tom Thorpe | EP Mix |
| Plaza Digital | Thorpe/Van Ross Productions | Tom Thorpe | Jingle |
| Norma Woodcock | Tom Thorpe | Tom Thorpe | Meditation CD |
| Sam Rabbone | Tom Thorpe | Tom Thorpe | Tracking |
| **Poonshead** Rob & Sam +61 8 9339 4791 Audio Recording Production & Mastering | | | |
| OK Tokyo | Rob Grant | Rob Grant | Album |
| Nothing To Lose | Rob Grant | Rob Grant | EP |

# Inertia Event Solutions

## "Outside the hospitality tent"

Is this a new trend? First it was SAE/Studios 301 sponsoring a race car. Now Inertia are doing the same. Inertia Event Solutions works in the world of event production, from motor shows to corporate hospitality functions and so on. They tell us that the main reason for doing this was to pursue "alternative marketing opportunities outside of the mainstream platforms offered in today's advertising arena".

We all know that the real reason they are doing this is that there is nothing quite like the experience of a NASCAR (V8 Stock Car) Chevrolet Monte Carlo - capable of speeds up to 330kph from its more than 700 horse power engine.

The Driver Graham Elliot explained the philosophy behind racing one of these machines, "I find that it's a complex integration of physical coordination and tactical strategy. So if you break it down to basic terms, the car wants to crash and it's my job to stop it."

### New Faces

**Shane Bailey** formerly the Victorian Representative for EVI has joined Australian Audio Supplies as National Sales Manager for Mackie Industrial.

"Shane brings a great deal of experience and knowledge in the contracting, installation and production markets to AAS," says **Dave Croxton** Managing Director of Australian Audio. "His expertise will ensure great customer support on this new range of products. We are pleased to have him aboard."

Shane can be contacted at Aust. Audio Supplies Sales Office in Melb on +61 3 8415 1466.

# Connections Publisher weds

Connections publisher Julius Grafton wed Janelle James last month at Sutherland in Sydney, an event which contributed to the later than usual scheduling of this issue. The (very) happy couple managed to enjoy a two week honeymoon at Bora Bora, despite the horrors of September 11 and the collapse of Ansett Airlines. The marriage is the second time around for Grafton, aged 44, who now faces the joys of a blended family of four young daughters - Tonya (8), Kristal (11), Melinda (13) and Jess (15). Essential equipment in the Grafton household now includes a people mover, dishwashing machine, and extra phone lines.

Janelle is a nurse, who plans to study to become a Chaplain. The couple met by chance early this year, and share interests outside of publishing and the entertainment industry.

| ARTIST | PRODUCER | ENGINEER | SESSION |
|---|---|---|---|
| Superscope | Rob Grant & Kevin Borrusso | Rob Grant | Album |
| Dizzyspin | Rob Grant | Rob Grant | Demo |
| The Cranky Muthas | Rob Grant | Rob Grant | |
| **Revolver** Vic Manfrin +61 8 9272 7505 32tk Music Analogue & Digital | | | |
| Cartman | Banc/Ben Glatzer | Ben Glatzer | Album Track & Mix |
| Showbag | Banc/Ben Glatzer | Ben Glatzer | Album Tracking |
| Crimes of the Primary | Banc/Ben Glatzer | Ben Glatzer | EP Tracking |
| Twang Thang | Gragbird/VicManfrin | Vic Manfrin | Album Tracking |
| **Satellite Recording Studio** Darren Halifax +61 8 9470 4004 Protools mix plus 64tk | | | |
| Fig | Band | Darren Halifax | Live Demo |
| Floating Widget | Band | Darren Halifax | Music for Video |
| Traveland | John Ness | Darren Halifax | Demo |
| Airs | Brad Coombe | Darren Halifax | Training CD Rom |
| Roost | Band | Darren Halifax | Album |
| **Sonic Lab** Mark Whitehouse +61 8 9375 3902 Sonic Solutions Mastering & DUD | | | |
| Channel Ten | | Liam Collins | DVD Promo |
| Green Room | Phil Jud | M. Whitehouse/L. Collins | Enhanced CD |
| Les Helfgott | Les Helfgott | Mark Whitehouse | Audio CD Project |
| WA State Calisthenics Assoc | Mark Whitehouse | | Various Competition Tracks |
| David South | | Mark Whitehouse | Audio CD Compilation |
| **Witzend** Alan Dawson +61 8 9336 1888 13tk Analogue & 8tk Digital | | | |
| Aussie Gold | Alan Dawson | Alan Dawson | Single |
| Sunny Cowgirls | Alan Dawson | Alan Dawson | Single |
| Maria Wilson | Alan Dawson | Alan Dawson | Demo |
| Heads We're Dancing | Alan Dawson | Alan Dawson | Album |

## CHARTS

SONG TITLE: Just The Thing
ARTIST: paulmac
PRODUCER: paulmac
STUDIO: Fibromajestic
MIXING: paulmac

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## STOLEN

**The following Data Projectors were stolen from Staging Connections, 15-16 Deacon Avenue, Richmond, South Australia on Sat 15-09-01.**

1 x Sony VPL-CX2 – S/N# 11876.
3 x Sony VPL-X1000 – S/N# 30687, S/N# 30419, S/N# 30607.
2 x Sony VPL-PX30 - S/N# 20018, S/N# 20594.

