

revealed! THE **SECRET** WORLD OF ULI BEHRINGER

Connections

PROFESSIONAL AUDIO & VISUAL TECHNOLOGY

APRIL 2002 Australia \$4.90 / NZ \$6.50

VIDEO

- REVIEWED:
SONY PLASMA,
SANYO PROJECTOR

AUDIO

- NEW 02R
- AZTEC CONSOLE
- CLAIR'S 500 I'O's

LIGHTING

- DMX DEVICES
- LIGHTING OWAN
- G SPOT TESTED

ISSN 1320-5595

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DAZE OF OUR LIVES: a 30 year history
Inside AIR with GEORGE MARTIN!

FRY UNDER COVER IN GERMANY • COMMERCIAL AUDIO REPORT



"The KSM44 has amazing presence on vocals. It's a great all-around condenser mic."
-Eddie Kramer (Jimi Hendrix, Led Zeppelin, Kiss, the Beatles, ...)

"I found the KSM44 to have an excellent natural quality with good presence and a nice open top end. This mic is so smooth in the midrange, even a banjo sounded good!"
-Joe Chiccarelli (Beck, U2, Elton John, ...)

"I tested the KSM44 on vocals, bass, guitar, and drums, and haven't stopped using it since. It's hard to describe, but there is an immediacy to the KSM44 that is very appealing – sort of like a dynamic mic, but more elegant."
-Brad Wood (Smashing Pumpkins, Liz Phair, Better Than Ezra, ...)

For a mic with
such low self-noise,
it sure creates a lot of buzz.

"The KSM44 is the quietest microphone I have ever used, and one of the best sounding too."
-Tom Jung (Pro Audio Review, DMP Records, ...)

"As I compared the KSM44 to a mic I consider to be an old favorite, my ear immediately chose the KSM44. Shure has a fantastic studio mic that I can use for critical recordings – it's going to become a standard, very fast."
-Bill VornDick (Alison Krauss, Bela Fleck, Mark O'Connor, ...)

"My first impressions of the KSM44 were warm, round, full – dare I say it? Fat!"
-Bob Ross (Recording Magazine)

"The KSM44 is a remarkable achievement. I am especially impressed with the versatility of this microphone and have yet to find its limits."
-Steve Albini (Nirvana, Page and Plant, PJ Harvey, ...)

"I was given the KSM44 prototype early-on, not knowing its intended purpose - so I tried it on everything. Guess what, it worked on everything!"
-Chuck Ainlay (Trisha Yearwood, Mark Knopfler, George Strait, ...)

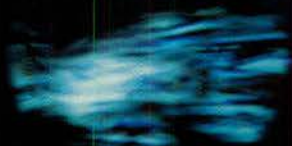
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MAC 2000

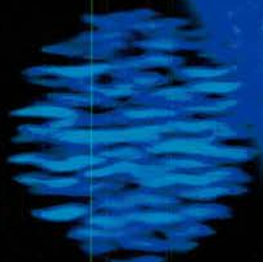
Electronic performance



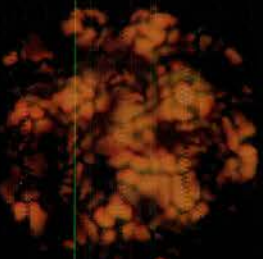
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This publication is checked by virus scanning software to ensure your safety while reading. All 37 of the spelling and grammar mistakes have been deliberately included for your reading pleasure.

From the editor...

Replacing the Audio in AV

One of the interesting comments to come out of ENTECH this year happened as a result of a conversation I had with Michael Hasset of Technical Direction Company. He rightly pointed out to me that during my speech at the Awards dinner, I failed to compliment the AV technician that set up the cube display used onstage – an omission that is indicative of the general view that AV is a lesser discipline than lighting or audio. This led to a discussion that pointed out that the “Audio” part of the term “Audiovisual” is now no longer really relevant. He suggested that it would be far more correct to simply replace “Audiovisual” with “Visual”.

Visual Technology (VT) these days does require a far higher level of skill than in previous times, with professional displays and display systems needing as much attention to setup as a typical sound system.

In fact, with much of the VT sector noting the growing convergence of VT and IT, perhaps the best acronym would be VIT (Visual and Information Technology). Audio still is a part of the technology, but more often these days it is easier to handle audio digitally than via analogue means.

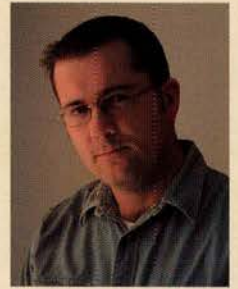
Maybe it was impressive foresight on my part last year to have captioned Connections as a magazine for

“Professional Audio and Visual Technologies” – the intention being that “Visual” was a holistic term to describe lighting and AV.

For my part, I think it would be wise for me to use the words “Visual Technology” where I previously used “Audio-visual”. Certainly the prominence of this part of the pro technology market is still rising. So, perhaps by severing the “A” from “AV” we can give the area the equal standing it deserves – alongside Audio and Lighting as technical disciplines. Though, it may take me a while to get out of old habits!

On the lighting front, I have recently been talking to a few different vendors of lighting equipment, and there seems to be a general consensus that we are heading out of the tough year that followed the Olympics. The impression I have received is that, while most cities across Australia noticed a sustained drop in sales volume, things are finally starting to rebound again. Here’s hoping that the major event drought that has curtailed production since the games is also beginning to break.

John Grimshaw
john.grimshaw@conpub.com.au



Publisher writes...

Like being in a band. Complete with the fights –!

Sometimes making this mag is like being in a band. You have hits and misses.

We’ve missed a bit of late. You’ve noticed.

Don’t for one minute think I’m being critical of the guy upstairs. Grimshaw, that is! John slogs on, navigating in between the low flying scud and ducking the direct hits. Thank you John for weathering the flack.

In our defence, behind the scenes here there was The Great Recycle of 2000, when several writers who were well past their ‘best before’ dates went out fighting. Humans can do that.

Then there was the inevitably sad and complex (but ultimately resolved) partnership split. That produced complications leading right up to ENTECH, and that dust storm is only just clearing.

Now the bank and I own the whole lot.

So it’s onwards and upwards, in a climate conveniently tough for media worldwide.

Down to business.

At ENTECH I got a stack of feedback, which just confirmed what I knew, and then went to some media consultants I have grown to trust over the last decade.

The result is starting to percolate into our pages here. Tighter material, better imagery, new links with overseas bureau’s and new writers.

I’m re-energised. I’m finding our Technical Courses enormously refreshing - talking to young technicians is always an eye opener. Let’s explore our industry together!

Julius Grafton
julius@conpub.com.au



Chat to a Legend:
Sir George Martin at Air Lyndhurst
 Page 23. That's his NEVE input converters above. Nice pic!

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MARKETREPORTS



Commercial Audio and Communications
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DMX Devices
 Page 51



30 YEARS OF ROCK SOUND & LX!

DAZE of our lives, man. We remember! New feature, starts P. 62

On the Cover...

The device featured on this month's cover is to be found in the DMX Devices Market Report - Can you guess what it is?

- Photograph by Dario Gardiman +61 2 9698 0700



UPCOMING REPORTS:
 May - PLASMA, Amplifiers
 LX Effects and Consumables
 June - Luminaires,
 Small PA Boxes

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Connections

The Asia/Pacific Professional Audio and Visual Technology Monthly

APRIL 2002

BEHRINGER TO OPEN IN AUSTRALIA

Secretive German audio firm may also open internet sales portal

Behringer Spezielle Studiotechnik were about to open their 16th company run office. But beforehand, the long standing and successful local distributor needed to be terminated. Melbourne's Musiclink were not amused. Behringer were worth three million dollars in turnover a year to them – around nine hundred thousand dollars nett.

Musiclink co-owner Mike Daws was incensed when the termination came at the Los Angeles Namm convention in January. "I asked them to come and see us, to understand the market, and to make a decision after. So, Arie van den Broek (Managing Director) visited, went away, and then terminated us anyway, effective May 1st."

What happened next raised Daws and partner Gary Hyde's hackles. Their business, astutely developed, turned over almost \$21 million last year. It includes a New Zealand distribution company, and a string of retail stores including Billy Hyde Music Centres.

They had a conference scheduled that weekend, and claim they asked van den Broek to hold short announcing the change. But Daws says that he had a call from a staff member on the Friday night, to the effect that Behringer were hiring – and they wanted Musiclink staff. Plus, Daws says the news was on the Behringer website. Daws felt betrayed.

The scene was set for a tussle, nothing new to Behringer, a German controlled multinational whose single minded purpose is market share at low cost, fuelled by Chinese made pro audio products and riven by intensely negative market reaction from established competitors.

The Australian factory outlet opens in May, and is staffed by ex Musiclink employees, including Ian Flowers and Michael Jago (*pictured*).

Behringer strike fear into the hearts of pro audio manufacturers and distributors everywhere. Because they sell a very cheap

product. Their mixers and signal processors retail at half to one-third the price of others.

But to achieve this, the ostensibly German firm operate a very tight ship. Daws was used to unconventional demands, like faxing his customer orders to Behringer, and having them set his retail prices. He was astounded last September when without notice, Behringer announced retail price reductions of up to 50% worldwide.

"In actual fact, they dropped prices 10 to 20 percent, in some cases 50 percent. There was no compensation for us for stock on hand or on the way." It may have been a wake up call for what was about to happen.

The new Australian Behringer subsidiary is set to offer dealers lower prices again, but require prepayment for stock ordered. The firm's website carries 'global pricing' on all its lines, in either US dollars or Euro's. It is very comprehensive, and clearly just one step away from direct internet sales.

Connections attempted to contact Behringer founder Uli Behringer, who is now thought to reside in the Philippines. His

media minder responded to the effect that all interviews were to be conducted in writing, via the German head office. At presstime we were unable to locate the forthcoming Australian office.

We spoke to various Behringer dealers, who confirmed they understood lower prices were on the way, albeit in exchange for cash

prepayments. They were not worried at the prospect of Behringer selling direct on the net – if in fact that is what they plan. "We have a web shop, and only 10 percent of our business comes from there" stated John Goldsmith from Kosmic in Perth.

Whatever the case, Behringer are set to rattle the trade.

• **INSIDE BEHRINGER'S SECRET WORLD:** page24



Heard! Oh What A Night Capitol Theatre, Sydney

Oh What A Night has no real storyline, and doesn't need one, with 36 hit songs from the disco era. OK, OK: there kinda IS a story, which can be characterised as: 'Boy meets girl. They dance!'

Wyn Milsom and Bart Barkman of Jands Production Services devised a V-DOSC based design which really delivered the goods. Barkman's engineering on a Midas XL 4 caught all the dialogue.

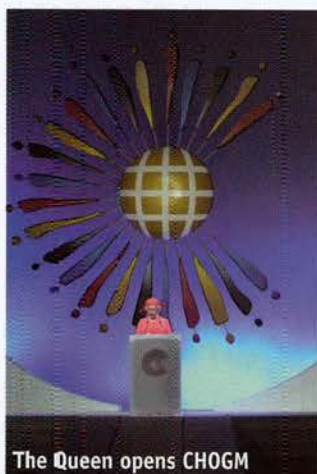
A large live band were tight and funky. It doesn't get much better!

• **SEEN:** Lighting OWAN. Page 26

Mic Market Report Corrections

Last month's Microphone report carried a couple of picture caption errors. On page 41, the picture labelled PCC-160 should have been CM-150, and the CM-150 should have been PCC-160. On page 44, the picture labelled CM-311A should have been GLM-200.

• **The Shure SM 81 sells for \$1225 not \$321 as we listed.** Our apologies for these errors.



The Queen opens CHOGM

CHOGM CONCLUDES

Great Big Events was appointed to create and direct the Opening Ceremony of CHOGM on the Sunshine Coast of Queensland. The show, hosted by Australian television personality Ray Martin, was staged in a purpose built tent with a magnificent stage and state of the art lighting and design.

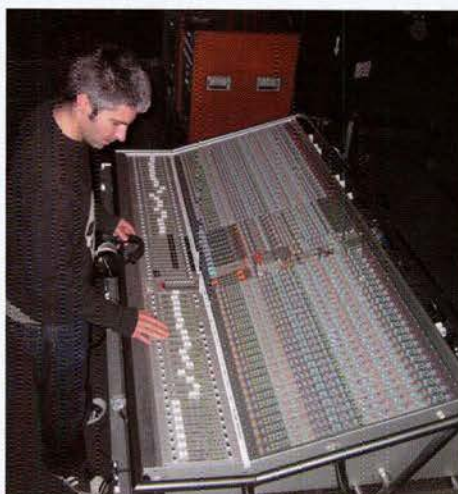
Great Big Events handled the selection, clothing, transport, logistics, rehearsal and accommodation of the 270 performers.

Chameleon Touring Systems (Brisbane), with Brian O'Connor in charge, were contracted to supply the lighting. Providing the main lighting source for this important event were 20 x Martin MAC500 and 35 x Martin MAC600.

Brisbane based Staging Dimensions manufactured and installed the stage. Well known theatre and operatic designer, Michael Scott Mitchell, designed the 24 x 18 metre main stage and 12-metre feature ramp. The set, the size of a medium sized house, was nine months in planning, built in 26 days and installed into a large marquee on-site over 7 days.

The construction utilised 132 sheets of MDF board, 867 metres of structural pine and painted with 217 litres of paint. Stylised perspex lecterns were also manufactured for the event.

Staging Dimensions' affiliate, Lighting Dimensions, also supplied a range of lighting fixtures and services to fulfil CHOGM contracts, for QX Australia, which included scenic lighting of main plenary sessions, truss structures for signage and television lighting.



AZTEC Live Console

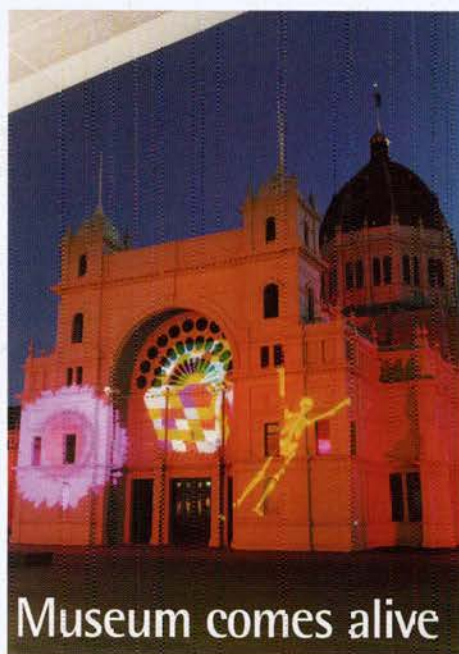
Dave Deardon and Gareth Davies, were behind DDA and the original Midas designs. Their new-ish firm Audient has been very successful with its ASP-8024 recording consoles, ASP-231 equalisers and ASP-510 surround sound controllers.

The new console is a live sound desk with pedigree, called Aztec. It is a dedicated Front of House/Monitor console, with 12 VCA Sub groups, and a 12 x 8 Matrix, but with a multitrack recording capability that allows a live signal to be sent directly from each channel. An independent Remix input is provided on each channel for the multitrack returns allowing simple post-production work. Frame sizes - 32, 40 and 48 ch, priced from \$59,000. • Corporate Audio Services, -61 3 5474-1067

Clair iO may redefine PA

LATE NEWS: The world's largest sound reinforcement firm, Clair Brothers, have started taking delivery of 540 iO devices by Sydney firm Lake Technology. The 2 in, 6 out 40 bit dsp loudspeaker management unit was designed by Bruce Jackson and David McGraph. It promises to change the way PA systems are used, with the technology soon to be modular, with n loudspeaker systems.

Complex, powerful and extraordinarily malleable EQ curves are unique to Lake, a boutique listed technology firm with worldwide reach. • More on iO coming soon.



Museum comes alive

Photo by John Casamento

Melbourne's new Museum has embarked on a five year project to externally light the Royal Exhibition Building with a display that reflects the shows happening inside the museum.

The tender was won by Lightmoves, in partnership with Vision Design and Classical Electrical, and the initial installation of the display is now complete.

"We were given a fixed dollar value that was not particularly large!" said Braham Ciddex, Managing Director of Lightmoves. "So between our three companies we elected to provide sponsorship as part of our package. That was provided in the form of labour for commissioning, programming and ongoing maintenance. That way we managed to free up enough money to provide equipment that was really going to make an impact."

"One advantage we had was the fact that we had already supplied the entire lighting control for the museum and this new project had to interface with that system, so we were able to seamlessly interface the two systems."

"The show was programmed on Martin Lightockey utilising its ability to start the audio track and thus lock the lighting to the audio site," said Braham.

"Lightmoves's Technical Director Andrew Sherar programmed the majority of the time cues, gobos and positioning in the factory warehouse."

Seven CityColors and four Goldenscan HPEs are used on the project. The Goldenscan HPE's are positioned high on poles with custom-made enclosures protecting them from the elements. The CityColors are positioned on the ground with custom-made concrete enclosures protecting them.



Jands Production Services crew with Crown racks

One Million Watts

After purchasing 28 more Crown amplifiers earlier this year, Jands Production Services now owns a grand total of 200 Macro-Tech 5002VZs, collectively delivering over one million watts of power.

Jands exclusively uses the Crowns to drive its JBL and L-Acoustics line-array systems, and has taken the amplifiers out on recent tours for Ricky Martin, KISS, Bon Jovi and Australia/New Zealand's huge Big Day Out festival.

Peter Ratcliffe, JPS head of sound operations, notes, "The Crown 5002VZ provides a high output in a compact 3U package."

Crown International, a Harman International company, manufactures amplifiers, microphones and systems control products and is distributed in Australia by Jands Electronics.

Cloud for Bose

Bose Australia has picked up the local distribution for Cloud products in Australia.