All units were housed in black softcases which also contained remote controls, VGA cables and mouse control cables. All projectors and cables are clearly marked as property of Staging Connections.

Any information that may assist in the recovery of the goods is appreciated. All responses will be treated in the strictest of confidence.

Please refer any information or queries to:
DEAN LEWIS, Operations Manager
Staging Connections – Adelaide
Email: dlewis@stagingconnections.com.au


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## Looking for AV Companies

I have been a reader of your publication since it started all those years ago, and was a participant in the first ever ENTECH before my career took a completely different path.

I am now back in the event business and working for a company who wants to run a seminar in Thailand later this year. I am having trouble identifying suitable companies to supply the Audio Visual requirements for the event.

So I have turned to the AV GODS for help, and hope that perhaps you might be able to suggest some possible companies in Thailand that I can hire gear from.

I would love any help you might be able to give me in this area.

• Brett Newell, 21st Century Academy
**brett@21stcenturyacademy.com.au**

*Ed- We sent Brett some ideas, but if anyone else out there wants to give him their two cents worth, I'm sure he would appreciate it!*

## Love the Sharp

I have read with interest the testbed review of the latest projector from Sharp, the XG-V10XE.

Audio Visual Dynamics have just purchased several of the projectors & are delighted with their amazing performance as well as the reactions we have received from the lucky clients who have used them on their shows. Our purchasing manager, David McKeller and I, first viewed the projectors at INFOCOMM back in June and couldn't wait to test one on our return. When tested against several other leading big venue projectors, we were blown away by the Sharp's picture quality, brightness and overall performance.

The projectors have helped Audio Visual Dynamics land several major events including the 2001 Grand Final Edition of channel nine's Melbourne Footy Show at Rod Laver Arena and Equitana's Mane Event at The Exhibition Centre.

• Peter Worth, Managing Director
**Audio Visual Dynamics**

## We Live In A Crazy World

One Friday in September, SAVI Pty Ltd were involved in the staging a major launch for SPEEDO AUSTRALIA (famous swimwear manufacturer) at the Olympic Aquatic Centre Homebush.

We were setting up the usual large screen projection system and beefy P.A. for the expected 1000 to 2000 audience. SPEEDO had organised swimming athletes to arrive mid afternoon and were forced to deal with the unexpected Ansett debacle. There were stranded athletes all over Australia. All sorts of alternative arrangements were being frantically made so as to rescue the gig.

Meanwhile despite the chaos, SAVI technicians (myself included) were in the process of setting up the equipment. We estimated being 1.5 hours to being done, placing us half an hour ahead of schedule for rehearsal. But it was not to be. Being ahead of schedule was too good to be true.

While busying ourselves with the set-up, the Aquatic Centre's alarm bell rang. Centre officials ran over to us and told us to evacuate the Centre immediately. There may be a bomb in the Aquatic Centre! We were all marched outside and within minutes there were Police, the Bomb Squad, sniffer dogs, etc all over the Centre. We of course had to sit tight. We were told half an hour to 45 minutes. Oh well, once back inside we would be just about on schedule anyway. Not so.

2 hours later we were allowed back in (no bomb of course).

Guests were lining up outside impatiently. We had to run 10 interview microphones, 4 radio microphones, assemble 2 lecterns with microphones, align the projector for data and video, all within no more than 15 minutes, half hour max! I don't recall working as frantically and speedily in my entire career (nearly 20 years). From ahead of schedule to total mad chaos! Luckily there were no faulty mic lines or data transmission problems or technical hitches. We did it and the audience was none the wiser of the chaos that preceded. Once again we had a happy client.

P.S.: Many thanks to SAVI staff members James Stewart and James Pritchett for their heroic work.

• Edgar Kramer, Director
**Sound And Visual Innovators P/L**

## ALIA is ALIAS WHAT?

I must confess to being slightly amused at your premature obituary for ALIA, the Australian Lighting Industry Association *(Connections August and September)*. As a recipient of voracious and frequent emails from the originators (or 'progenitors' as they call themselves), I think they are not yet finished whatever it is they have started!

It is clear that email is the scourge of our times. Thank goodness for the delete button.

My position is slightly unique, in that I am neither a seller nor a supplier of equipment, as it appears most of those behind ALIA are.

Rather, I practice the ancient art of stage lighting. I think that the ALIA concept, as it currently stands, is about a loose collective of people trying to sell things to people like me. In recent times I've become slightly hermit like, as an increasing flock of sales professionals call my mobile to enquire if I would like to attend this demonstration, or that seminar. One actually had the cheek to ask me bluntly what it would take to have their brand of moving light designed into my next show.

So I am not planning to purchase a Gold, Silver or even a Rust coloured memership of ALIA, lest I be even more distracted by equipment suppliers.

**- Name supplied.**

**Got a gripe or a comment?**
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## Memorabilia Wanted!

**As part of our theme: Past, Present and Future (30 years), we are staging a museum display of pictures and equipment from 1972 onwards. If you have well presented equipment from the 1970's, or pictures you can loan us, we will be very intrerested to hear from you!**

Contact Julius Grafton on +61 2 9876-3530, or email julius@conpub.com.au

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SOUND LIGHTING AV

*by Andrew Yabsley*

# Sorry, what was that?

The human ear is a fantastic device. It picks up sound in the range of 20Hz to 20kHz and relays that information to the brain so that we hear the sound. Ever wondered how it does this?

The ear is really divided into three parts, the outer ear, the middle ear and the inner ear. The outer ear consists of the external canal which ends in the ear drum or *tympanic membrane* and the *pinna* the visible flap of skin and cartilage protruding from the side of our heads. I will include the some anatomical terms in this description, as they are sometimes useful in games of scrabble or crossword puzzles. (Incidentally the killer word in scrabble is "syzygy". It is a real word that refers to the alignment of planets. Get that on a triple word score!)

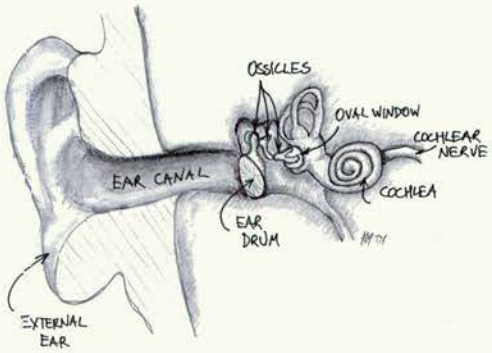
The tympanic membrane is connected to the three small bones or *ossicles* in the middle ear. The other major components of the middle ear are the semicircular canals which are responsible for our sense of balance and not involved in the hearing process. The ossicles are connected to the organ of hearing called the *cochlea.* The cochlea is a long tube, which contains hair cells connected to the nerves which send sound information to the brain. There are some 30 000 nerve terminals distribute along about 3cm of this tube.

When a sound wave enters the external ear, it causes the column of air in the canal to vibrate and this in turn vibrates the tympanic membrane. The ossicles transmit the vibration to the oval window on the cochlea. Mechanical advantage provided by these bony levers and the fact that the tympanic membrane is larger than the oval window means that the vibrations are amplified as a result. The vibrations are passed into the cochlea via the oval window and cause the fluids inside to vibrate. These vibrations are in turn picked up by the hair cells which convert them to nervous signals which are relayed to the brain via the auditory nerve.

These hair cells are delicate and can be damaged by excessive noise - an occupational hazard for those in the audio industry. Earplugs simply reduce the amount of energy entering the ear and help the long-term survival of these hair cells. Industrial deafness, interestingly, commonly involves a specific hearing loss or notch around 4kHz regardless of the frequencies of the sound that caused the loss. It does not necessarily correspond to the frequency spectrum of the sound to which the person has been exposed. Hearing loss also occurs with age - this type of hearing loss involves a progressive rolling off of the higher frequencies.

To understand our sense of hearing we need to be aware of the involvement of the brain. As with all our senses the brain is actively involved in our perception of sound - hearing is not a passive process. When we listen to music, for example, the tympanic membrane vibrates in an extremely complex manner, which is the sum of all the vibrations of all the instruments producing the music. The brain is able to analyse this complex waveform & separate it into its components so that we can make sense of the music. We can listen specifically to the bass player in the mix simply by concentrating.

The brain has a reference library of all the sounds tha it has heard and identified i the past and uses these memories as a guide to interpret the music that it hears. If the brain was unab to separate out the sounds like this, we would only he noise, not music. When a person hears music that is completely unfamiliar - say from a different culture or from their adolescent son's bedroom - it does sound like noise because the brain has nothing in the reference library to make sense of it. Performers of music to audiences who are unfamiliar to the music are wise if they demonstrate each of the instruments to the audience to give the listening brains a better chance of coping with the new sounds.