- Bose Pty Ltd
+61 2 8737 9978

BSS moves to Jands

Following realignment of BSS and Crown distribution internationally, Jands Electronics were appointed distributors of BSS in Australia.

Price Correction

The Bose MA-12 loudspeaker price was incorrectly listed in the February issue (page 46) - it is actually \$1199 inc GST RRP. We apologise for the error.

Yamaha replace 02R - with mini DM2000

Last month we reviewed the hot new DM 2000 console, and speculated a 'stripper' version would replace the 02R. Lucky guess!

The Yamaha 02R-96 is suddenly here for all intents and purposes, a baby DM 2000. They could have called it DM 1000.

It's got the key features that the DM 2000 brought to the table - 24 bit a/d and d/a converters, plus card slots, and a 96kHz sampling rate. Essentially, this is a DM 2000 in form, with 16 rather than 24 onboard analogue inputs, and four rather than six card slots. It also loses the nifty scribble strip

You can use up to 56 channels - in and / or out - using three layers, as opposed to 96 channels on the DM 2000. You can use as many as four individual effect processors simultaneously.

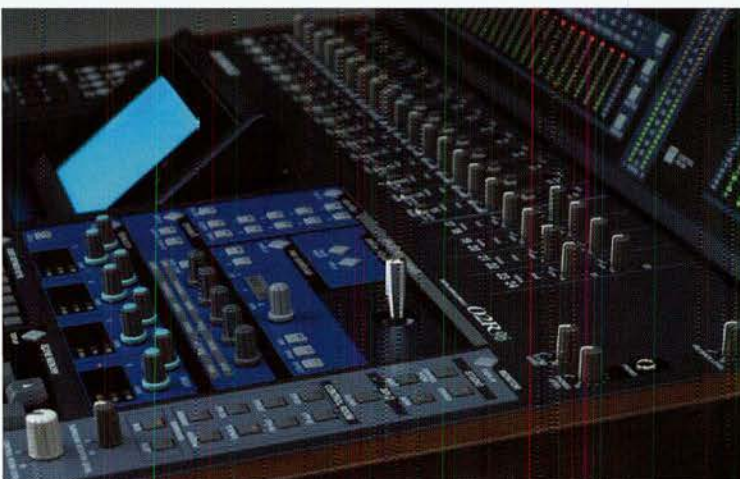
The four I/O slots accept a new range of 24-bit, 96-kHz capable Mini-YGDAI digital and analog I/O cards as well as existing types.

Like DM 2000, the new beast (why, oh why call it 02R-96?) has extraordinary patching flexibility. It also has 24 100-millimeter motorized channel faders and all available inputs, outputs, effects, and channel inserts can be assigned to any of the console's channels or outputs via the easy-to-use digital patching system. A major plus!

The eight auxiliary buses can also be patched to anywhere in the system.

Yamaha have delivered on our guesswork, so look next for an upmarket DM 3000, with some PM1D features. Maybe they'll call it a PM 5000 - 96? Or just DM 3000!

EDITOR'S CHOICE



Technology Update

OMNIMOUNT Appoint Distributor

The Resource Corp have been appointed the exclusive Australian distributor for Omnimount Systems. Omnimount are known worldwide for their mounting systems for all types of speaker systems, CCTV, projector, TV monitor and Plasma & LCD monitors.

- The Resource Corp (TRC)
+61 3 9877 8233 www.trc.com.au
- Omnimount www.omnimount.com

REVESBY UPGRADE

Revesby Workers Club have recently upgraded their main function room - The Whitlam Room - with the aid of Beyond Audio Visual. Previously the large auditorium situated on the top floor of the Revesby Workers' Club contained a few bars of generic lighting.

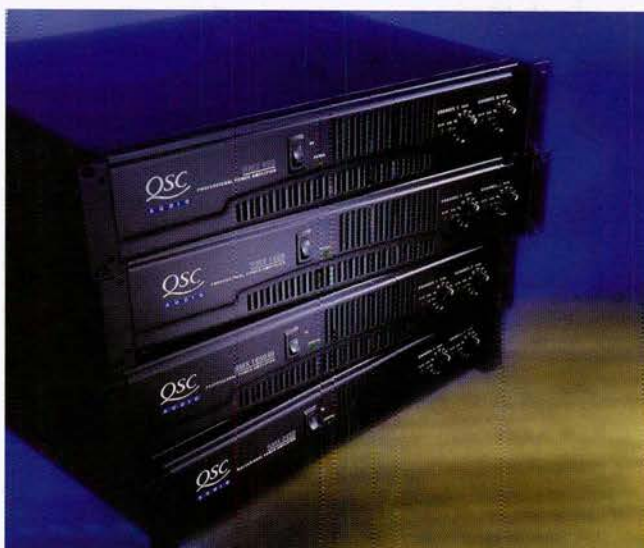
"It was essential to have a lighting rig that was very versatile," said Angelo Andrews of Beyond Audio Visual.

The room is approximately 20m wide and 40m long with a large stage at one end. The existing lighting bars were upgraded to accommodate the new lighting.

Beyond Audio Visual supplied and installed 12x Martin Mac500 and 8x Mac600 fixtures. Mohamed, John and Micheal from Beyond Audio Visual carried out the site installation.

A Martin MP2 external control module was installed to allow staff to check information such as lamp hours and perform software upgrades on any individual fitting.

The system is controlled by a Jands Hog 600.

**QSC add RMX**

QSC have added a new model to their RMX range - the RMX1850HD. Featuring a high-current toroidal transformer coupled with enhanced thermal performance, the RMX 1850HD is designed to deliver higher continuous power to 2Ω stereo or 4Ω bridge mono loads. Its power points are 360 watts per channel at 8Ω, 600w at 4Ω and 900w at 2Ω. Priced at \$1,995.

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

High End Systems announce a brighter X.Spot

The new x.Spot HO (High Output) from High End Systems offers more light output for long throw and high ambient conditions.

It boasts a new, fully modular 2:1 zoom optic system along with a new faceted "flat field" reflector.

Additional output is primarily achieved through the larger aperture (higher "f stop") and greater efficiency of the 2:1 zoom lens system. Increased color temperature and improved beam uniformity are a result of the faceted reflector.

As a result you have a choice of two zoom systems. For example, a designer could specify 4:1 zoom fixtures for shorter throw, wide projection applications and 2:1 zoom fixtures for longer throw or beamage applications where output is king and ultra wide zoom range is not critical.

The 4:1 zoom unit will also now include the



faceted "flat field" reflector.

All of the components discussed may be retrofitted to original x.Spots.

High End Systems will also offer the 2:1 zoom lens and the flat field reflector separately. This allows users to either add the reflector to their 4:1 fixtures, or just the 2:1 lens.

- Universal Lighting and Audio (ULA)
+61 7 5510 1333.

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Location Audio

Sony wireless microphones are the number one choice for discerning crews.

Now we've taken the fuss out of location audio with new additions to the Sony high-performance UHF line-up.

The new WRR-862 Dual Diversity portable receiver comes with camera mount accessories*. Right out of the box you're up and running with two channels into your Betacam using any combination of Sony wireless mics. For stand-alone use the WRR-862 will also run for five hours using four AA batteries.

Features including dual LCD displays and the earphone monitor selector help take the guesswork out of location audio. And, for no fuss wireless, the new WRT-847 microphone has interchangeable heads. So whether you need a Dynamic OMNI for interviews, a Dynamic UNI vocalist mic, an Electret JMI for studio or a Hyper Cardioid shotgun, they're in your kit.

For location audio applications ranging from dual channel dialogue/atmos. to stereo recording, the new Sony UHF wireless additions will make your pictures sound great.

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

*VIMount bracket supplied. Some cameras may require additional mounting hardware.



WRR862

Sony Australia Limited A.B.N. 59 001 215 354

Head office: 33 Talavera Road, North Ryde NSW 2113 Web: www.sony.com.au
Sydney (02) 9887 6666 Melbourne (03) 9264 0200 Brisbane (07) 3334 4000
Perth (08) 9202 2555 Adelaide (08) 8234 3777 New Zealand +64 9 488 6130

SONY

Technology Update

SONY GO ROADSHOW

SONY are about to embark on another series of two-day 'roadshows' to be held throughout Australia and New Zealand - commencing in Sydney on May 8. The theme of the biennial roadshow and seminar programme is 'INSIGHT 2002 - Your Sony Technology Interface'.

The format for the shows will include product exhibits and seminars, given by Product Managers.

Typical of the new breed of convergence product is the NSP-100 network player. This lunchbox-sized device is capable of recording and playback of video, audio and data sourced via a network connection. The ability to download content and provide playlist control from a remote site makes the NSP-100 perfect for retail promotional activities, corporate training and distance education.

- Sydney 8-9 May, Sony HQ, 33 - 39 Talavera Road, North Ryde
- Brisbane 15-16 May, Holiday Inn Brisbane, Roma Street.
- Melbourne 21-23 May, Leonda by the Yarra, 2 Wallen Rd, Hawthorn
- Adelaide 28-30 May, Entertainment Centre, Port Rd, Hindmarsh
- Perth 11-13 June, Pagoda Hotel Broadwater, 112 Melville Pde, Como, WA
- New Zealand 27-29, August Production Village, 27 Napier St. Freemans Bay, Auckland

DIGI UNTIE THE REIGNS

Digdesign have slightly expanded their distribution channels in Australia ahead of serious new product releases planned for late this year. Soundcorp in Melbourne, and Turramurra Music in Sydney have been added to a very tight and previously exclusive club of retailers selling full line ProTools.

Digi could be described as moving like molasses when it comes to appointing dealers - other than for the 001 line.

Rumours about the new releases can't be substantiated.

Intel Tropfest draws 95,000 people

Tropfest 2002 drew 95,000 people to Sydney's Domain to view 16 short films.

The crowd of 95,000 sat before an outdoor triangular stage with three video walls suspended from a truss tower above. Audio was a challenge!

3200 Lighting did the job with 56 Martin Audio Wavefront 8 cabinets.

The audio requirement was for 360 degree coverage up to 300m from the stage. Two live bands also performed.

Ian Reed, Technical Director of 3200 Lighting designed an audio system that would be effective for 'FOH' and 'Cinema' - six Wavefront 8 cabinets for each of three video walls, three hanging left and three right.

Wavefront 8 Long Throw cabinets were interspersed within this 18 cabinet configuration. Twelve WSX seven foot folded horn sub-woofers were ground stacked beneath the screens.



A further 26 W8C's were located on twelve separate delay towers, ten towers with two W8C's and two with three W8C's. Although termed delay towers and used as such during the two live band acts, the towers were effectively individual 'Cinema' systems during the film screenings, which was the majority of the time.

The towers were strategically sited in three rings with 30 meters between each ring. With the delays switched off and the video walls delayed by three frames the arrival times lined up for virtually perfect lip syncing throughout the entire audience.

"The bands really didn't know a thing about it, but the Long Throw cabinets were projecting clear audio for miles!" said FOH operator Paula McDermott. Paula mixed on an Allen & Heath GL3300 with another Allen & Heath, a GL2200, used on Monitors.

• 3200 Lighting +61 2 9693-1777

EDITOR'S CHOICE

More than a vision switcher



Projector and plasma installers would benefit from this innovative Inline device. The TPS150 solves a number of problems with one device - send multiple signal formats including VGA, component, S-video & composite to a projector using only one cable, make that cable a Cat5 UTP, make the device also switch stereo audio between the four inputs, include a 'black' output selection and throw in RS232 control of the projector as well. That is quite a lot of features to include in the one package.

A good look at the picture we shot at

ENTECH (above) reveals that two of the inputs are RGB/VGA, and two of the inputs can be any one of composite, S-Video or Component.

Each of the four video inputs has its own discrete stereo audio input which is switched automatically to the balanced audio, stereo outputs.

The TPS150 uses RS232 control signals to remote switch the projector between its inputs, and can also switch it on/off.

Priced at \$5,500.

• AV Technologies +61 7 5531 3103

AW2816

PROFESSIONAL AUDIO WORKSTATION



- >> True 24 bit recording with no data compression.
- >> 28 channel mixer section with 8 analog inputs and 18 busses.
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One of the World's leading Effects packages, on a card that plugs straight into your Yamaha recorder. Includes the L1 Ultramaximizer, Renaissance EQ & Compressor, SuperTap Delay, Trueverb, and DeEsser. Also includes eight channels of digital optical i/o. An award winning digital recorder just got even better.

 **YAMAHA**

www.AW2816.com

Technology Update

Stage Profile 1200 SV



The Stage Profile PLUS 1200 SV was released recently by Clay Paky at IIB 2002. Like the 'non-plus' version, this fixture includes a beam shaper capable of clear quadrilaterals and triangles of any shape and size.

The framing system is based on 4 independent blades that make possible special effects such as "Clarity Effect" reveal. Both units also have a linear zoom and CTO-CTB fixed colour correction filters.

In addition to these features, the 'PLUS' version the projector has 2 rotating gobo wheels and full CMY colour mixing.

• **Show Technology**
+61 2 9748 1122

EMC compliant cables

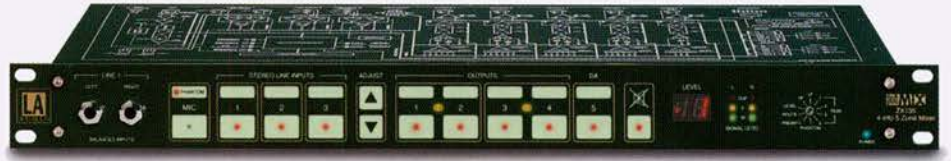
A high grade flexible data and control cable complying with new standards necessary in EMC sensitive environments is being distributed in Australia by Treotham Trading. The cable comes in numerous configurations from 4core x 25mm2 to 4core x 120mm2.

Helikabel Y-CY-JB flexible, copper screened, transparent cable is of the EMC (electromagnetic compatibility) preferred type that all but totally insulates against static and surge interference that negatively impacts equipment such as variable speed drives, industrial machinery with sensitive electronics, and computer systems.

• **Treotham Trading** +61 2 9907 1730 • www.treotham.com.au



LA Audio Introduce 'PubMix'



The ZX135 'PubMix' is a zone mixing system designed for the specific requirements of smaller venues such as pubs, clubs, restaurants and retail outlets.

PubMix provides one mic input and three line inputs with the option of outputting, with the assistance of 'PubMix' Expander, up to 23 individual feeds. Each feed can be configured mono or combined for stereo

zones. The system can be controlled from wall-mount plates, which can be programmed to provide various levels of access. A paging microphone unit is also available.

Retail price of the ZX135 'PubMix' is \$2,995 and in New Zealand \$NZ 3,750.

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

Soundcraft 328XD: next generation

Soundcraft's 328XD digital mixing console is the next generation of the Digital 328 production mixer - notice how the 'SPIRIT' brand has been quietly tanked?

The new model now offers dynamics processing on every channel, group and mix path.

With the 328XD, Soundcraft has further broadened the desk's functionality from straight sound mixing to production and control of sequencers and desktop synths. This will enable it to be the production control center for computers, DAWs and dedicated hard disk recorders, including dynamic automation and moving faders.

Designed for use straight out of the box, the 328XD control surface needs little explanation, and virtually all functions are easily accessible through the mixer's unique 'E-Strip'. This can act as a horizontal channel strip, controlling EQ and aux sends, or a dynamics control panel, or as level controls for the tape returns.



It also boasts a new dynamics feature set, including: a Gate and Compressor/Limiter on every channel; configurable direct outputs that provide more opportunities for recording feeds; two high-resolution Lexicon effects processors; the ability to route effects to groups for recording; total status recall at power-up; and improved connectivity.

The 328XD has built-in interface capabilities to virtually all digital formats: ADAT and TDIF, plus S/PDIF and AES/EBU stereo in/out. Current pricing is \$14,540 (inc gst)

• **Jands Electronics**, +61 2 9582 0909

Tannoy put dual concentric in the wall

Tannoy suggest a different approach by offering some of its most renowned cabinet systems in a flush-mountable format.

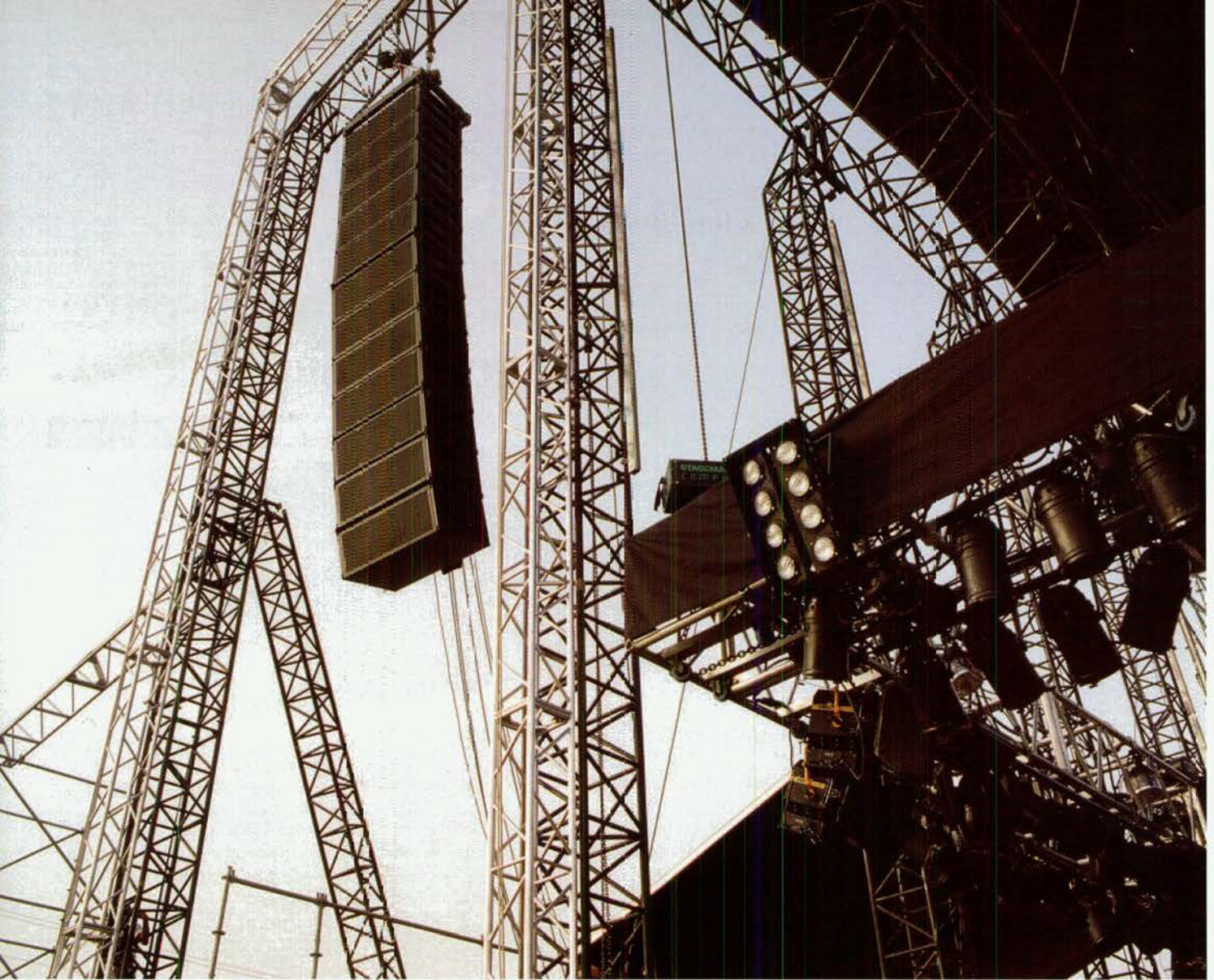
The m2iw and the S8iw in wall speakers are designed to cater for the most demanding customers in boardrooms, themed visitor attractions, shops and residential installations. The laminated MDF baffle provides the best structural integrity, and is paintable to allow installers to blend it to any environment. The 4 clamp mounting system allows simple installation. The S8iw has the addi-

tional feature of a Point Source Dual Concentric drive unit, providing the most consistent sound over a wide area.

The m2iw will fit a standard 100mm wall cavity, has a frequency response of 65 to 20kHz, with power handling of 50W RMS. The S8iw has a freq response of 47 to 20kHz, with power handling of 90W RMS.

Now you can have the same quality as a box loudspeaker but in a discreet installation - flush mounting no longer means poor quality.

• **Syntec** +61 2 9417-4700, www.syntec.com.au



“Awesome. But isn’t that a bit much for the Manzil Room?”

If you’re working smaller venues, you’ve got all kinds of considerations no large-scale system can address. So where does that leave you? From now on, exactly where you want to be. Introducing the M2D and M1D CurviLinear Array Loudspeakers from Meyer Sound. With the same uncompromising sonic excellence you’ve come to expect from our M3D Line Array, but in a new, more compact form. To find out how these could provide the ultimate, totally awesome solution for your next conference, theater production or small- to medium-sized concert tour, check out our website. www.meyersound.com/mseries

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

Meyer
Sound



M1D

22.9" W x 7" H x 8.5" D
(582 mm x 178 mm x 216 mm)
< 40 lbs (18.1 kg)
Max Peak SPL > 123 dB
Self-Powered



M2D

39" W x 12.1" H x 17.5" D
(991 mm x 307 mm x 445 mm)
< 120 lbs (54.5 kg)
Max Peak SPL > 136 dB
Self-Powered



M3D

54" W x 20" H x 30.5" D
(1372 mm x 508 mm x 762.5 mm)
415 lbs (188 kg)
Max Peak SPL > 145 dB
Self-Powered

Note: M1D and M2D specifications are preliminary and subject to change.

Technology Update

DWYER FOR CMC

Well known and slightly colourful music industry identity Dave Dwyer has joined Sydney's CMC Music as national sales manager. Dwyer is a rock guitarist of some note, and will assist the Bonham family in a new push, that being a rapid escalation of the Phonic range of pro audio equipment. Phonic has signalled unrest in the Behringer market as a golden opportunity to build market share, given the two brands share much in common - starting with low prices.

WHEAT CUTS A DEAL

Probably one of the most astute people in the music biz, Glenn Wheatley has sold half his Talentworks business to Network 7 - who feel he can assist them in saving the moribund Colonialia Stadium. The Wheat will assist in creation of major events at the venue, which lost A\$225 million this year.

RUMBA INSPIRES MORE

Surprised that they made almost a megabuck, FM network Austero have announced they will host many more 'Festival' type concerts. Perhaps unaware that bands and artists were not terribly happy with the Rumba deal - involving no actual "money" but plenty of on air promo - the network think they can run lots more Rumba type events. And some rock ones too. Concert promoters everywhere are watching this uneasily.



How losing Turbosound inspired another big Blue

BACKGROUND

BY GRAHAM ROWLANDS

The announcement that we were to lose distribution of Turbosound presented Corporate Audio Services (CAS) with some major decisions. The product line represented a major part of our business and needed to be replaced in one form or another.

Essentially, it came down to the question of do we replace it with another overseas product line or do we develop our own range?

I spoke at length with Dealers and formed the opinion that if we researched and developed a range of quality cabinets, the Australian market would support a locally made product.

We decided to initially not try to develop a replacement cabinet for the high-end Touring/Production market, but develop our own range of Installation and Contracting product instead - Formula Blue. We set Entech 2002 as the official launch date for the range and worked our time lines back from there. This gave us a little over 12 months!!

We commissioned James Verrenkamp, one of Australia's leading cabinet designers, to

design the range. We sourced a number of different brands of speakers, compression drivers and flares for Jim to evaluate. Jim's brief was to design a variety of cabinets for the installation/contracting market that were flexible in their application, reliable and sonically superior.

Our sister company, The Electric Factory, has a large speaker cabinet manufacturing department. The first container of Russian Birch-Ply was imported in readiness, OEM agreements were signed with the appropriate suppliers and samples were made. We quietly went about field testing the reliability of Formula Blue cabinets with the co-operation of a hand full of dealers, eventually installing over 200 sample cabinets (without badges or stickers) into a variety of venues over the 12 month development phase.

To our delight, both the Dealers and the end-users were extremely happy with the cabinets' performance.

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 LCD Lenses

The newest and brightest Large Venue LCD projectors require special lenses in order to harness the full brightness of the illumination system. Buhl Optical's new series of large aperture, multi-element, super bright lenses is specifically designed for these Large Venue LCD projectors. Now you can project giant video and data images in very large rooms from long distances without sacrificing image quality or brightness.

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- ✓ Est almost 30 years
- ✓ Sold in 85 countries
- ✓ Auditions very well!



MRS-120 SURROUND MIXER

5.1 console, 20 mic/line i/p, 6 aux, 6 + 2 outputs, surround panning, 6 FX returns, 5.1 monitoring



MR4283D Concert console

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POWERPOD 2280

800 watt inbuilt power
12 monc, 4 stereo i/p
255 digital effects,
stereo 10 band graphics

6 studio monitors

P8 MONITOR

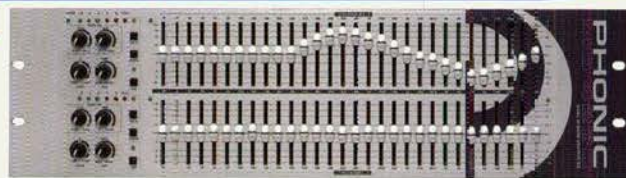
9" woofer, 1" tweeter, mag. shielded, high grade timber cabinet, voiced for nearfield. Active or passive.



10 DJ mixers
29 speaker boxes

18 Signal Processors

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MG4230 dual 30 band pro equaliser

Dual 3rd octave equaliser, quality 45mm faders, selectable horn EQ, variable HP filters, LED ramps

16 power amplifiers



MAX 2500 750w/ch amplifier

Inbuilt limiter, balanced i/p, 750w into 4 ohms, low distortion, Speakon + b/post o/p



PZX2300 2 zone mixer

2 zones, i/p for paging mic, ducking, 3 stereo i/p with trim, remote mic paging control

Measuring Device

PAA2 rta, noise meter

Pink noise, sine wave, check phase, cables & more!



More device,
less dollars

 **PHONIC**

Technology Update

Sound Technin'



SoundTech announce the C600. The self-powered SoundTech C600 is a 600 watt stereo, 2-way active satellite system consisting of a 15" subwoofer with two satellite speakers (8 inch woofer and horn).

All of the SoundTech C600's system electronics are contained within the subwoofer and the entire system can be patched together in seconds, with just four cables. The system is also very compact and can easily fit into the boot of a car.

The fully self-powered C600 with balanced XLR inputs and outputs, casters, locking strap, ground-lift switch and 24dB/octave electronic crossover, is priced at \$2499 rrp inc GST.

• **Audio Telex +61 2 9647 1411**
www.audiotelex.com.au



Mojo Rotogo (MOG)

Something for the display market, the Mojo Rotogo is designed for advertising, brand enhancement, or just pointing the way to the nearest pub. This mini projector displays up to six coloured exchangeable gobos that can rotate and change automatically. The unit only requires two DMX channels, and is priced at \$499 (trade price inc GST)

• **Show Technology**
+61 2 9748 1122

Lightmoves stage a mini trade show in Melbourne

Lightmoves recently hosted a mini trade show at their Noble Park premises for Victorians who didn't manage to make it to ENTECH. Held over two days, the *Entertainment Technology On Show* (ETOS) expo featured exhibits from Browns Precision Welding, Lightmoves, Show Technology, Enttec, LSC Lighting Systems, and Osram.

The event was also used to launch Lightmoves new premises that they have occupied for the last twelve months.

In particular, Osram and Enttec were pleased at the chance to introduce their new products to the market.

From Enttec it was the nifty DMX Pocket Tester 3512A by German company Soundlight. Nick Morreau explained he came across the unit at Plasa last year and was so impressed by it, signed on to become the exclusive distributor for Australia. (See the DMX Devices Market Report in this issue for more info)

Peter Jarvis was keen to demonstrate Osram's new range of LED (Light Emitting Diode) modules which have only just arrived in the country. LED's are being used in a growing range of general lighting applications for their low power consumption and incredibly long life spans.

Coemar De Sisti's "HANDS ON HMI" night at Colonial Stadium



Coemar De Sisti Australia recently hosted a "Hands On HMI" night in Sydney and Queensland, with the first such night held at the Colonial Stadium in Melbourne.

Using the stadium allowed the people

attending to try out the products in a large-scale space, plus a chance for many of Melbourne's prominent gaffers & TV people to catch up.

There was a large range of equipment on show from the 75W Space Cannon Xenon torch right up to the De Sisti 6/12Kw fresnel HMI.

According to Coemar, a lot of interest was shown in the new De Sisti 6/12Kw electronic digital flicker free ballast which incorporates the ability to hook up a laptop and download info from the unit re. the previous usage of the ballast.

7's Manchester Commonwealth Games Launch

Sandy Roberts and Bruce McAvaney hosted this network TV launch held at Blakes Event Warehouse on the Yarra River.

It was decided by the design team to create an effect that would best suit the characteristics of their 2 guests, the gold medal winning Olympians, Cathy Freeman and Ian Thorpe. The room was divided into two separate looks created using fittings from Coemar's range of Carbon Fibre moving Yokes, both profile and wash versions.

The result, a stunning water effect and an effect using red ochre parts to give an outback look and feel. No points for guessing which effect were for which athlete.

The design team consisted of Robert Coia,

Channel Seven's Lighting Director of 23 years who designed and implemented this event with help from Clifton Production's Andy Mutton, and Graham Glasson. Clifton Productions are a Melbourne-based production hire company.

Lighting equipment used for the event was supplied by Clifton Productions Pty Ltd. The equipment included 20 x Coemar CF7 HE and 10 x CF1200 Spots.

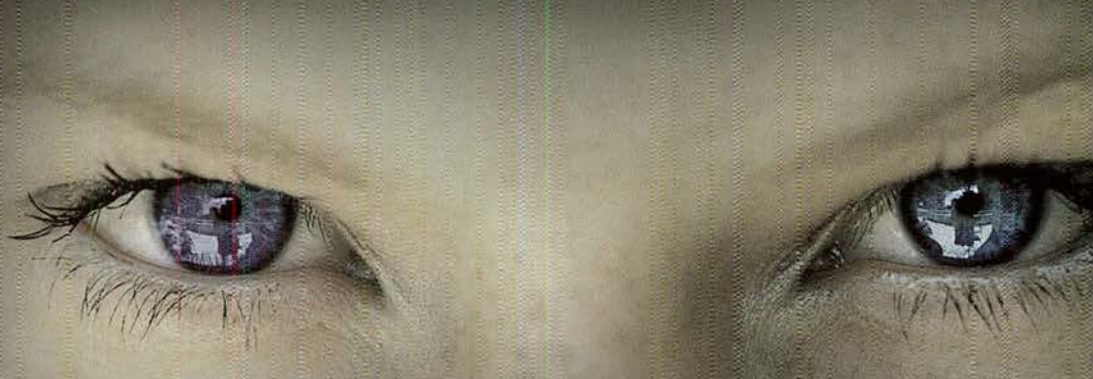
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• HARD TREMOLO • PHASER • VINTAGE
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Technology Update

HITACHI'S NEW
2500 lumen baby

Hitachi Australia Ltd have announced the Australian availability of a new high resolution XGA projector.

Aimed at the professional presenter, the CP-X430 joins a new range of XGA (1024 by 768 native) projectors from Hitachi, offering varying brightness levels and sizes. This projector uses a very high power lamp of 255W to produce a 'manufacturer specification' brightness of 2,500 lumens.

Video inputs include S-Video, composite and component. Computer users are catered for with two analogue RGB and a DVI-D. Display resolutions include all HDTV formats and numerous computer screen display sizes.

The small package (360 by 106 by 256.5mm) weighs only 4.3kg. The CP-X430 is priced at \$11,995 RRP including GST.

• Hitachi Australia Ltd
1800 789 799

Unlimited Followspots - Single Operator

TrackPod is a single-operator multiple-followspot controller used in large arenas and stages. It's designed to track performers in three dimensions, automatically directing intelligent lights to follow a performer wherever they move. The TrackPod calculates where, in 3D, the operator is pointing and, helped by a laser calibration system, directs up to 128 lighting fixtures to that exact spot.

This single operator system maximises the use of the intelligent lighting plot and saves the cost of hiring multiple followspots and followspot operators. On-board faders and buttons allow the operator to optionally control the fixtures' dimmer, iris, colour, zoom or any other DMX channel.

TrackPod suits concerts, theatres, stadiums, arenas, ice rinks & TV studios.

TrackPod also gives new vitality to existing moving light installations as well as illuminating stages where normal followspots do not fit. The



unit is priced at \$25,999.

• Show Technology +61 2 9743 1122

CEDAR LAUNCHES PRO-TOOLS COMPATIBLE DNS2000



CEDAR Audio Ltd has launched the DNS2000, an Automated Dialogue Noise Suppressor.

This device is designed to eliminate traffic noise, aircraft, air conditioning, wind, rain, tape hiss, and general background from recordings and live transmissions. It will even suppress excessive reverberation.

Designed to be connected to a Pro-Tools host system using a simple USB cable, the DNS2000 processor unit provides the DSP as well as the 24-bit AES/EBU & SPDIF I/O for the system.

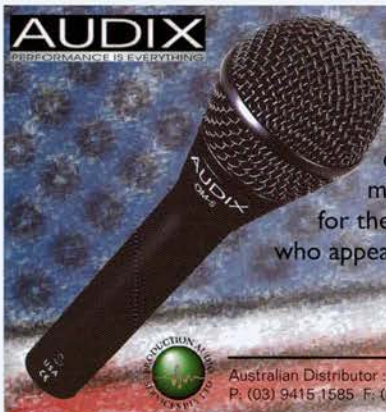
Housed in a compact 1U rack, it offers a

remarkable 198MFLOPS of floating-point power, and will process two independent audio channels simultaneously with 0.2mS latency.

The DNS2000 Remote Control Software runs on most Pro Tools systems, providing a fast and intuitive user interface based on CEDAR's DNS1000 dynamic noise suppressor).

The software controls all aspects of the DNS2000, and automates its operating parameters, and is capable of driving up to 126 individual DNS2000 processor units.

• Control Audio +61 2 9356 1990.



America's finest

The new Alanis Morissette album "Unplugged" features a live show which recently debuted on MTV. All songs feature Alanis singing on her Audix OM5 which has been her mic of choice for over 3 years now. John Harris of Effanel Music is the chief audio engineer for the show. John has used Audix extensively over the last few years for many of the artists who appear on MTV's Unplugged, VHI Storytellers, and MTV's Rock and Roll Hall of Fame.

OM Series from \$259 RRP inc. GST.