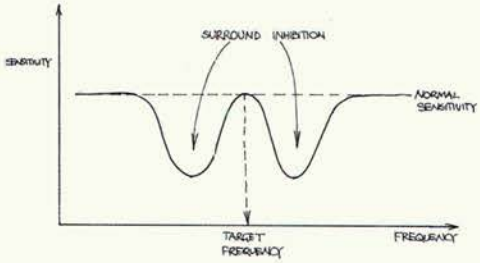



THE HUMAN EAR

The role of the cochlea is critical in the process of hearing. Different parts of the cochlea pick up different frequencies with high frequencies detected at the front near the oval window and low frequencies down the back. This differentiation enables the ear in conjunction with the brain to perform amazing feats. One such phenomenon is the "cocktail party syndrome". When you are in a noisy room with a whole group of people talking at once, the noise level makes it very difficult to hear the person to which you are speaking over the top of the background. A very neat trick by the brain called *surround inhibition* comes to our aid by enabling us to concentrate on a particular frequency that the person is producing. The brain isolates the target frequency by modifying the normal frequency response curve to turn down the frequencies either side of the target to isolate it and make it easier to detect. (see graph)

Another neat trick that the brain performs is in its detection of loud sounds. There is a muscle attached to the tympanic membrane which increases its tension to dampen the vibrations of the membrane when loud sounds threaten to cause damage. The brain monitors the tension in this muscle and alters our perception of the loudness of a sound accordingly. When we compare a loud sound with a quieter sound, the actual vibration of the tympanic membrane may be roughly the same, but one is perceived as louder because of tension in the muscle tells the brain to multiply the signal by an appropriate factor.

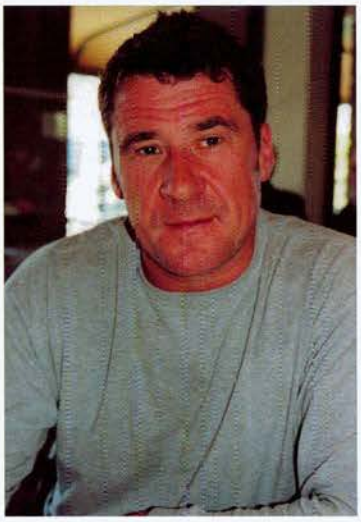
Well, there you have it, a brief look at the ear and hearing. A little understanding of these delicate organs should increase our appreciation of their complexity and maybe give us some incentive to look after them so we can enjoy the aural landscape to the fullest.



# MY GIG

*by Mandy Jones*

## A Day In The Life Of Andrew Ramage - Drama Sound Recordist



**Andrew Ramage began his career as a sound recordist 23 years ago in a traineeship at Crawford Productions as a runner. After training in various production departments Andrew chose the sound department because of a childhood interest in his father's reel to reel player and sound effects library. With a clear career plan in place, Andrew worked his way up to number 1 boom swinger and then number 1 sound recordist at Crawfords, and then began the slow process of buying his own gear in order to go freelance. Today Andrew has an impressive list of credits to his name including the Halifax telemovies, Nadia Tass' Amy, a Japanese feature Acri, and new release The Bank.**

7.30am: I finished at 12.30 last night so I slept in this morning. At the moment we're in day/night mode for about a week and a half to cover the night content of the film. I go to bed as soon as I get home – I fall asleep immediately because I'm usually quite tired. I allow myself 7 hours sleep so I set the timer on the phone. In the morning I either go for a run or a swim because I need to be fairly fit to sustain three months of this process.

10.00am: After my swim I'll make any calls I need to make or have any 'life' I want to have for the day. I've already had a phone call from the post-production facility with a problem this morning that we have to sort out before 1pm.

1.15pm: We have a breakfast call which is quarter of an hour of their time and quarter of an hour of our time before we start work. We have to work five hours straight without a break because we get a lot of our work done hopefully in the first five hours of the day while everyone's fresh.

1.45pm: Today we're at the Star Apartments in West Melbourne which we use as the 'Jane Halifax apartment' location. We've already been there for one day so all the gear is already in there - we call that a 'switch it off and walk away' type of wrap.

After breakfast we go into what we call a line run where the actors aren't made-up and the technicians prepare for that day's filming, so I set my equipment up, put a new DAT tape in and align it and put a tape ID on ready to go, and discuss the day's work with my assistant. I've got a shooting schedule which breaks the days down into exactly what content there is from a sound point of view so I know where the big part of the day is, and I know if there's a tricky camera shot because we've done a week of pre-production.

My assistant listens to the line runs because he needs to actually take in the dialogue in order to mike it, then the actors are taken back to make-up and wardrobe and we have that time to put in place anything we want to do for that day - in my case it might be turning off an air-conditioning unit on the building next door so we'd send a location person off to solve that. Then the cast are brought back onto set to do a block-through with the first assistant director.

The my assistant/boom operator and I will sit in and watch and listen to what's going on at the block-through. When that's finished the actors go off set again to have final make-up and during that time we'll work out exactly how to mike it - whether it's with body mikes or boom mikes over the top of their head. The cast are brought back on set and we begin the first formal rehearsal with camera, lighting and sound. We might do three rehearsals until each department is ready to go, and then we do a take. It usually takes two or three takes to achieve a shot.