Australian Distributor: Production Audio Services Pty Ltd 6-8 Elizabeth Street Richmond VIC 3121
P: (03) 9415 1585 F: (03) 9415 1595 E: sales@productionaudio.com.au W: www.productionaudio.com.au

AUDIX www.audixusa.com

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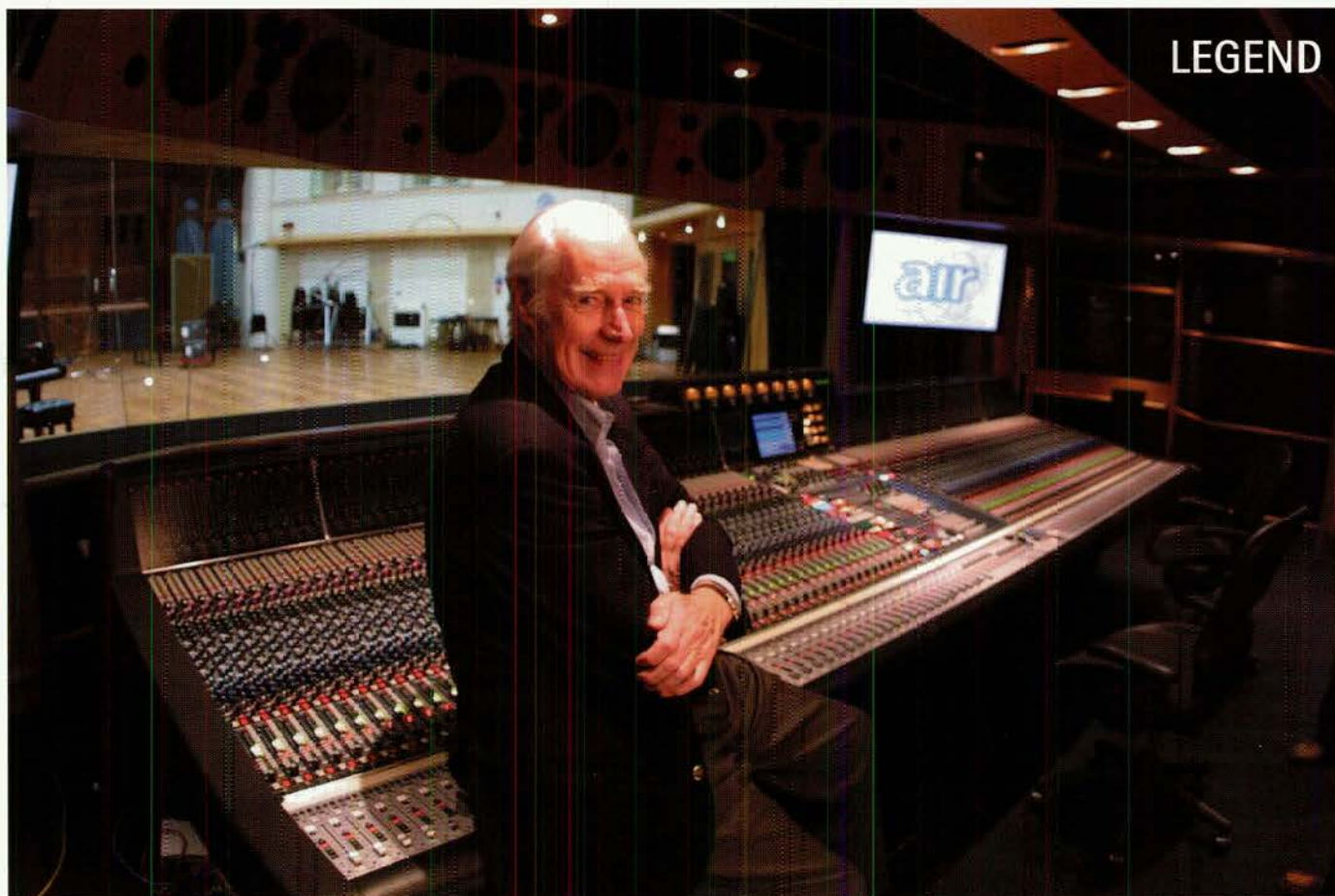
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SIR GEORGE MARTIN

INTERVIEWED at Air Lyndhurst, by Nick Dimes

What have been the most telling technological changes at Air Lyndhurst over the past 10 years?

"Digital editing has become the norm, of course. In the pop field, hard disk is standard. We use Pro Tools a great deal. It's only in the legitimate classical stuff that people still want analogue, and even there we do a lot of digital recording.

"It doesn't matter how many tracks you have to start with: in the end you've got to reduce it to just two, if it's stereo, or five and a bit if it's surround."

Should record companies be embracing 5.1 mixes and DVDA more positively?

"DVD is the fastest-developing medium of all time. However, I don't think that in terms of pure music – as opposed to movies – the market is slow. It's just different. I don't think surround sound is that important in the pop field. Impact is more important. Not many pop records are played in surround sound because most kids play them either on headphones or a boom-box. And the other key medium for pop is radio, so it's a different kind of market altogether.

There is much talk of the challenge to big studios from cheaper alternatives...

"There are no great revolutions around the corner. What we're doing in this Hall is

what people did 50 years ago: recording orchestras with very, very good sound, either allaying it to film or just for the audio itself. The tools may have changed, but the music isn't all that different. People do like working with other people. If you work in a studio with a good engineer and a good producer – and with good musicians playing together rather than layering a cake all the time – something happens between those people. There's a kind of 'frisson'."

How goes it in Montserrat?

"I'm going to Montserrat again soon, but there's nothing happening from a recording point of view. The studio site that I own is still there, but it's right on the edge of the volcanic danger zone and it's derelict. I've removed all the equipment.

"It's a beautiful place, but it's very sad because the volcano is still rumbling away. We're gradually trying to bring people back to the north of the island, but it's a very slow process. We lost our airfield, and we lost our main port. The people are struggling. We're trying to build them a cultural centre, and I've been raising money for that. We need \$2 million, and we've got about \$1.3 million at the moment."

Playing Devil's advocate, would it have been easier to make Sgt Pepper today than it was in 1967?

"It would probably have been easier today, but it probably wouldn't have turned out as well. I think the discipline of 4-track in 1967 made us do things – certainly made me do things – that you wouldn't do today. And it made The Beatles perform better. They had to perform. They had to be good in order to concentrate on small tracks.

"There wasn't the luxury of saying, well, we can patch that later. We couldn't do that; we had to work things to a conclusion as we went along. Particularly when you're mixing down from one 4-track to another, you solidify everything that has gone before. You couldn't go back, otherwise you'd destroy everything that you were doing."

Do you think record labels are doing enough to promote and sustain the long-term careers of their artists?

"This, again, is a tough one. The broad answer is no, but then it's human nature that if you have a young star who has a sudden, meteoric rise, that person becomes very conscious of their power and becomes very demanding.

"A good example of that recently was Mariah Carey who became so costly that they would give millions of pounds to get rid of her – which is a ludicrous situation.

• More at www.conpub.com.au

Inside the **secret** world of Uli Behringer

The unauthorised story
by Julius Grafton

Behringer Spezielle Studioteknik is the love child of Uli Behringer, a reclusive German. They build audio devices - mixers, effectors, processors and a growing range of music technology devices. Their products are sold at VERY low prices.

This results in rumour, innuendo, smear, fear and loathing from other manufacturers.

Never in the history of sound manufacturing has one man attracted so much attention.

Connections searched high and low and interviewed people on three continents to try to verify what lies behind the veneer at Behringer Spezielle Studioteknik.

If ever there was one pro audio manufacturer who the others detest, it is Behringer. Notionally a German firm, they build product in China, like many name brands these days.

There have been bitter law suits alleging Behringer 'copied' other products. Aphex won a case involving the trademark 'Aural Exciter', and Mackie lost a case after winning an injunction preventing Behringer distributing certain mixing consoles in the US.

So who is Uli Behringer?

"He's a simply infuriating guy" says a Behringer insider. "He's aged 40, looks 28, and plays piano like nothing on earth. He plays any Oscar Peterson tune you want! And he is an unbelievable engineer."

While the Behringer empire appears to be run from Germany, the real hub is Singapore, where Managing Director Arie van den Broek rules the roost.

But Uli Behringer lives in the Philippines, having recently moved there from Hong Kong.

"He moved because of the huge number of DSP and software people who live there. He finds the Chinese a little too acquiescent whereas the Filipino engineers are ready to argue a point. He is not retiring but moving to do pure research. He was tired of overseeing production and QC issues and has hired talent from Philips, Motorola and Fujitsu to look after logistics, manufacturing and QC respectively."

Behringer are a cash company. Strictly cash. Dealers and distributors alike all around the world can only pay cash. No Letters of Credit, just cash. The reason for this is simple: parts buying power. When they buy components, they buy cash.

"Sounds funny but I have seen a deal go down with company X to buy 2 million components", says the insider. "Whatever price we had was good because of the quantity. No one else buys in those numbers, everyone else prefers 'Just In Time' buying and this raises costs.

"Anyway, after all this, we then simply offered cash up front, wired directly into their account. No LCs, total trust. Honestly, those who have never dealt with Behringer before were in shock! And of course the price fell further. Behringer pass this straight on to the consumer.

"In addition, they use a number of subcontractors in China and they play them all off

against each other for the best possible price. This is passed on to the consumer."

Instead of building 'just in time', Behringer buy maximum capacity from a subcontractor and then stockpile the units in places that have low cost storage (such as Singapore). The interest on the use of this money is minimal compared to the higher costs of 'just in time' and these savings can be passed onto the consumer.

The quest for low costs extends to all parts of the business. At trade shows, Behringer staff sleep two to a room at a budget hotel. There are no expensive dinners, no company cars, and Ikea office furniture only if there were no lower cost choice.

It's a tough world negotiating with Chinese factory owners. "There's a lot of lawsuits filed that are nuisance suits. For example, a subcontractor might do a run of mixers

(hypothetically speaking) and then be peeved that they are passed over for a subsequent run and sue claiming breach of contract. They reason that the company will settle out of court by handing over some cash and then everyone goes away. But Behringer has in house

"He works hard and parties pretty hard but can leave a nightclub after hours of dancing and drinking and go straight into answering emails. At 5 bloody am. What's that about?"

attorneys in more than one country and they simply face down these guys in a war of attrition.

What motivates Uli Behringer?

"He has a drive like nothing I've ever come across. He works hard and parties pretty hard but can leave a nightclub after hours of dancing and drinking and go straight into answering emails. At 5 bloody am. What's that about? His mother told someone that from 13 he barely slept as he started working on circuitry."

"He has that thirst for knowledge that drives anyone around him crazy. Honestly, he can be boringly inquisitive. There's no such thing as a relaxed dinner, believe me. No way can he keep a relationship. Are you kidding? Who could keep up?"

"Unquestionably the guy sees himself as a crusader. At a time when musicians and studio owners are under so much pressure from corporations (especially record companies), someone says 'You know, I've made enough, and you can only have so much money. Now it is time to give back.' Is that really an unexciting story? For many people that is exciting."

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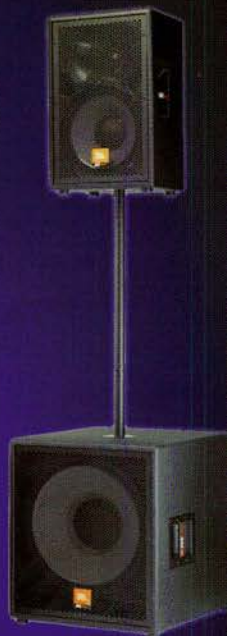
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Basic Lighting Equipment List

24" Mirrorball	2
2K Fresnel	8
36" Mirrorball	1
4 circuit groundrow	6
Acclaim Fresnel	8
Altman Zipstrip	8
Auto yoke	6
Coloram II 10"	24
Mac 250	12
Mac 500	15
Mac 600	13
Molefay duet	1
MR16 Birdie	25
P36 ACL	32
P36 Pinspot	6
Pacific 12-28	24
Par 64 MFL	72
Par 64 NSP	32
Par 64 VNSP	8
Prolite F - No Lens	5
Prolite F - with lens	1
Robert Juliat 2.4K HMI	
Followspot	3
Shakespeare - 15/36	16
Shakespeare - 30/55	9
Shakespeare 05°	7
Shakespeare 20°	44
Shakespeare 30°	32
Shakespeare 40°	3
Shakespeare gobo holder	2
Shakespeare Top Hat	12
Source 4 - 10°	20
Source 4 - 36°	8
Strand 520 Console	2
Strand SL 15/32	2
UV Fresnel	2

LIGHTING STAFF

Lighting Designer - Gavan Swift
 Head Electrician - Randal Collins
 Deputy Head Electrician -
 Andy Podowski
 Sydney Programmer -
 Paul Mulchay
 Melbourne Programmer -
 Chris King

OctoPod P64 Scroll

1	L130	Clear
2	L128	Bright Pink
3	L132	Medium Blue
4	L180	Dark Lavender
5	L158	Deep Orange
6	L126	Mauve
7	L132	Medium Blue
8	L106	Primary Red
9	L128	Bright Pink
10	L158	Deep Orange
11	L132	Medium Blue
12	L126	Mauve
13	L180	Dark Lavender
14	L106	Primary Red

Oh What A Night!

The musical, presented by Majestic Theatre Company and the Victorian Arts Centre in association with Stuart Littlewood. Julius Grafton saw it at the Capitol Theatre in Sydney.....

Boy meets girl, they dance. Along the way there is big, bright, colourful lighting and full, fat, tight sound. There are 36 hit songs, an all star band, and a stage full of fantastic dancers, including some who can sing the roof down.

This'd be a fun show to light, and leading Australian Lighting designer Gavan Swift had a fun time doing just that. Especially when he was given the go ahead from the Director to create his own design for the show, which was based on a UK production.

"I kept some set elements, like the par cans (flown rear left and right on ladders) and the idea of the centrepiece" Gavan told me in Sydney, where the show opened in February. But unlike the UK production, where the centrepiece was a circular truss ala Pink Floyd, Gavan's is a custom made chrome octapod, loaded with a 36" mirrorball, chrome colour scrollers, and little Mac 250 moving lights.

The show is lit in a joyous manner, with very modern techniques allowing a sizeable production to bump in and preview in just four days following the trip up from Melbourne, where it premiered in January. "Musicals are being squeezed tighter and tighter", reports Gavan, "so we built this rig like a rock touring rig with Weilands and trussing".

To get the show plotted and programmed in record time in Sydney, Gavan and board operator Paul Mulchay both used a Strand 520 console ("My preferred desk") during

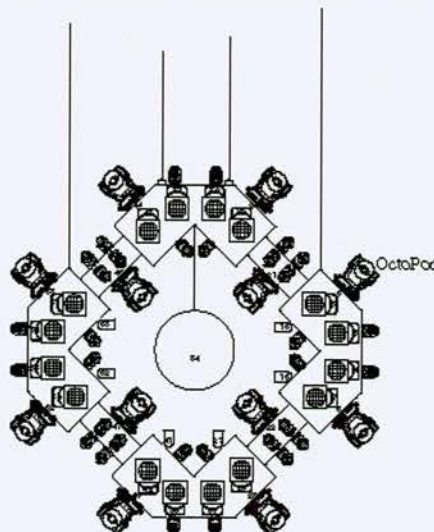
rehearsals. Gavan explains that normally he specifies two desks, one for use and one for backup. This can never be a bad idea. "The second 520 can be used as a backup console or as a remote console, so I could update preset focus groups while Paul fired off cues - as I am very familiar with the show". The updated cues would be stored on both consoles, then the second console used for backup in the show.

There are few touring musicals that bump in at 11pm Monday night and then go before an audience on Friday night. Every department in OWAN must have moved heaven and earth to achieve this, the set is very impressive and the V-Disc sound system reasonably complex.

The lighting rig is made up of plenty of Mac 500 and Mac 600 automated fixtures, Wybron scrollers, Pars, and City Theatrical Auto Yokes. These are a Source 4 ellipsoidal mounted on a 7 channel DMX controlled moving yoke with DMX control over iris, focus, pan and tilt. Gavan has 6 on the show, 4 used at FOH and 2 on stage. He loves them.

"They are excellent because the colour temperature of regular tungsten matches everything else that isn't an arc". This makes life easier, since the Auto Yokes replace a bunch of FOH profile spots, and colours match colours used on conventional fixtures.

Colour temperature issues always affect choice of fixture, any arc or HMI lamp will burn a lot whiter - at up to 5200 degrees Kelvin, and contain spikes of green colour spectrum. They need colour correction to match the open white colour of tungsten based fixtures. Mixing the same colour on top





used to colour correct the HMI source back to tungsten colour temperatures.

While the rig is impressively high tech and new, the chaser concept is as old as time. In one scene alone, 33 circuits of festoon are built into the Car Wash set pieces, and laboriously wired with Weiland multipin connectors, three circuits to a Weiland. Eleven Wieland multicores carry the chaser circuits back to the house Bytesize dimmer racks, where the Strand 520 sends the 33 circuits a smorgasboard of Gavan devised chase sequences.

Gavan also wins the Connections' effect of the month award for making vertical rotating car wash brushes 'dance' up and down in time with the music, by firing the motors on and off on a chase sequence. Somehow the inductive load of the motor is handled happily by the dimmers. The 'Car Wash' sequence is all the more fun for it!

There's nothing small about this show, except the run, as it was always intended to only run four months or so. There are 705 lighting cue 'parts', where each cue is made up of a string of events triggered by the 'go' button, like chases, steps and times.

As to choice of lighting supply house, the specification was drawn up, then put to tender by the production manager. Chameleon Touring Systems won the job, which including building the octapod and custom ladders.

Another innovation from Gavan and Chameleon - custom tri truss adaptors, which bolt in a sandwich arrangements to each end of a truss to provide a flying point, instead of wrapping an ugly nylon sling around the truss. This enabled the onstage rig to be flown in between the set, with the trusses well under the house battens, making servicing fixtures fast and easy.

UP AND UP FOR LD

Gavan Swift graduated from NIDA's three year technical production course and started assisting the late Roger Barratt, who was Australia's most commercially successful and acclaimed lighting designer. Roger passed away suddenly in 1995, and Gavan tended to collect many jobs Roger would have lit. Today, despite relative youth (Gavan is 29 years old), he is ultra busy.

Oh What A Night opened in Melbourne January 4, then Gavan flew to Adelaide to put in Buddy. His work book is full of shows and commercial theatre, and he tries to lecture every Friday morning at NIDA - putting something back into his alma marta!

Between shows he tries to get home to Batemans Bay, where he recently relocated.

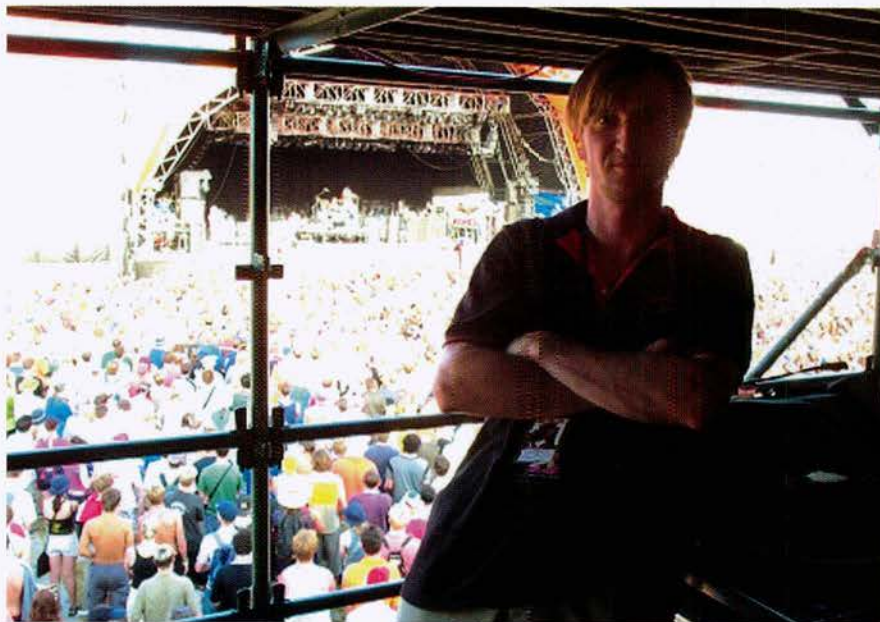


of correction can be hit and miss.

Up in the Gods, three new Robert Juliat 24k HMI domes were christened on OWAN, these follow spots appear to have been designed with actual human followspot operators in mind, since they have a dimmer control where the right hand rests and the iris sits where the left hand goes. Too bad if you're left handed!

Gavan likes the RJ followspots because, amongst other things, they have an internal frost glass in the optical chain, which avoids the halation that occurs when you throw a frost gel into the colour magazine. And, as we were talking colour temperature Lee 152 is

Designing Lights



Jesper Luth

Following their huge success at Big Day Out and their song 'Chop Suey' being voted #3 in Triple J's Hottest 100 the band 'System of a Down' are definitely on a roll. William Thurbon caught up and had a chat with their very relaxed LD Jesper Luth, to talk to him about lighting design.

About Willy T...

A former electrician, Willy T has been working in production since 1985 and along the way acquired a Diploma of Audio Engineering and BA in Media Production. He's worked extensively in live-sound/lighting, corporate A-V production and TV outside broadcasting (sports). In 1998 he published a textbook - Live Audio Workshop - a hands on guide to rigging and operating PA Systems. Currently Willy conducts live-audio training courses based in Brisbane (Brisbane).

You can find out more about Jesper Luth and Roadogz at www.roadogz.com

Since starting as a stagehand in Las Vegas when still at school 1985, this guy has strived to achieve the title 'bona fide international lighting tart'.

Jesper himself says, "I got the bug badly. Even if my first show was Paul Anka."

He has designed the light shows and toured with huge variety of artists, styles and locations - ranging from Moorcheeba to Ziggy Marley, Billy Ray Cyrus, Jethro Tull, designing The M Cody Blues show at Albert Hall for broadcast on SBS, World Wrestling Federation (WWF) in the UK to 'The Nutcracker Suite' for the Alabama Ballet, - "sort of an oxymoron in itself!" - The Deftones in Moscow's Gorky Park to Garth Brooks on the aircraft carrier USS Enterprise (see www.roadogz.com/stories/enterprise.htm). Now he finds himself with the L.A. hardcore politico-rockers System of a Down.

"After the Deftones tour ended their tour manager went on to work with System of a Down. The LD at the time wasn't working out for them, so the TM brought me in. I couldn't have asked for a better band to work with. The bass player has a vision, which is great for the simple fact that you get some direction for the overall scope of the show. The show itself moves so fast that during the first few shows I would look down at my console for a split second and by the time I lifted my head, the song was over!"

With working with such a diversity of acts, it's hard to find a common theme or starting point for his designs. For the high tech and sweaty work of lighting, JL takes a rather genteel and novel approach to design.

"I will often use French impressionist artists for inspiration. They were really the first ones to use light in their paintings. They saw that there are actually coloured shadows etc. It varies by the band. Most times I will listen to the music a few times just to get the general vibe. Usually at night, glass of wine...gotta have the wine! Then if I have time I

will break down the songs - what do I want for this song, colours patterns etc. By putting all the notes together from each song I can see what I need for the design, what type of fixtures, position etc."

"I have always been a big believer that 'R&R' and theatre-type lighting design should work hand in hand. Ever since I can remember, I always wanted to take theatrical influences into the rock world. In theatre, it's important to hide the fixtures from the audience using borders etc. I like to see the same thing in R&R. As an audience you walk in wondering what could possibly happen. When the lights come to life, it's such an explosive reaction.

"My first theatrical production was a show where I had 18 fresnels, and 4 lekos. I was forced to be creative with what I had. One of my pet peeves is what's happening in the rock world, with young designers who start out as programmers, not given those restrictions. They use everything at the same time, as opposed to using a single fixture to highlight a moment."

As the body grows weary of late nights and one country blurring into the next from endless touring, JL sees a light at the end of the tunnel with options presented by technology.

"I still like touring to a certain extent but I find that I don't travel as well as I used to. I still like hanging with friends on the bus, drinking nice wine etc. Unfortunately I don't sleep on the buses as well as I used to. Especially when you get a driver who thinks he's got freight in the back. Also, air travel in the States has [since Sept 11] gotten a little difficult."

These days, JL is fully embracing the IT industries and is planning for his 'retirement' from touring by developing a website for production crews - roadogz.com. (As mentioned in March 2001 Connections 'news'.)

"I have always felt that our industry is a closed niche, but we are spread out all over the world. I wanted to unify these people and our industry and develop a website site with stuff that integrates our industry in some way or another. Roadogz.com was a theory in 1997 that became a reality in Jan. 2001."

The website aims to be a production resource for technicians on the road. It includes articles like: things to do on a day off, stretching exercises before load-in, TV lighting 101, miking a stage, tech articles for helping people that are curious about this business.

"I put in a 'production office' with all sorts of stuff you can use on-tour. Currency and metric/imperial converters, world time clocks, calculators, links, resumes, etc...and of course online games!"

"I am a big fan of having days off in cities I have never been. Explore what's available, or just a great place to eat. Somewhere a fellow 'roadogz' has been before. The Italian place down the alley that few know about."

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MARKET REPORT COMMERCIAL AUDIO and COMMUNICATIONS

This month's audio Market Report is significantly bigger than we expected - which reflects the growth in this area in the last twelve months.

There are three categories of commercial audio listed here:

- 1) Installation Speakers,
- 2) Mixers Switchers & DSP Signal Routers
- 3) Amplifiers & Mixer Amplifiers

A fourth category was included in this report - Communications. The Comms section refers to performance talkback systems, and you will see a number of brands also have commercial audio product so that they can interface these two systems.

All information displayed in this report was supplied by the distributor of that brand. Look at the 'list header' for each (continued over)



ARX - Ambience 1



ARX - Ambience 5

Australian Monitor Installation Series - MH30



D.A.S. - Factor 12



D.A.S. - Factor 5



D.A.S. - Factor 8



DNH - AQUA-30

INSTALLATION SPEAKERS

BRAND - MODEL Impedance or Voltage, Frequency Response, RMS, Wattage, Installation Description, Physical Features (inc size), Features, List price (inc gst)

- ARX - Ambience 1**, 100V or 8ohm, 60Hz-20KHz +5 dB, Recommended amp power 70 Watts Program, Ultra compact design, allows for horizontal or vertical flush installation., 225H x 150W x 150D(mm), 2-way speaker system, metal grille, shielded., \$347 per pair
- ARX - Ambience 5**, 100V or 8ohm, 50Hz-20KHz +5 dB, Recommended amp power 200 Watts Program, Ultra compact design, allows for horizontal or vertical flush installation., 400H x 260W x 220D(mm), 2-way speaker system, metal grille, shielded., \$816/pr
- Australian Monitor Installation Series - CS420**, 100v, 120-20kHz, 20w, Slimline column speaker, Four 3" drivers and tweeter, IP56 rating, supplied with bracket, \$496
- Australian Monitor Installation Series - IW5**, 8 ohms, 60-20kHz, 35w, In-wall flush mount speaker, 5" woofer and dome tweeter, metal grill, Quick mount, full range sound, \$56
- Australian Monitor Installation Series - MH30**, 100v, 125-15kHz, 30w, Music Horn speaker, 5" horn loaded cone driver, IP46 rating, supplied with bracket, \$164
- Australian Monitor Installation Series - QF8**, 100V, 70-20kHz, 15W, Quick mount, dual cone ceiling speaker, 8" speaker, metal grill, plastic surround, High efficiency, full range sound, quick mount, \$65
- Bose - 502A**, 8 ohm, 130Hz - 15kHz., 150W, Surface Mount Controlled Array, White or grey/ opt. 100v / 70v. Tx., Active EQ, \$1,250
- Bose - FS3**, 100v/70v/8Ω, 50Hz - 16 kHz., 100W, Surface mount sub & 4 Satellites, White or black, Passive EQ / stereo or mono, \$1,199
- Bose - MA12**, 8 ohm, 100Hz - 16kHz, 300W, Surface mount line array, White or black, Active EQ, \$1,199
- Bose - MD32**, 100v/70v/4ohm, 80Hz - 16 kHz., 32W, Flush mount for ceiling install, White, Active EQ, \$289
- D.A.S. - Factor 12**, 8ohm or 70-100V , 45 Hz - 17 kHz, 200W Sens: 94 dB SPL, Regular, Matching mounting accessories, 58x40x31 cm, 15.7 kg , Music monitor, A/V, Background/Foreground systems , \$1,015
- D.A.S. - Factor 5**, 8ohm or 70-100V , 80 Hz - 23 kHz, 80W Sens: 90 dB SPL, Regular, Matching mounting accessories, Structural Polypropylene, Black/White, Compact systems that exhibit a hi-fi sound , \$265
- D.A.S. - Factor 5T**, Multi tap trans. 50 V, 70 V,100 V Lines, 80 Hz - 21 kHz, 60W Sens: 90 dB SPL, Regular, Matching mounting accessories, 23 x15x15.5 cm, 3.5 kg , For A/V, Background/Foreground systems, \$350
- D.A.S. - Factor 8**, 8ohm or 70-100V , 55 Hz - 24 kHz, 100W Sens: 91 dB SPL, Regular, Matching mounting accessories, 44 x27x23 cm, 7.4 kg , Home A/V, Background/Foreground systems, \$264
- DNH - AQUA-30**, 8ohm, 80Hz - 20KHz, 20W RMS, Underwater Speaker with 5 metre cable, 137x53, ABS fully sealed enclosure, IP-68 Rating, 105db 1W at 1m, \$632.77
- DNH - CAS-30**, 100V or 8ohm, 95Hz - 20KHz, 30W RMS, White or Anodised Aluminium Column Speaker, 100x109x600mm, swivel bracket, IP-54 Rating, Corrosion & weather resistant , \$616

Brand	Distributor	Phone	Web	Speakers		Amps	
				Mixers	Comms	Mixers	Comms
Allen & Heath	Technical Audio Group	+61 2 9810 5300	www.tag.au.com	2	1		
ARX	The Resource Corporation or Audio Source (in WA)	+61 3 9877 8233 +61 8 9354 3185	www.arx.com.au	3	5		
Audio Technica	Yamaha Music Australia	+61 3 9693 5111	www.audio-technica.com	6			
Australian Monitor							
Installation Series	Audio Telex	+61 2 9647 1411	www.audiotel.com.au	15	18		
Biamp Systems	Audio Products Australia	1800 642 922	www.audioproducts.com.au	10	8		
Bose	Bose	1300 368 436	www.pro.bose.com	58	12	15	
BSS Audio	ATT Audio Controls	+61 3 9379 1511	www.attaudiocontrols.com	4			
Chameleon Audio	ATT Audio Controls	+61 3 9379 1511	www.attaudiocontrols.com			16	
Clear-Com	Jands	+61 2 9582 0909	www.jands.com.au				40
Cloud	Bose	1300 368 436	www.cloud.co.uk	2	2		
Creative Audio							
Concertcom	Audio Telex	+61 2 9647 1411	www.audiotel.com.au			9	
Crown	Jands	+61 2 9582 0909	www.jands.com.au	1	8		
D.A.S.	Magna Systems & Engineering	+61 2 9417 1111	www.magnasys.com.au	10			
DNH	Audio Products Australia	1800 642 922	www.audioproducts.com.au	140			
Dynacord	EVI Audio	+61 2 9648 3455	www.eviaudio.com.au	4	4	2	
EAW	Production Audio Services	+61 3 9415 1585	www.productionaudio.com.au	200+			
Ebony	Audio Assemblers	+61 3 9357 8595		30	2		
Electro-Voice	EVI Audio	+61 2 9648 3455	www.eviaudio.com.au	4	4	3	4
Formula Blue	Corporate Audio Services	+61 3 9474 1066	www.corporateaudio.com.au	8			
Gentner	Production Audio Services	+61 3 9415 1585	www.productionaudio.com.au	3			
IMP Amplifiers	NSA	+61 3 9434 1888	www.imp.com		1		
Inter-M	Magna Systems	61 2 9417 1111	www.magnasys.com.au	34	10	20	2
Jands	Jands	+61 2 9582 0909	www.jands.com.au			4	
JBL	Jands	+61 2 9582 0909	www.jands.com.au	20	2		
LA Audio	Technical Audio Group	+61 2 9810 5300	www.tag.au.com	1			
Mackie Industrial	Australian Audio Supplies P/L	+61 3 8415 1466	www.ausaudio.com.au	19	2	6	
Martin Audio	Technical Audio Group	+61 2 9810 5300	www.tag.au.com	12			
MediaMatrix	Audio Telex	+61 2 9647 1411	www.audiotel.com.au		8		
Panasonic Ramsa	Ramsaudio Pty Ltd	+61 2 9477 7377	www.ramsa.com.au	1	1		
Philips	MC Communications	0412 522 100	www.philipscsi.com	4	2	4	1
QSC Audio	Technical Audio Group	+61 2 9810 5300	www.tag.au.com		2	8	
Quam	Production Audio Services	+61 3 9415 1585	www.productionaudio.com.au	10			
Radio Design Lab (RDL)	Production Audio Services	+61 3 9415 1585	www.productionaudio.com.au	1	2	7	
Rane	Jands	+61 2 9582 0909	www.jands.com.au		12	2	
Redback	Altronics Distributors	+61 2 1300 780 999	www.altronics.com.au	20	1	4	
Sound Advance Speakers	NSA	+61 3 9434 1888	www.soundadvance.com	10	4		
Soundex	National Audio Systems	+61 3 9434 1888	www.nationalaudio.com.au	30			
SoundTube	Production Audio Services	+61 3 9415 1585	www.productionaudio.com.au	17			
Tannoy	Syntec International	+61 2 9417 4700	www.syntec.com.au	19			
TOA Corporation	Audio Products Australia	1800 642 922	www.audioproducts.com.au	87	3	23	
Vega Wireless	Jands	+61 2 9582 0909	www.jands.com.au				1
Yamaha	Yamaha Music Australia	+61 3 9693 5111	www.yamaha.com/proaudio	3	3	3	

DNH - MH-15, 100V or 8ohm, 140Hz - 16KHz, 15W RMS, Music Horn Speaker, 362x252x310mm, Polypropylene & ABS construction, IP-55 Rating, 96db 1W at 1m, \$601

DNH - MD-60, 100V or 8ohm, 45Hz to 20KHz, 60W RMS, Weather proof, cabinet speaker, 7.5 Ltr, 203x335x250, Industrial Strength Design, IP 54 Rating, Avail in 1200 colours, \$454 each

Dynacord - CPS820, 100V or 8ohm, 60Hz - 20KHz, 100 Watts, Column speaker, Light grey, 8 speakers with horn, \$2,199

Dynacord - DL72, 100V or 8ohm, 60Hz - 18KHz, 30 Watts, Ceiling speaker, Optional white cover, Ceiling mounted via spring clips, \$95

Dynacord - DRH9086, 100V or 8ohm, 500Hz - 4KHz, 60 Watts, Sectorial folded horn, Glass/fibre polyester, Dual horns, \$1,149

Dynacord - PS300T, 100V or 8ohm, 50Hz - 20KHz, 30 Watts, Spherical ceiling-hung, Light grey, Omni directional, \$349

EAW - AS660i, bi-amp 8/4ohm, 50Hz - 17KHz, 360HF/800LF Watts, 3-way full range system, trapezoidal enclosure, 914+ x 626W x 502D(mm), Weather proof option, Stadiums, Arenas, Dance Clubs, Theatres, Churches, \$6,995

EAW - CP621, 100V or 8ohm, 60Hz - 18KHz, 300Watts, Concentrically arrayed & phase aligned LF & 1" HF, 605H x 605W x 345D(mm), Avail in white, Water proof option, excellent pattern control, \$3,195

EAW - MK2194, 8ohm, 60Hz - 17KHz, 400Watts, 12", 2-way full range system, trapezoidal box, 762H x 395W x 375D(mm), Avail in white, Horizontally or vertically mounting, w/proof opt, \$4,295

EAW - UB12se, 100V or 8ohm, 60Hz - 20KHz, 140Watts, Two-way full range speaker, magnetically shielded, 273H x 162W x 152D(mm), mirror imaged, Water proof option, matching sub, \$750

Electro-Voice - EVID 6.2, 100V or 8ohm, 62Hz - 20KHz, 180 Watts, EASY surface mount 100deg x 90 deg of rotation, Magnet shielded, ABS cab, zinc-plated grille, Dual woofers, 1" HF, protection, \$649

Electro-Voice - Fri+ 152, 8 ohm, 42Hz - 15KHz, 350 Watts, Comes with 12 suspension points for easy install, Trapezoid shape, 64/66/94 dispersions available, Vented LF, 3" HF voice coil, \$2,749

Electro-Voice - MH640C, 8/16ohm, 150Hz - 20KHz, 300 Watts, Medium format Stadium Horn, Compact 2 way coaxial horn-loaded, 10" + 2" horn, passive option, \$4,906



Dynacord - CPS820

Dynacord - PS300T



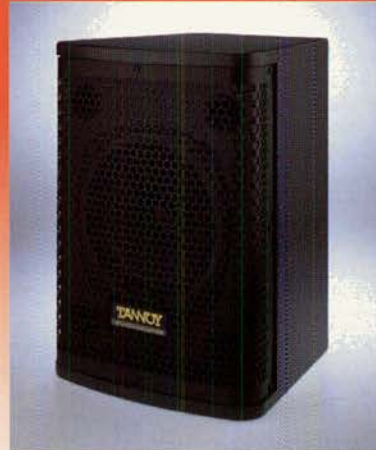
Dynacord - DL72



Dynacord - DRH9086



Electro-Voice - EVID 6.2

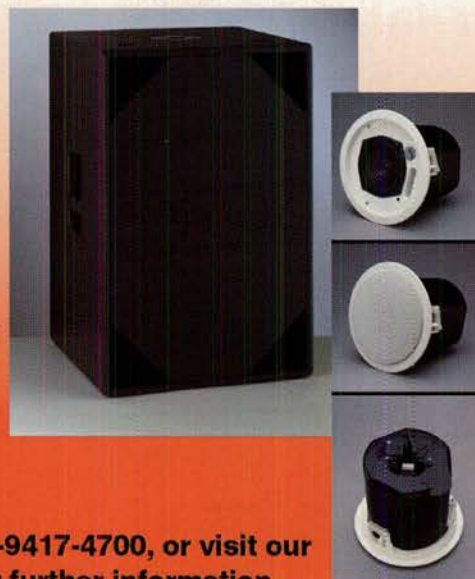


Tannoy Professional is a leading UK designer and manufacturer of fixed installation and PA loudspeaker systems with a 75 year history.