We know from talking to the director in the block-through what shots there will be to make up the scene so we can work out how to cover it. That way we can allow for not getting the best sound in one part of the shot because we know we're going to cover that line of dialogue in a tighter shot later. That's the art of the job I suppose, working out how you're going to do the soundtrack for a complete scene. Whether you use body mikes or a boom it's just a judgement call on the day and sometimes you change it as you go.

The screen time for today is 4 minutes 55 seconds which is not a great amount but it's still going fairly quickly. 9 or 10 minutes is a huge day, and on a feature film you may only do 1 to 2 minutes in a day.

6.45pm: We made a deal years ago to do a five hour stretch which can be extended to six at the first assistant's discretion to enable them to shoot a scene that couldn't easily be broken. We're often asked to work over the five hour period to accommodate that situation. We have a 45 minute meal break and the food is again supplied by a caterer. The food is fantastic - they believe in feeding the crew well to keep us healthy. We have a full time nurse on set all the time and she spends the first five minutes of the day

**Name:**
Andrew Ramage
**Age:**
45
**Occupation:**
Drama Sound Recordist
**Current Project/s:**
- Halifax FP Telemovies
**Location:**
Melbourne

# GOOD RIGGING

*by Tiny Good*

## System Inspections

This is a subject we at Showtech Australia P/L get a lot of calls about, and is one of the most basic principles of safety. The inspection, reporting and correction of problems relating to your systems is vital to the safe operation of an entertainment workplace. The inspection period of the system depends on the complexity and use of the gear, so I will detail this into 2 groups, you can decide which group you fit into and the appropriate action.

**Hire companies**

The lifting equipment you hire to people needs to be visually inspected for wear and tear, and run to ensure operation before every hire, and after every hire to ensure no faults have developed. It is hard to charge a client for damage if it not discovered until the next time the gear goes out.

The hoists, chain motors, blocks, tirfors, etc., need to be load tested at least every 12 months and have a label attached or in the box identifying the last time they were load tested.

AS 1418 states that all hoists must be load tested to 125% of their rated load and must lift hold and lower this load for at least 1 full rotation of the gears.

This means that a 1Ton motor must lift a 1250kg load.

The 12 month period is an industry standard but the retesting of the hoists after a long hire period, say 3 months touring, should also be considered for "high degree of use and cycles" as per most manufacturers guidelines

Electrical equipment such as tools, light, amps, dimmers, cables and the like all need to be tested and tagged as per state and federal regulations

I would be pleased to hear from anyone who believes they know the ins and outs of electrical testing.

I know that the testing of cables with a tester or "megga" is an easy process, but the testing of electronics such as moving lights, audio consoles, video components and the like is still an area that needs much clarification. I certainly recommend that NO ONE test electronics unless they are fully aware of the process for that specific item

**Venues**

Equipment used in permanent installations in venues, such as front trusses, PA clusters, and loading dock hoist, should be tested every 12 months regardless of the amount of use they get.

Flying systems such as counterweight and hand line systems also need to be inspected at least every 12 months.

Checking of venue equipment would be more system orientated than for a hire company as the venue checks would include the whole system, (attachment points, control systems, etc) whereas the hire company checks would be one piece at a time to enable mixing & matching components.

Electrical testing in venues as with their hire counterparts are governed by Australian standards and only the period of tests would change.

Most larger venues, arts centres, etc., have their own standards and procedures for equipment testing and tagging to ensure their equipment and that hired in meets their safety standard and has the paper trail to prove it.

**Who**

The checks on chain motors can be done by any person familiar with the workings of the item, and with the facilities to certify that the load test is accurate, and that the electrical tests as per AS 3000 have been performed.

The inspection on flying systems can be done by and person with a rigging ticket, and the expertise to conduct and report the inspections

The inspection of all other lifting and slinging equipment needs to be done by a person holding a minimum of "dogging" certification

The testing of electrical & electronic components must be done by a competent person or company with the knowledge of both the requirements of the standard, and the knowledge of the equipment to not damage it during testing

The main question that needs to be answered is, "If it all goes wrong, can I prove that I did the right thing and I was sure the equipment was in good condition? Can I prove it? Will the company who did the work stand by their report?"

If you have good answers to these questions you can sleep at night

The rigging information contained here is the opinion of Tiny Good based on industrial training as a rigger, and job experience. No liability is accepted for use or misuse of this information.

## MY GIG (cont)

running around giving everyone their vitamins and checking any ailments. Then we have another five hour shift - the afternoon shift. There's a twenty minute tea break which can be given in that time, and sometimes through necessity it's taken at the end of the day but most often it's taken midway through that period.

12.30am: We try to do ten hours a day but we often go over, but only on average by about an hour. We'd all love an eight hour day but it's just not cost effective to shoot.

Once the day is finished we are given our call sheet for the following day's shooting. My DAT tape is taken from me at the end of each day so I pack it up in a DAT transport case and the runner takes that off to the post facility along with the film.

It's very demanding work - you can be in a luxury penthouse one day and in the bush or out on the end of a jetty in the worst weather of your life the next.

# DEEP FRY

*by Duncan Fry*

## The High Priest of Magik

**Have you been watching that show on the ABC recently - It's a Long Way to the Top? (subtitled 'It's a very, very long way to the top if you don't live in Sydney')**

(above) two publicity shots of the band. Love those caftans!

(below) a couple of pictures from the first In Melbourne Tonight appearance - nice tie Dunk!

Parochialism aside, it was a fascinating series, although it reinforced the baby boomer's view that, with a few major exceptions, the fire went out after the 60s and 70s. And also revealed the producer's subconscious wish to be cast as a Go Betweens band moll.

Anyway, there was an Internet chat room you could go to after the show, ask questions on line and get them answered by people who actually lived through the times.

The week after the third show in the series, the one covering the late 60's, I started to get a whole lot of emails and phone calls from people wanting to know more about a part of my life that I had almost totally forgotten.

No, I wasn't famous or anything, but for a short while I existed in the reflected glow of a performer who, while never becoming a household name, was a major Australian influence on live stage presentation. He couldn't play a note of music, couldn't sing his way out of a paper bag, yet his unique style is remembered today, 20 years after his death.

His name, of course, was Geoff Crozier. A.K.A. The Mad Magician, High Priest of Magik etc. Apparently someone had asked for information about him in the chat room and been given my name as someone who might know. How on earth do people find out these things? Beats me.

So now my secret's out. Yes, I was the first guitarist in Geoff Crozier and the Magic Word.

In 1967 or thereabouts I had answered an ad in Go Set magazine along the lines of "musicians wanted for sensational new act". The previous band I was in ('The Rave' - cool, huh?) had imploded, and I was looking around for something to do. So I went along to the audition, not really expecting much.

It was held in a rambling guesthouse in Hawthorn run by his parents on a huge block leading down to the river. Geoff lived in a large subterranean closet underneath the house that was jammed to the roof with magic tricks and props. There was barely enough room for three people to stand, let alone setup drums and guitar amps. Various musicians turned up all through the afternoon; some took one look and left immediately, some played a few notes and then left, some just stood and stared as Geoff whirled around doing magic tricks.

What he wanted was free-form continuous music for the 30 minutes or so that he performed, while clouds of oily smoke, flashpots, and strobe lights alternately choked and dazzled the audience.

Most of the musicians who turned up for the audition couldn't handle such a laissez-faire attitude to the music side of things.

"But what songs are we going to play?" they would whine.

"No songs, just play, play" Geoff would reply, setting off another flashpot.

By a process of attrition the band was whittled down to me, a bass player called Cal, and a drummer called Tom. We just banged around on various chords for a while in a no holds barred continuous solo reminiscent of the final chaos of My Generation. Tuneful it wasn't but I think it had just the right amount of anarchy for Geoff, and by having no fixed form it could be stretched out or shortened as required.

So, that was it. We called ourselves The Magic Word, although that was a bit risque for some dance promoters and on those occasions we were The Magic Pudding. Who would have thought promoters, an avaricious breed who would sell tickets to their grandmother's cremation if they thought they'd get away with it, were that precious?

Every week we worked around the Melbourne dance circuit, although just what audiences made of the whole thing I don't know. The shows always ended in absolute chaos - things would fall over, unintentional sparks would fly from electrical bits and pieces, while sometimes the smoke machine refused to smoke and just squirted hot oil over everything and everyone!

Pity the act that came on after us!

Geoff's daytime job was as a set painter at Channel 9, so with his connections there we did quite a few TV performances (see photos). At first they were live, but the production people had a hard time coping with the lack of a fixed, rehearsable format, so later TV appearances were mimed to a couple of tracks we put down in their recording studio.

Many people I'm sure thought Geoff was as mad as a cut snake, and it's true, he did occasionally appear to have a tenuous grip on reality, but he was a hell of a nice guy to work for. I never once saw him crack the shits with anybody, apart from the occasional promoter who richly deserved it, and he never had a bad word to say about anybody.

He was also a shit hot magician, and very well respected by his peers in the magic biz.

One night after a gig we were having a bite to eat at Leo's Spaghetti bar in St Kilda, when he bumped into a fellow magician. Well, fair dinkum the two of them had the whole restaurant entranced as they did endless close-up magic tricks involving coins, spoons, knives and forks, plus the inevitable pack of cards. Just as guitarists always seem to have a plectrum in their pocket, so do magicians always have a pack of cards about their person.

Like all good things it eventually came to an end. They say you can't stand too close to genius without getting burned, and I was certainly feeling its heat. Playing in the band seemed to be costing me much more money than I was earning from it (some things in the music biz never change, do they) and the amount of stage equipment and sets we were carting around was getting out of hand.