Specialising in Point Source transducer technology, Tannoy provides high quality, cost effective solutions for foreground leisure applications, AV corporate work and background music/paging systems.

Their Dual Concentric (TM) transducers mean a trademark of a uniquely 'natural' sound quality, achieving audibly better results.

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section so you can see what we asked each company to supply.

'Installation Speakers' is reasonably self-explanatory. The only restriction we placed on vendors was that they cannot supply info on speakers that would fall into one of our other three reports on speakers, due later in the year.

'Mixers Switchers & DSP Signal Routers' is a slightly more complicated sector. What we wanted has any device that is designed to route signals. Many of these devices have significant additional features that will not be detailed here. However, many of the features are at least named so that you can research your requirements further.

'Amplifiers and Mixer Amplifiers', like the speakers, is intended for those devices specifically intended for commercial audio applications. There is a separate market report that deals with amplifiers for performance later in the year.

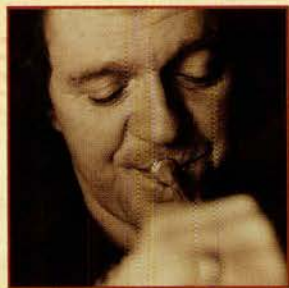
• Compiled by Daniel Grafton



INSTALLATION SPEAKERS (continued)

BRAND - MODEL Impedance or Voltage, Frequency Response, RMS, Wattage, Installation Description, Physical Features (inc size), Features, List price (inc gst)

- Electro-Voice - Sx300PI**, 100V or 8ohm, 80Hz - 25kHz, 300 Watts, Mounts with bracket, Full front powder coated grille, 2-way 12" horn full range system, \$1,941
- Formula Blue - FB-10**, Switchable - 4, 8 or 16ohms, 72Hz-20kHz, 100W, 2-way cabinet with 127mm LF and a 25mm tweeter, 165mm x 310mm x 150mm 4.2kg, Birch ply M6 flypoints, \$599
- Formula Blue - FB-110**, 8Ω, 50Hz-150Hz, 150W, Band-pass LF cab with 254mm spkr, 325x500x510mm, Birch ply Active/passive, \$999
- Formula Blue - FB-20**, Switchable - 4, 8 or 16ohms, 72Hz-20kHz, 150W, 2-way cabinet with 2 x 127mm LF and a 25mm tweeter, 165mm x 440mm x 150mm 6kg, Birch ply M6 flypoints, \$749
- Formula Blue - FB-40**, 8ohms, 70Hz-20kHz, 250W, 2-way cabinet with 1 x 203mm LF and a 25mm HF CD, 280mm x 450mm x 295mm, Birch ply M8 flypoints. Active/passive, \$999
- Inter-M - CH-522**, 500Ω ~ 1kΩ, 110Hz-20kHz, 20W/95dB SPL, Horn, Indoor or Outdoor Use, Wide Freq Range & Clear Sound, \$180
- Inter-M - CS-05**, 3.3 - 10kΩhm, 150 Hz - 14 kHz, 5W/92 dB SPL, Ceiling, 945g 227(Ø) x 100(D) mm, Versatile & Easy Installation, \$78
- Inter-M - CS-840**, 250ohm/40W / 500ohm/20W, 200Hz - 22kHz, 40W, Column Speaker (o/door), Aluminium, 149(W) x 640(H) x 124(D)mm, 5.4kg, Extremely robust, ideal car parks, factories & industrial areas, \$195
- Inter-M - SWS-03**, 100V, 150Hz - 12kHz, 3W, 2W, 1W, Wall/Flat Mount, Off White/Brown Injection Moulded, Ideal for office installs, \$67
- JBL - Control 26CT**, 70V or 100V (also avail in 16 Ohm version), 75Hz-20kHz, 60, 30, 15, 7.5W taps, High output, 61/2" 2-way ceiling speaker, Includes ceiling tile support rails, Sealed back can, SonicGuard protection, tap switch, \$499
- JBL - Control 29AV**, 70V, 100V or 8 Ohm thru, 40Hz - 19kHz, 110, 55, 28, 14W taps or 300W 8 Ohm thru, High output, full range 8" 2-way, Weather resistant, invisible mount, 10xM6 threads, SonicGuard protection, magnetically shielded, \$1,205
- JBL - Control SB210**, 8 Ohm, 42Hz - 200Hz, 800W, High output dual 10" subwoofer, Weather resistant, stacking feet, 13xM6 threads, LPF, SonicGuard protection, magnetically shielded, \$1,995
- JBL - SMS1**, Line level, 100V or 8ohm, 50Hz - 18kHz, 3 x Internal amplifiers: Total 160W, Self powered stereo business music system, 4 x Compact satellites, 1 x Subwoofer, Auto loudness, limiter, paging input, \$2,595
- Mackie - ART200A70Hz** - 17kHz, 160W, 5 different brackets and eyebolts avail, 12" and 1" compression driver, Active powered installation speaker system, \$1,895
- Mackie - Monitor 3**, 100v or 4 ohm, 180Hz - 19kHz, 35W, 14 different brackets available in black and white, Small, lightweight UV/ weather resistant, Carbon fibre woofer, 5 wattage taps, \$295
- Mackie - Monitor 4**, 100v or 4 ohm, 160Hz - 18kHz, 60W, Many brackets inc. hanging options, Horn loaded 120x100 dispersion, Various voltage and wattage tappings, \$395
- Mackie - PA261**, 4 ohm, 60Hz - 15kHz, 200W, Flying or "U" bracket, Baltic birch 19mm ply cab, speakon inputs, 2 x 6" and 1" horn, 100x100 dispersion, \$1,695
- Martin Audio - BlackLine Series**, 8ohm, Full Range, Various, Surface Mount Range 8" to 15" Drivers, Trapezoidal Wood Enclosures, High Quality Music Applications, Various
- Martin Audio - C115**, 100V or 8ohm, 80Hz - 20kHz, 50w, Surface Mount (Integral Bracket), Graphite or Light Grey. 218x195x120mm (HxWxD), Designed to Impress Architects & Designers., \$315
- Martin Audio - CS16**, 100V or 8ohm, 80Hz - 20kHz, 50w, Flush Mount Ceiling Speaker (Integral Back Can), Single 6.5" Mid/Bass & 1" ICT HF, High Quality Voice/Music Applications, \$345
- Martin Audio - EM15**, 4 or 16ohm Configurable, 80Hz - 20kHz, 100w, Surface Mount, Double 5" Drivers in Trapezoidal Wooden Enclosure, Dangerously Powerful 113dB Peak SPL, \$545
- Panasonic Ramsa - WS-K20**, 8Ω, 50Hz - 20kHz, 80ms, In-ceiling mount, White grill 300mm, 12cm driver. Fully enclosed. Can be angled 20°, \$451
- Philips - LBC3051/03**, 100V, 250-12KHZ, 24W RMS, Bracket supplied, 1280x122x80 mm slimline, Cardioid Sound Column, \$1,191
- Philips - LBC3052/03**, 100V, 250-12.5KHZ, 12W RMS, Bracket supplied, 690x122x80 mm slimline, Cardioid Sound Column, \$801
- Philips - LBC3053/04**, 100V, 135-14KHZ, 50W RMS, Bracket supplied, 948X198X140 mm slimline, Cardioid Sound Column, \$1,498
- Philips - LBC3053/14**, 100V, 135-14KHZ, 50Wms, Bracket supplied, 948X198X156.6 mm slimline, Cardioid Sound Column (Outdoor), \$2,143
- Quam - 4C10PAB**, 8ohm, 80Hz - 15kHz, 15W, Surface mount for ceiling install, 10 oz magnet, foreground music & paging, Available with pre-mounted transformer and baffle, \$60
- Quam - 8C10FECOB**, 8ohm, 35Hz - 20kHz, 20W, Surface mount for ceiling install, 10 oz magnet, foreground music & paging, Coaxial design features a piezo ceramic tweeter, \$90
- Quam - 8C10FEPAX**, 8ohm, 40Hz - 20kHz, 18W, Surface mount for ceiling install, 10 oz magnet, foreground music & paging, Available with pre-mounted transformer and baffle, \$52
- Quam - FM4x2**, 8ohm, 100Hz - 15kHz, 10W, Air tight, die cast aluminum enclosure, 4" Air Suspension Woofer 2" Tweeter, Externally Adjusted at .25w, 2.5w, 5w, 10w, \$195
- Radio Design Lab (RDL) - RU-SP1**, 8ohm, 300Hz - 15kHz, 2W, Compact Audio Monitoring, Ultra compact 1/3 of 1RU space, Ideal for speech and signal monitoring, \$115
- Redback - Fastfix**, 100V or 8ohm, 40Hz - 20kHz, 5W - 45W, Flip lock, Mesh grill, Exceptional sound, from \$42 each
- Redback - Music Horn**, 100V, 65Hz - 16.5Hz, 30W, Aluminium bracket, ABS, HIFI quality, \$379 each
- Redback - One shot**, 100V or 8ohm, 100Hz - 15kHz, 5W - 15W, Snap fit, Ultra slim grill, Super quick install, from \$32 each
- Redback - Weather Resistant**, 100V or 8Ω, 39Hz - 20kHz, 3W - 45W, Aluminium bracket, Weather resistant, Very versatile, from \$170pr
- Sound Advance Speakers - CT 10/8 BHT**, 4-8 Ohm, 80hz-18khz, 20W, Ceiling and surface, Can be painted, Widest dispersion, \$240
- Sound Advance Speakers - CT73/77 SERIES**, 4-8 Ohm32-120W\$2,000
- Sound Advance Speakers - SA2**, 4-8 Ohm, 80hz-18khz, 75W, Becomes totally invisible when installed, Can be painted, Can be made indiscernible in walls & ceilings, \$
- Soundex - BS432**, 100V or 8Ω, 120-18000Hz, 4w, Wall mount speaker box, White of black injection moulded case, quick mount, \$49
- Soundex - FC810**, 100V or 8Ω, 50Hz-20kHz, 10w, Surface mount for ceiling install, 200mm white metal grill w/ quick mount hardware, \$98
- Soundex - FS152H**, 100V, 137-20k Hz, 15watt, Foreground music speaker, 132 x 253 x 128 mm, Black with a grey metal grill, \$299
- Soundex - HS10R**, 100v, 550-10,000 kHz, 10 watt, High Quality Horn speaker, 155 x 187 Dia. Mm, High impact resistant ABS water and dust protected, \$125
- Soundtube - CM81**, 70.7/100V or 8ohm, 54Hz - 16.5kHz, 125W, Flush mount ceiling installations, Low profile designs for clean appearance, Wide dispersion provides smooth off-axis coverage, \$1,195
- Soundtube - HP121**, 70.7/100V or 8ohm, 50Hz - 20kHz, 150W, Open ceiling installations, 12" 2-way, open-ceiling, surface mount, Wide dispersion provides smooth off-axis coverage, \$2,595
- Soundtube - RS551**, 70.7/100V or 8ohm, 65Hz - 20kHz, 75W, Open ceiling installations, White or Black, spherical, Wide dispersion provides smooth off-axis coverage, \$675
- Soundtube - RS8SB**, 70.7/100V or 8ohm, 47Hz - 120Hz, 125W, Open ceiling installations, Also avail in flush mount version, Sub woofer, internal cross-over, \$1,095
- Tannoy - CMS50ICT**, 8Ω, 80 - 20kHz, 80W, Quick Fit, & Integral BackCan, 240mm diameter, 5" ICT driver, 60deg conical dispersion, \$317
- Tannoy - i5AW**, 100V or 8Ω, 80 - 22kHz, 50W, All weather Wall Mount (pair), 425x280x215mm, 5" ICT driver, 60° conical dispersion, \$479



Sound Products for
The Performing Arts

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Superscope's commitment to the performing arts has produced a new line of innovative products, specially designed to enhance the effectiveness of using prerecorded music for practice.

For the first time, without having to use computers, expensive software, or special recordings, it's now possible to easily manipulate any audio CD to gain incredible playback control.

Whether it's to transcribe lyrics or notes, to master a difficult riff, choreograph a dance step, or to emulate an artist's phrasing, performing arts educators, their students, musicians and dancers will benefit enormously from these new tools.

The PSD230 and PSD220 portable CD Players and PAC770 and PAC750 Sound Systems from Superscope are built with special features that other audio equipment just does not provide.

Music practice made easier

These features include:

• TEMPO CONTROL

With just the touch of a button you can slow down or increase the tempo of any CD by up to 50% without changing key.

• KEY CONTROL

Without changing tempo, you can change the key ± 1 octave, in 1/16th note increments.

• A-B PRACTICE LOOP

Select a segment of music to continually repeat.

• LEAD VOCAL REDUCTION

Remove or reduce a vocal lead from a standard CD or tape.

• FINE TUNING

Perfectly match the music to your instrument's tuning.

How it can work

Have you ever been frustrated as you tried to transcribe music or learn a song by listening to a recording? It takes a lot of repeated plays and wasted time as you hit

the back button or listen through the parts you already mastered. And sometimes, no matter how many times you play it back, the notes fly by too fast.

Slow it down and get it right

Whether you want to learn that difficult Charlie Parker solo or the latest pop hit, tempo control allows you to hear the music in its original key while slowing it down as much as 50%. This makes it much easier to pick out the notes, dissect the phrasing or hear lyrics much more clearly.

One step at a time

While controlling the tempo, you can simultaneously select A-B loops that will continuously repeat until you've mastered that selection. You won't have to wait to get to the part you want. You can also seamlessly advance through the recording one musical phrase at a time.

Tune it

Pianists and guitarists alike will appreciate the PSD230's ability to fine tune the CD to

your instrument. Avoid the hassle of returning your entire instrument simply because a CD has been mastered sharp or flat.

Transpose keys

Suppose an original recording is in the key of C, but a musician wishes to perform it in the key of E. On the PSD230 CD Player and PAC770/750 Sound Systems, our key control provides a simple way to change the key of the music an entire octave higher or lower, while retaining the original tempo.





Take the lead

Be your own band. On many recordings, you can virtually eliminate, or substantially reduce, lead vocals with just a touch of a button. You don't have to purchase special CDs for this effect. Now, you can take the place of the lead vocal on your favourite CDs.

Hands-free operation

Conveniently start and stop the PSD220/230 using an optional foot pedal, while you keep your hands on your instrument. For dance or aerobics, roam freely by using an optional wireless remote that you can wear as a wrist-band, necklace, or clip-on.

Take it with you



Take the battery powered PSD230 or PSD220 with its optional carry case to the places you want to be. Do your transcribing in a café or park. Take it to your band practice. Or use it at home or in the classroom.

Mix it up

Simply plug your microphone or instrument (including electronic keyboard, electric bass or guitar, or electronic mute for wind instruments) into the PSD230's XLR or 1/4" input. Manipulate any CD by removing or reducing the lead vocal and changing the tempo or key. When you mix in your microphone or instrument with the CD, you can hear the results as a stereo mix or send your input to one channel and the CD to the other channel. Monitor the results via headphones, the built-in speaker, or external speakers.



PSD 230



PAC 770/750

The PAC770/750 sound systems provide extensive mixing capabilities with four XLR or 1/4" microphone or line level inputs, incorporating separate EQ and pan controls, as well as each unit offering master EQ, volume, and balance controls.

Record the results

The PSD230/220's line output allows you to record your mixed accompaniment using any external cassette or CD recorder. Use the built-in cassette recorder and 10-channel mixer or the PAC770/750 for even more recording options. Record an entire ensemble of musicians by mixing up to four mic/line inputs, a stereo auxiliary input, and the built-in CD player.