I'd also had my prized Rickenbacker 360 12 string (rare 'f' hole export model, absolutely priceless today) stolen during one of the TV appearances. I replaced it with the cheapest Fender Telecaster copy I could afford - nicknamed the 'East Doncaster' - and was a bit pissed off over the whole deal.

So one day I told him I was leaving to just to get my brain back in some kind of order. He shook my hand, we parted on amicable terms, and I never saw him again. I'd follow his career from time to time, and see his name on posters with the Indian Medicine Magik Show, and then the business of getting on with my life took over.

When I read of his death in 1981 I felt just as sad as I did when Jimi Hendrix died. A great talent had suddenly passed. But hey, although I don't think in his wildest dreams Geoff would have expected to be compared to Hendrix, at least people are still talking about him and his influence on the face of Australian live music.

Can't really ask for more than that, can you?

For those who want to hear more, I've put a couple of MP3s of tracks from Geoff's TV appearances on the www.dunkworld.com site. De-clicked and de-crackled from the original acetates, and in glorious living mono. Email me at dunk@dunkworld.com if you have any Geoff stories you'd like to share.

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**- Julius Grafton**
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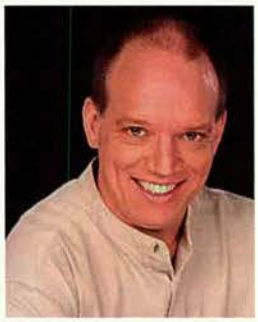

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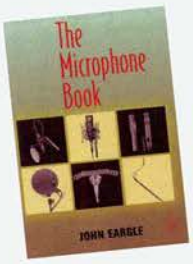


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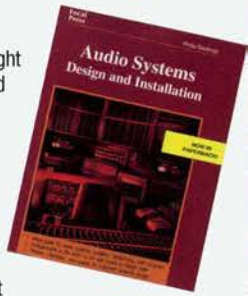


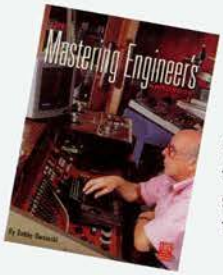


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# SIZE DOES MATTER

*by Graham Walne*

Over the last few years I have been trying to mount a conference on venue design, motivated by my work as part of the design team for Shakespeare's Globe. To me there seems to be a case for debate that we had forgotten some of the lessons our forefathers learned about building design, and equally we seem unaware of what technical developments could offer in the future.

We are rediscovering the value of bringing balconies around the side walls so that the upper tiers are no longer separated from the action – the old music hall epithet "all those people up there on the shelf" was an apt description of some venues. At the reconstructed Globe in London, an essential item on any theatric tourist's agenda, the audience wraps around the stage with considerable intimacy. Of course the original Globe seated rather more than it does today, 4000+ in fact.

This was possible not only because the Elizabethans sat closer together but also they were smaller. Some experts claim that the peasantry were 5" shorter than the nobles who, because they ate better food, simply grew larger in all respects. This sector of the audience didn't sit with the hoi polloi but in special 'gentlemens rooms' next to, or even on stage and at a considerably higher price.

It is interesting that, when the population was smaller (both in size and numbers) theatres were larger than they are today. The Ancient Greeks for example set standards for visibility and audibility in their theatres which many today cannot match and they achieved this on a large scale - Epidaurus was so popular that it was enlarged from its original 14,000 capacity to 17,000.

The development of the cantilever in the 19th Century meant that auditoria could be constructed on a larger scale and many opera houses of this period, and early 20th Century music halls, were capable of holding 5000 seats. Where these buildings survive in almost all cases the contemporary licensing regulations have reduced the capacities often to half the original.It is interesting to assess the relationship between what a particular time could physically achieve and what effect the resultant building had on its drama.

In the UK at least after Shakespeare and the Restoration Comedies, the word became secondary to the spectacle as distances became greater and detail was lost and the 19th Century is almost totally devoid of good drama by contrast to the centuries earlier and later.

For those designing today's theatres the question of the seating capacity is probably the hardest one to judge and certainly one of the most important. This is not, as you might expect, because of the implications for the capital cost but for the running cost. Dependent on how the seats are configured a 20% variation in the seating capacity might translate into a 10% variation in the capital cost but a much more significant difference in the running cost.

Extra exits require extra FOH staff, extra seats require extra cleaning and maintenance, the extra volume means both extra airconditioning and heating and more people need more toilets.Given any choice management has always opted for more seats but it is a wise manager who realises that capacity must be balanced against comfort, leg room and sightlines in a fixed space. One theatre manager I a recently worked with has calculated that, whilst planned improvements to the stalls will reduce the capacity by 300, the benefits to the sightlines will probably attract more people throughout the year than would be turned away on those occassions when the house full sign is needed.

Theatre is not a novelty for today's public like it was for the Greeks and the Elizabethans. Neither is today's youth likely to value it above other attractions merely out of an almost regilious sense of duty. To attract tomorrows' audiences theatre must be attractive and, whilst it is a familiar statement, it is nevertheless still true that home theatres could set the standards we expect when we leave home. There could easily become a point when the armchair lounger remains more attractive than the tip-up seat. Is this fair? Should domestic standards apply elsewhere?

Already theatre managers have to be vigilant about the public's growing desire to eat takeaway fast food in the stalls, and carry trays of drinks into friends who remained seated during the interval. Like most things, this is not new. Before the early 19th century when gaslight made it possible to dim houselights, performances were given in full light and this in turn made it feasible to chat, read the play (and correct the actors or singers) or make arrangements in one's social calender.In arts management terms budgets are linked to a projection of how many seats a production is expected to sell.

A wise manager consults previous records and other entrails but, recognising that this is not a science, imperfect or otherwise, errs on the side of safety. Most arts bodies for example can provide statistics about average attendance percentages for drama, dance, musicals and so on. Not surprisingly contemporary dance and then drama fare poorly when compared with musicals. Thus, "what is this for?" is an important question for architects.

The estimate of audience reaction also has to take account of how big the market is, if drama attendance averages 50%, it doesn't follow that moving the play from a 500 seater to a 1000 seater will automatically result in more people. It will however, change the experience for those that do attend.The size of the auditorium also has to relate to the scale of the work, epic drama needs an epic platform, work dealing with human issues needs a more human scale where it is easier to distinguish features and the voice can have more subtelty.

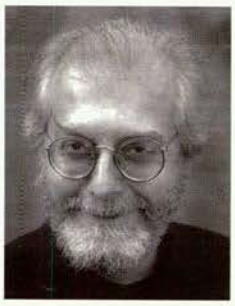
A problem arises when producers are obliged to stage initimate work in a large venue simply because they need to recover the cost of a star, or are simply tempted by more seats. There is a similarity with mega-musicals, expensive to mount because of the degree of technology and chorus, long runs and lots of seats are de reigueur but stadia productions of these are a less reawarding experirnce for many patrons than watching the video at home.

Comfortingly some theatre designs have learned from the past and work exceptionally well. One example is the technique of providing several shallow balconies, London's Barbican reintroduced this technique and when these wrap around the sides of the auditorium considerable intimacy is possible, the new NIDA auditorium which uses this technique already has an excellent atmosphere even in its unadorned concrete stage.

Although research indciates that more people are attending an art gallery on Saturday afternoon than watching football, theatre audiences are not rising and there.

In theory theatre audiences should rise with the increase in population - although this also relates to the previous experience of theatre-going of the immigrants and influences what culural experience they expect, and receive, when settled in., thus some communities could look at sunstantial numbers in say 50 years.

**"...Theatre is not a novelty for today's public like it was for the Greeks and the Elizabethans...."**



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| Mackie Industrial | +61 2 4388 4666 | www.mackie.com | 19 |
| Magna Systems | +61 2 9417 1111 | www.magnasys.com.au | 65 |
| Meyer Sound Australia | +61 7 3252-4493 | www.meyersound.com | 39 |
| NAS -National Audio Systems | +61 3 9434 1888 | www.nationalaudio.com.au | 63 |
| Navigator Systems | +61 7 3257-0443 | www.navigator.co.uk | 56 |
| Navitar Inc | +1 412 321-0076 | http://buhloptical.com/ | Projector Mag |
| Network Entertainment Technology | +61 2 9905-5997 | www.network-et.com | 63 |
| NIDA | +61 2 9697-7600 | www.nida.edu.au | 69 |
| Penn Fabrication | +61 3 9335 6455 | www.penn-fabrication.com | 47 |
| Production Audio Services | +61 3 9415 1585 | www.productionaudio.com.au | 29 |
| SAE | +61 2 9211-3711 | www.sae.edu | 27 |
| SGM | 1-800-648-111 | www.sgm.it | 25 |
| Show Technology | +61 2 9898 1111 | www.showtech.com.au | 10,BC |
| Sony | +61 2 9887 6666 | www.sony.com.aU | 15 |
| Sound On Stage | +61 2 9281-0077 | www.soundonstage.com.au | 66 |
| Specialist Lamps & Lighting | +61 7 4032-1300 | www.speclamplight.com.au | 24 |
| Stage & Screen | +61 2 9383-4544 | www.stageandscreen.com.au | 16 |
| TAG | +61 2 9810 5300 | www.tag.au.com | 23 |
| Total Concept Projects | +61 2 9648 3444 | www.totalconceptprojects.com.au | 31 |
| TRC - The Resource Corporation | +61 3 9877 8233 | www.trc.com.au | 67,69 |
| ULA | +61 7 5510-1333 | www.ula.com.au | 55 |
| Yamaha Music Australia | +61 3 9693 5111 | www.yamaha.co.jp/product/ | 17 |

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