Features Table:	PSD 220	PSD 230	PAC 750	PAC 770
One Octave Key Transposition		✓	✓	✓
± 50% Tempo Control	✓	✓	✓	✓
Fine Tune Adjustment		✓		
Lead Vocal Reduction		✓	✓	✓
3-Band EQ Control	✓	✓	✓	✓
Mix Accompaniment Control		✓		
Source Auto-Ducking			✓	✓
A-B Practice Loop	✓	✓	✓	✓
CD-RW Readably	✓	✓	✓	✓
CD-Text Display		✓		
Analog Line Out	✓	✓	✓	✓
RCA Digital Out	✓	✓		
Remote Control Capabilities	✓	✓	✓	✓
Internal Speaker	✓	✓		
Weight	2Kg	2.8Kg	12Kg	18Kg
Price (\$Aus)	\$1,295	\$1,595	\$3,195	\$3,995
Price (\$NZ)	\$1,695	\$1,995	\$4,195	\$5,195



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PORTABLE CASSETTE:

Three units for flexible easy recording. CP430 Stereo 3-Head, PMD222 Mono 3-Head, PMD101 Mono 2-Head



PORTABLE CDR:

CDR300 perfect for recording meetings, interviews, music demos and just about anything else.



CD RECORDERS:

CDR631 Stand Alone CDR or CDR500 Twin Deck CD Recorder & CD Player.



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TAG

TECHNICAL AUDIO GROUP

INSTALLATION SPEAKERS (continued)

BRAND - MODEL Impedance or Voltage, Frequency Response, RMS, Wattage, Installation Description, Physical Features (inc size), Features, List price (inc gst)

Tannoy - i7 Contour, 100V or 8ohm, 100 - 20kHz, 90W, Slimline, for horiz, or vertical installs, 4 x bass drivers, 1 x 1" dome HF, 70deg vertical, 110deg horizontal, \$1,120

Tannoy - i8, 8 ohms, 55 - 22kHz, 130W, Compact design for nightclubs etc, Slim baffle design 28 cms, High power 8" Dual Concentric driver, \$1,081

TOA - BS1030B/W, 100V tapped outputs, 80Hz - 20KHz, 30W RMS, Universal Speaker, 2 way bass reflex, White or black, 196x290x150mm, Optional mounting kits, \$129

TOA - F121CM, 100V tapped output, 80Hz - 18KHz, 20W RMS, Wide dispersion ceiling speaker, White conical grille, 12" bass reflex enclosure., Ratio 1 to 4 coverage. Overload protection, \$255

TOA - SC615M, 100V tapped output, 280Hz - 12.5KHz, 15W RMS, Paging Horn Speaker, 222x179x234mm, stainless stee. bracket, IP-65 rating, SPL 112db 1W at 1m, \$47

TOA - SL122, 8 Ohms 80W RMS, 2 way stage speaker \$379

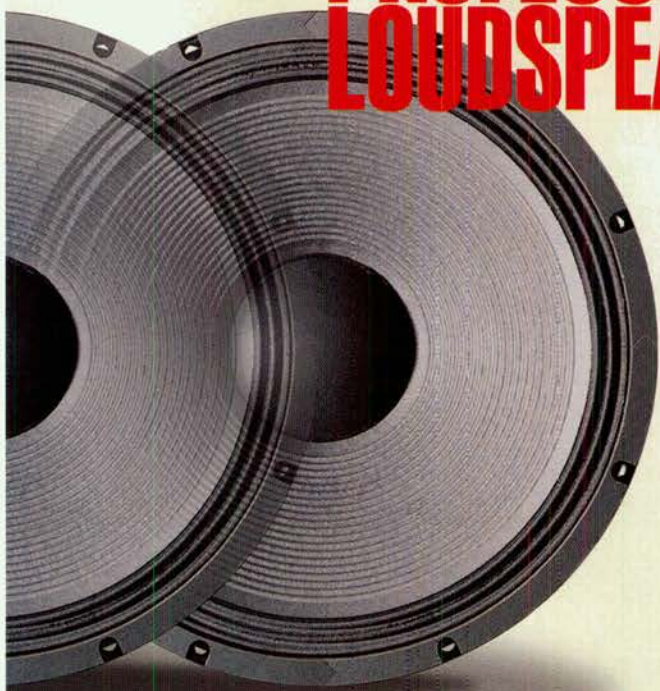
Yamaha - AS108, 4 ohm, 55-20KHz, 140watt, Pole mount, multiple bracket mount points, 8" driver 1" horn, 12kg, Weather-resistant ACX lined, \$795 (pair)

Yamaha - S15, 6 ohm, 65-40KHz, 40watt, Bracket kits and Speaker transformer options, 5" driver 1" horn, 2.8kg, 2-way bass reflex, \$445 (pair)

Yamaha - S55, 6Ω, 65-40KHz, 70w, Bracket kits and Speaker transformer options, 6.5" driver 1" horn, 6Kg, 2-way bass reflex, \$445




TOA - SC615M

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Next Month:
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ARX - (top to bottom) BarMix, Maxi Mix, Mix 8, MixxMaster



Audio Technica - Unitoools



Biamp Systems - Audia



Biamp Systems - Auto One (picture cropped)



Bose - PSC



Crown - IQ-USM 810



Inter-M - FO-9106



JBL - Z32S



Rane - (top to bottom) C64, DA26, RM88, SRM66



Redback - PCM 803

AUDIO MIXING, DSP and MATRIX SWITCHING

BRAND - MODEL Type of device, Rack Size(RU), Describe Inputs and Outputs, External control options, Describe signal filter options, Other features, List price (inc gst)

Allen & Heath - DR128, Matrix Mixer, 2RU, 12 Inputs 8 Outputs, Front Panel, RS232, Optional Wall Plates, Full Mixing/DSP Processing/Matrixing Capabilities, Real-Time Clock, Alarm, Back-up Battery 24v PS, \$7,295

Allen & Heath - DR66, Matrix Mixer, 1RU, 6 Inputs 6 Outputs, Front Panel, RS232, Optional Wall Plates, Full Mixing/DSP Processing/Matrixing Capabilities, Real-Time Clock, Alarm, Back-up Battery 24v PS, \$4,295

ARX - BarMix, Mixer, 1RU, 4 into 2 Zone Mixer, BM-1 Remote Control, 3way EQ, Mic Input, push to talk for evac, security cover, \$981

ARX - Maxi Mix, Mixer, 1RU, 4 into 2 line mixer, RF Filters, individual level controls, Wide dynamic range, \$705

ARX - Mix 8, Mixer, 1RU, 8 Ch. Stereo Line Mixer, Level & Pan on each input, Balanced IO, separate headphone level, \$841.50

ARX - MixxMaster, Mixer, 1RU, 4 Ch. Stereo Mic / Line / Aux Mixer, Link multiple units together, EQ on all inputs, 2 x master level controls, Switchable phantom power, \$733

Audio Assemblers - MX4, Mixer, 1RU, 2 Aux/2 Mix(TRS) Stereo out(TRS & RCA), 2-way EQ for Mics, 2 way EQ for Aux/s., \$429

Audio Assemblers - MX6, Mixer, 1RU, 6 in / 6 out or 6 in / 1 out Sel Mic/Line I/P-Ind. Sel Phantom-I/P clip LEDs, \$660

Audio Technica - Unitoools "UniLim", Single mic limiter (self contained), Tiny, Phantom powered single limiter - perm install apps, Trim adjusts max peak level of one installed mic, 1 Mic Input 1 Mic Output, Small rugged box for discrete permanent install., \$138

Audio Technica - Unitoools "UniLim", Single mic gate (self contained), Tiny, Phantom powered single gate - perm install apps, Trim adjusts gate on single installed mic, 1 Mic Input 1 Mic Output, Small rugged box for discrete permanent install., \$138

Audio Technica - Unitoools "UniLim", Miniature 2 into 1 mic mixer, Tiny, Phantom powered 2 into 1 mixer with balance, Trim adjusts balance between two mics, 2 Mic Inputs 1 Mic Output, Small rugged box for discrete permanent install., \$128

Audio Technica - Unitoools "UniLim", Single mic notch filter, Tiny, Phantom powered constant q notch filter, Trim adjusts feedback "rejection" frequency, 1 Mic In 1 Mic Out, Small rugged box for discrete permanent install., \$148

Biamp Systems - Audia, Digital Audio Platform, 2RU, 8x8/12x4/4x12 configurations available, PC, RS232, TCP/IP 3rd party R/C, AMX or CRESTRON, Para EQ, Delay, HP, X Over, LP, Comp/Lim per chan, Cobranet version available, networkable, \$11,923

Biamp Systems - Auto One, Automatic Mixer, 1RU, 8 Bal mic/line i/p's, mix minus assign and ducking, Logic outputs, NOM Attenuation, speech-frequency filtering, Expandable to 256 mic's, last mic hold, 5 yr warr, \$3,699

Biamp Systems - MSP22E, Digital Sound Processor, 1RU, 2 i/p & 2 o/p, Programmable with presets PC, RS232, 3rd party R/C, AMX or CRESTRON, Para EQ, Delay, HP, X Over, LP, Comp/Lim per chan, No manual controls, Expandable to 4x4 matrix, \$2,799

Bose - PSC, Digital Controller, 1RU, Two inputs / Four Outputs, External programming input, EQ, Compressor/Limiter for each channel, 4 Channels of Delay & Limiting, \$999

BSS - Soundweb 9000, Active Network Hub, 1RU, No analogue i/o's - Six network jacks, 9010 remote, RS-232, PC/Soundweb software, AMX, 8 Channels of audio in each direction, 200 MIPS DSP/8 control ins & 8 logic out's, \$12,295

BSS - Soundweb 9008, Break-out device, 1RU, No input cards - 8 Analogue outputs only, 9010 remote, RS-232, PC/Soundweb software, AMX, Simultaneous processing/numerous filter types, 200 MIPS DSP Power, \$9,875

BSS - Soundweb 9088, Networked Signal Processor, 1RU, 8 Analogue Inputs and Outputs, 9010 remote, RS-232, PC/Soundweb software, AMX, Simultaneous processing/numerous filter types, 200 MIPS DSP Power/144 dB dynamic range/48 kHz, \$12,295

Clear-Com - RCS-2000, Programmable Source Assignment Panel, 2RU, Programmable 8x24 Party Line Matrix switch, Windows GUI or RCU-60 remote, Full bandwidth passive switching., 14 user presets. Expandable to 15x72, \$8,995

Cloud - Matrix 4, Mixer / Matrixer, 3RU, 4 Zone Mixer / 4 mic./2 line/ 1 page input, Music source select per zone, Remote 4 zone paging mic. With chime, \$1,700

Cloud - Z8II, Multi Zone Venue Mixer, 3RU, 8 Zone Mixer / 6 Line/ 1 Paging / 2 Mic. Inputs, Music source & level / Zone selection, Bose EQ Modules optional, Remote 8 zone paging mic. Mic priority, \$2,500

Cloud - Pump Station 16, Gymnasium Music Distribution, 2RU, 8 stereo line inputs, Global mic input with music mute, \$2,750

Cloud - Sub Station 16, Slave for above, 2RU rack mount, Additional 16 headphones per slave. Up to 256phones per system, \$2,400

Crown - IQ-USM 810, Digital matrix mixer/processor, 2RU, 8 Mic/line in, 10 line out, Networkable, RS232, contact closure, pot, PEQ, comp, lim, gate, AGC, auto mixing, Ambient noise sensing, presets, real time events, \$10,745

Dynacord - DPM4000, Digital Matrix Manager, 2RU, 4 x 4 Audio Mixing Matrix, RS232+RS485, VCA control, Lo/Hi-Shelving EQ+Parametric EQ, Delay etc, 24volt/240volt, Fully configurable, \$2,899

Dynacord - DRM4000, Mixer & Router, 1RU, 8-IN-2 Audio Mixer & Router, RS232+RS485, VCA control, Lo/Hi-Shelving EQ+Parametric EQ, Delay etc, 24volt/240volt, Fully configurable, \$2,399

Dynacord - DSP244, System Processor, 1RU, 2-IN-4 out Digital System Processor, RS232+RS485, VCA control, 26 Parametrics, Lo/Hi Shelving, Limiters etc, PC software editor, \$3,555

Electro-Voice - AC one, Controller, 1RU, 2-IN-5 out, Mute, Lo cut freq, 3 band EQ, variable X-Over, \$1,299

Electro-Voice - Dx-38, Digital Processor, 1RU, 2-IN-4 out, RS232, RS485, MIDI, VCA+Switch control, 26 ParaEQ, Shelving, LPN, Lo/Hi cut, Limiters, \$3,555

Electro-Voice - Venice160, Mixing console, 11RU, 8 mono, 4/4 stereo ins, Subgroups, Aux, Stereo outs, HPF, 4 band EQ, Littlelite, Dust cover, Input transformer options, \$5,499

Electro-Voice - XL-88, Matrix Mixer, 4RU, 8-INTO-8, Mute, PFL, Change over, Gain, In/Out features a 20 segment LED

Gentner - PSR1212, Matrix Mixer, 1RU, 12 Ins to 12 outs, external bus to 7 other units, Optional Wall plates & remotes, PEQ, Gate, AGC for ea mic ch, 8 processing busses, G-Ware software. Internal sub & Global mixing, \$10,995

Gentner - XAP400, Conference Matrix Mixer, 1RU, 8 Ins to 9 Outs, Telephone Interface, Optional Wall plates & remotes, PEQ, Gate, AGC for ea mic ch, 8 processing busses, G-Ware. Internal sub & Global mixing, Internal amp, \$11,995

Gentner - XAP800, Conference Matrix Mixer, 1RU, As PSR1212 + Echo Cancelling & Speech leveling, Optional Wall plates & remotes, PEQ, Gate, AGC for ea mic ch, 8 processing busses, G-Ware software. Internal sub & Global mixing, \$16,995

Inter-M - PO-9106, Program Distributor, 1RU, 1 Input, 6 Outputs via XLR connectors, Level Control for each Output, 20 Hz - 20 kHz, Level Control for each Output, \$560

JBL - Z21S, Music and paging controller, 1RU, 1 mic & 2 stereo in, 1 stereo & 1 mono sub out, Contact closure, optional source/vol wall plate, Bass, treble, auto loudness compensation, Ducker, adjustable limiter, expandable zones, \$1,395

JBL - Z32S, Music and paging controller, 1RU, 1 mic & 3 stereo in, 2 stereo & 2 mono sub out, Contact closure, optional source/vol wall plate, Bass, treble, auto loudness compensation, Ducker, adjustable limiter, expandable zones, \$1,995

LA Audio - PubMix, Matrix Zone Mixer, 1RU, 4 Inputs 5 Outputs, Front Panel, RS232, Optional Wall Plates, Full Mixing/DSP Processing/Matrixing Capabilities, Simple to Operate System for Small Installations, \$2,995

Mackie - DX8, DSP, 2RU, 8 Balanced mic/line inputs, 2 balanced outputs, RS232, RS485, AMX, Crestron, optional wall plates, Para/shelf/graphic EQ, comp, full matrix, Far too many to list, call 1800 502015 for details, \$3,995

Mackie - DX810, DSP, 2RU, 8 Balanced mic/line inputs, 10 balanced outputs, RS232, RS485, AMX, Crestron, optional wall plates, Para/graph EQ, comp, delay, gate, x-over, matrix, Far too many to list, call 1800 502015 for details, \$5,990

MediaMatrix - Mainframe 760nt, DSP Processor, from 5RU, 8x8 expandable to 128x128, RS232, TCP/IP, PC, wall plates, Drag&Drop menu inc EQ, Dynamics, Delay, Mixing, from \$47,966

MediaMatrix - Miniframe 108nt, DSP Processor, from 5RU, 8x8 expandable to 32x32., RS232, TCP/IP, PC, wall plates, Drag&Drop menu inc EQ, Dynamics, Delay, Mixing, CobraNet option, Network control, from \$24,647

MediaMatrix - Miniframe 208nt, DSP Processor, from 5RU, 8x8 expandable to 64x64., RS232, TCP/IP, PC, wall plates, Drag and Drop menu inc EQ, Dynamics, Delay, Mixing, CobraNet option, Network control, from \$33,091

MediaMatrix - X-Frame88, DSP Processor, 1RU, 8x8 expandable to 24x24., RS232, RS485, PC, Front panel, wall plates, Drag and Drop menu inc EQ, Dynamics, Delay, Mixing, DTMF control, Feedback Device, Custom Devices, from \$10,861

Philips - Profecta, Digital Feedback Suppressor, 1RU, Line level in and out, Totally digital: no filters, Frequency Shift DSP, \$6,388

QSC Audio - DSP-3, Digital Signal Processing Unit, Bolt-On, 2 Inputs 2 Outputs, Configurable by Lap-Top Computer, Full DSP Processing Capabilities, Lock Away Amplifier Settings for Install/Tour, \$1,495

QSC Audio - DSP-30, Digital Signal Processing Unit, 1RU, 2 Inputs 2 Outputs, Configurable by Lap-Top Computer, Full DSP Processing Capabilities, Lock Away Amplifier Settings for Install/Tour, \$1,595

Radio Design Lab (RDL) - SYSTEM 84A and SYSTEMS 84B, Audio Mixing Matrix, 1RU, 8 In by 4 Out with direct mix capability, Yes/Optional Status Monitor, \$2,095 (mono 84A) - \$2,650 (Stereo 84B)

Rane - CP64, Paging/music processor, 1RU, 2 Mic/Line in & 4 stereo in, 1 stereo & 1 mono out, Contact closure, opt vol and page remotes, GEQ and limiter on each output, Page ducking, jukebox music override, \$2,845

Rane - DA26, Paging/music processor, 1RU, 1 Mic/Line in (priority) & 1 line in (music). 6 out, Contact closure, opt vol remote, pot, Switchable 80, 110, 150, 200Hz x/over, AGC, ducker, page routing, auto loudness, \$1,895

Rane - RPM88, Digital matrix mixer/processor, 2RU, 8 Mic/Line in, 8 out + AES3 in/out, Ethernet, optional remotes, contact closure, pot, PEQ, x/over, compressor, limiter, routing, 100% drag and drop GUI, 24 presets, \$11,695

Rane - SRM66, Programmable matrix mixer, 1RU, 6 Line in, 6 out, Contact closure, opt vol & room combine remotes, Switchable 80Hz HPF on outputs, 24 presets, adjustable limiter on each output, \$3,195

Redback - Penton PDM 808, Matrix Switcher, 2RU, 8 I/O, RS232, Optional Wall plates, EQ, Comp/Lim each ch, Optional paging, \$6,800

TOA - DPO206, Digital Sound Processor, 2 inputs/ 6 outputs, RS232, 3rd party R/C or PC, EQ, Compressor/Limiter for each channel, Expandable to 10in to 10 o/p, \$5,358

TOA - SX 10008, Matrix Controller, 8 inputs/ 8 outputs, RS232, Expandable to 64 i/p's to 128 o/p's, \$16,495

Yamaha - DME32, Matrix Switcher, 4RU, 4 card slots, each card can be 8 input or 8 output, RS232/422, PCMCIA, USB, MIDI & GPI, EQ delay routing x/over mix surround multi-FX etc, c/w software, cascade up to 4 DME's, \$7,495

Yamaha - MV12/6, Multi-buss Audio Mixer, 7RU, 12 input, 6 buss (4 groups + stereo), 3 way EQ per channel, master EQ +Digital FX, Rack mountable for perm. Install. cover available, \$1,495

Yamaha - MV800, "Zoned" Installation Mixer, 2RU, 8 mono 2 stereo inputs, 2 stereo outputs (2 zones), EQ, gates, (2) duckers, compressor, Security cover supplied, \$1,695

AMPLIFIERS and MIXER AMPLIFIERS

BRAND - MODEL Type of device, Rack Size(RU), Amplification Specification, Physical Features, Audio Features, Other features, List price (inc gst)

Allen & Heath - GR8A, 8Ch Power Amplifier, 2RU, 8 Channels of 60w, Linkable Channels, Headphone monitoring (Every Channel), 24v Battery Backup, Level Control 'Lock-Out', \$3,495

Audio Assemblers - CR2003LD, Loop Driver, 2RU, Transconductance Loop Driver 10A RMS, 2:1 compression/Limiting/Loop indicator LED, 3 Channel Mixer front end, \$687

Audio Assemblers - CR400, Slave Amp, 2RU, 400 watt RMS 100Volt/4 ohm, Rear Level Control, Barrier IN Barrier OUT, \$949

Audio Assemblers - CR500V24, Slave Amp, 2RU, 500 watt RMS 100Volt/4 ohm, Rear Level Control, Barrier IN Barrier OUT, \$1,159

Audio Assemblers - MP2505, Mixer Amplifier Dual Supply, 3RU, 250 watt 240AC/24DC 100Volt/4 ohm, Front panel mon. Spk., 3 XLR mics. 1 tuner 1 aux PRE out POWER in, Bell/Chime/Alert/Evac built in, \$1,239



TOA - DF0206



Yamaha - DME32



Yamaha - MV800

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Australian Monitor Installation Series - ACM120XL



E-amp Systems - CPA650



Biamp Systems - MCA8050 (top) and MCA8150 (bottom)



Chameleon Audio - CL4



Electro-Voice - Q66



Inter-M - PAM-360

AMPLIFIERS and MIXER AMPLIFIERS (continued)

BRAND - MODEL Type of device , Rack Size(RU), Amplification Specification, Physical Features, Audio Features, Other features,List price (inc gst)

Australian Monitor Installation Series - ACM120, 120w Mixer Amp, 2RU, 120w with 100v, 70v, 4 ohm outputs, Steel chassis with rack kit, 4 mic line inputs, 2 band EQ, VOX muting, Tone Gen\$662

Australian Monitor Installation Series - ACM1202P, 2 x 120w Power Amp, 2RU, 120w with 100v, 70v, 4 ohm outputs, Steel chassis with rack kit, XLR I/o per channel, Signal Present LED's, recessed gain controls, \$945

Australian Monitor Installation Series - ACM120XL, 120w Mixer Amp, 2RU, 120w with 100v, 70v, 4 ohm outputs, Steel chassis with rack kit, 8 mic line inputs, 3 band EQ, Vox muting with relay out, VCA, Tone Gen, \$828

Australian Monitor Installation Series - IC30, 30w Mixer Amplifier, 1RU, 30w with 100v, 70v, 4 ohm outputs, Steel chassis with optional rack kit, 3 mic line inputs, 2 band EQ, Switch muting, optional Tone Generator, \$264

Biamp Systems - CPA30, Power Amplifier, 2RU, 65W RMS @ 4ohms/chan, Level controls can be mounted on front or rear, S/N:->96db, THD<.2%, IMD<.35%, 5 yr warranty, Short and Thermal Protection, \$1,978

Biamp Systems - CPA650, Power Amplifier, 3RU, 325W RMS @ 4ohms/chan, Ultra quiet operation, turn on muting, S/N:->98db, THD<1.0%, IMD<.03%, 5 yr warranty, O/L,Short and Thermal Protection, \$2,888

Biamp Systems - MCA8050, 8 Channel Amplifier, 2RU, 8 x 50W RMS @ 4ohms/chan, all channels driven, Bridgable,100V line option, fan cooled, S/N:->85db, THD<.2%, IMD<.35%, Optional Digital remote interface, 5 yr warranty, \$4,810

Biamp Systems - MCA8150, 8 Channel Amplifier, 3RU, 8 x 150W RMS @ 4ohms/chan, all channels driven, Bridgable,100V line option, fan cooled, S/N:->85db, THD<.2%, IMD<.35%, Optional Digital remote interface, 5 yr warranty, \$5,944

Bose - M2150, Stereo Power Amplifier, 2RU, 150 W per ch. 4, 8, 70 V and 100V, 300 W bridged, Remote VCA vol. Controls, 2 Balanced line inputs, Optional Bose EQ cards, \$1,699

Bose - 1800vi, Stereo Power Amplifier, 2RU, 600 W ch. 4 ohms, 450 W ch. 8 ohms, 1400 W bridged, Fan cooled, 2 Balanced line inputs, Optional Bose EQ cards, \$2,399

Chameleon Audio - 3750 DP/2, Amplifier, 1-2U 19" 15.8 Kg , Stereo 750w into 8 Ohm , Rugged construction & Polished s/steel fascia, Bi Polar output stages = sparkling audio clarity , Power supply with FWT , \$8,995

Chameleon Audio - D777, Amplifier, 1RU 320 mm (d) 10Kg, Stereo 500w into 8 Ohm, Crosstalk -85 dB , Forced tunnel cooling system , Quadruple bi-phase rectification , 5 way protection, Stainless steel fascia & back , \$6,255

Chameleon Audio - DX1200, Amplifier, 1U 19" 11.0 Kg , Stereo 300w into 8 Ohm, Crosstalk -75 dB , Variable speed fan cooling , Bi Polar output stages = sparkling audio clarity , Toroidal transformer & linear power supply , \$2,999

Cloud - Cloud 44/50, 4 Zone Integrated Amplifier, 2RU, 4 Channels x 50 watts into 4 ohms, Music / Mic level & music source controls per zone, 4 Line Inputs, 2 Mic. Inputs, Optional 70V,100V Tx, \$2,200

Cloud - CX-A6, 6 Zone Amplifier, 2RU, 6 Channels x 120 watts into 4 ohms, Remote level controls per zone, Balanced XLR line inputs per zone, Optional 70V,100V Tx, \$2,850

Crown - CH4, Amplifier - 70V/Low Z, 3RU, 1200W/ch at 70V line, 1200W/ch into 4 Ohms, 2 channel, rear panel gain controls, Independent 70V/Low Z switchable outputs, Switchable 70Hz HPF, remote fault reporting, \$7,395

Crown - CL4, Amplifier - Low Z, 3RU, 1800W/ch into 2 Ohms, 2 channel, rear panel gain controls, High power into low Z loads, Proportional-speed fan, remote fault reporting, \$6,795

Crown - CP660, Amplifier - Low Z, 2RU, 75W/ch into 4 Ohms, 6 channel, rear panel gain controls, Balanced line in, bridgeable, Proportional-speed fan , \$2,945

Crown - CT1610, Amplifier - 70V/Low Z, 4RU, 960W/ch at 70V line, 870W/ch into 4 Ohms, 2 channel, rear panel gain controls, Independent 70V/Low Z switchable outputs, Transformerless 70V output, IQ compatible, \$6,495

Dynacord - L1202R, Remote Amplifier, 3RU, 100V/2 x 590 Watts, Sequential power up, monitoring, Full DSP, Limiters etc, Full remote control, Networkable, CAN bus, \$3,015

Dynacord - L500T, Amplifier, 3RU, 100V/2 x 500 Watts, LED's for sig in,out,limit,protect, Rear mounted detented scaled attn, Power on/off, remote, \$1,499

Dynacord - PowerMax 230, System Controller, 1Ru, 2-IN-5 out Crossover, Optional transformer, Lo/Mid/Hi EQ,LPN, variable crossover frequencies, \$1,299

Electro-Voice - CPS2T, Amplifier, 3RU, Stereo 100V/600Watt, Rear mounted pots,LED indicators, DSP protection, 30% headroom, Sig to noise >105dB, Limiters\$3,098

Electro-Voice - P1202RT, Amplifier, 3RU, Stereo 100V/600Watt, Rear mounted pots,LED indicators, Fully Remote Control and supervision, Max 250 networkable amps,Monitoring,Self testing, \$4,799

Electro-Voice - Q66, Amplifier, 3RU, Stereo 600Watt, Rear mounted pots,LED indicators, Full protection, 30% headroom, dB scaled level pots, zinc-plated steel housing, \$2,582

IMP AMPLIFIERS - SPU5-755PU, SPU5 -SPU75, Distributed Amplifier locates itself directly onto speaker and comes in wattages from 5-75 watts, Fits directly onto speaker, 20hz-20khz, operates on 24 volts , \$64-\$145

Inter-M - PA-1000B, Amplifier-Receiver, 88mm (H) , THD 1% - 30W/100V line, Telephone Input & Music-on hold (PA-1000BR) , 3 INPUTS - MIC 1, MIC 2 & AUX , Muting for priority, Tone & Bass control, \$345

Inter-M - PAM-360 NEW!, Amplifier , 132mm (H) , 360W RMS, System controls input gain in rear panel , 6 Inputs, EQ Control (100Hz, 1kHz, 10kHz), 6 speaker selector switches, Telephone Input , \$1,335

Inter-M - PAM-60, Amplifier , 132mm (H) , 60W RMS, 70/100 Volt, 8 ohm, 19" rack mount kit supplied , 6 Balanced XLR inputs, 3 band EQ on each input , Switchable VOX priority override, Phantom Power , \$825

Inter-M - System 2240, Multi PA Combination, 266mm (H) , Rated Output (1kHz, 1% THD) 240W, CD, Tuner, Amplifier, Cass. Deck, 8 Inputs, 7 Band Equalizer & Spectrum Analyzer, Monitor Speaker & Four Tone Chime , \$1,996.50

Mackie - AM4160, Mixer amplifier, 2RU, 160 watts, 100/70/50/25v line, 4 ohms, Tamper proof knobs, 60,120 & 160 watt models avail, 4 bal mic ins, 1 bal line in, 3 unbal line ins, Insert point, tape output, vox control, 24VDC, \$1,695

Mackie - UP4061, Power amplifier, 2RU, 160 watts, 100/70/50/25v line, 4 ohms, Tamper proof knobs, 60,120 & 160 watt models avail, Rear panel input sensitivity & HP filter controls, Automatic 24VDC backup power input, \$1,495

Panasonic Ramsa - WA-H120N, Mixer Amplifier, 2RU, 100v/70v/50v Line also 4ohms, Auto mute on paging mic, 7 Inputs, 5 zones, 120w maximum output, \$920

Philips - Plena mixer amp, Amplifier, 2RU, 30W-120W, Black, rack mountable, Call Stations, Single Cable Daisy Chain, \$ 510-951

Philips - Plena power amplifier, Power amp, 2RU, 120W-240W, Black, rack mountable, Booster\$ 786 - 1,300

Philips - Plena source unit, CD/Tuner, 2RU, N.A., Black, rack mountable, CD Player/AM/FM Tuner, \$737

Philips - Plena universal preamp, Preamp, 2RU, N.A., Black, rack mountable, Direct Out\$714

QSC Audio - CX 204V, 4Ch 70v Line Amplifier, 2RU, 4 Channels of 200w @ 70v, Heavy Duty Commercial Power, 9.5Kg!, Data Port Input, Comprehensive Protection Etc, \$3,295

QSC Audio - CX Series, 70v Line Amplifier, 2RU, Stereo 250 - 1000w (@ 70v) Output, Heavy Duty Commercial Power, 9.5Kg!, Data Port Input, Comprehensive Protection Etc, \$2,395 - \$4,195

QSC Audio - CX168, 8Ch Power Amplifier, 2RU, 8 Channels of 130w, Heavy Duty Commercial Power, 9.5Kg!, Data Port Input, Comprehensive Protection Etc, \$5,995

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Rane - MA3 (top) and MA6S (bottom)

Redback - Phase 4



Redback - Redback



Yamaha - (top to bottom) P4050, XH150, XM6150



Clear-Com - Matrix Plus3 Digital Intercom



Clear-Com - Party-Line System



Creative Audio Concertcom - C140 (top) and beltpacks



Vega Wireless - Q700 Wireless Intercom

AMPLIFIERS and MIXER AMPLIFIERS (continued)

BRAND - MODEL Type of device , Rack Size(RU), Amplification Specification, Physical Features, Audio Features, Other features,List price (inc gst)

QSC Audio - ISA Series, 100v Line Amplifier, 3RU, Stereo 300 - 800w (@ 100v) Output, Heavy Duty Chunky Commercial Power, Can Drive 4/8ohm and 100v Load on Same Channel, Data Port Input, Comprehensive Protection Etc, \$1,895 - \$3,195

Radio Design Lab (RDL) - RU-PA518, Audio Power Amplifier, 1/3RU, Stereo 9W RMS (Bridgeable), Front panel control for 2 inputs, Selectable built-in peak limiter, 1/3 Rack, \$615

Radio Design Lab (RDL) - ST-IC1, Intercom Amplifier, n/a, 1W @ 8-45 ohms, 7.62cm x 3.94cm x 1.65cm, Adjustable gain, push to talk, Phantom, \$345

Radio Design Lab (RDL) - ST-PA2, Unity amplifier, n/a, 2W @ 8 ohms, +12dBu @ 600 ohms, 7.62cm x 3.94cm x 1.65cm, Adjustable gain, Both output can be used at same time, \$185

Radio Design Lab (RDL) - ST-PA6, Audio Power Amplifier, n/a, 6W mono into 8 ohms, 24V DC, 7.62cm x 3.94cm x 1.65cm, Adjustable gain and Bass Eq, Built-in 2 input mixer, \$250

Rane - MA3, 3 Channel Amplifier, 3RU, 60W/ch into 4 Ohms, Rear panel gain controls, Bal in, HPF and limiter per channel, 2 speed fan, opt 70/100V xfmr, \$2,445

Rane - MA6S, 6 Channel Amplifier, 3RU, 150W/ch into 4 Ohms, Front panel gain controls, Bal in, HPF and limiter per channel, Variable-speed fan, opt 70/100V xfmr, \$5,745

Redback - Phase 4, Power amp, 2RU, 60W/125W/250W/500W/2x125W, Thermal/overload protection, 3 pin XLR input, loop out, 5 year warranty, Australian made, from \$545

Redback - Phase 4, Mixer amp, 2RU, 125W/250W, Thermal/overload protection, Mic priority,remote vol,vox muting, 5 year warranty, Australian made, from \$875

Redback - Redback, PA amp, 2RU, 15W/30W/40W/60W/100W, Thermal/overload protection, 3 mic inputs, PTT,tape output, 2 year warranty, Australian made, from \$199

Redback - Redback, Stereo amp, 2RU, 2 x 100W, 2 x 200W, Bridgeable, VU meter, Silent power up/down, 5 year warranty, Australian made, from \$975

Sound Advance Speakers - SPU5 -SPU75, Distributed Amplifier, Size of a matchbox, 5-75W, Fits directly onto speaker, 20hx-20khz, operates on 24 volts , \$64-\$145

TOA - A1031, Mixer Power Amplifier, 2RU, 100V line, 30W RMS, 100Hz to 10KHz, Independent i/p and master vol control, 3 Mic i/p's, 2 aux i/p's, 1 rec i/p , Current Limiter & Thermal Protection, \$279

TOA - A1512, 5 zone amplifier, 2RU, 100V line, 120W RMS, 50Hz to 20KHz, Space saving connector placement, 3 Mic i/p's, 3 aux i/p's, built in chime on mic 1 , Selection up to 5 speaker zones, Mic 1 priority, \$592

TOA - A506A, Mixer Power Amplifier, 2RU, 100V line, 60W RMS 50Hz to 15KHz, 4 Mic i/p's & 3 Aux i/p's, i/p 1Mic override, Booster o/p, DC backup, optional i/p connection, \$889

TOA - VM2120, 5 zone management amplifier, 3RU, 100V line, 120W RMS,, Optional digital voice card and line monitor card, 6 Audio i/p plus chimes, Up to 40 zones can be configured, \$1,430

Yamaha - P4050, Multi Channel Amplifier, 1RU, 4x70watt(4ohms) or 2 x140watt, 2, 3 or 4 channel modes , >96db s/noise, Compact 1RU design, \$2,395

Yamaha - XH150, Distribution Amplifier, 3RU, 2x150watt, 70/100volt distribution, 100db s/noise , Built-in hi cut / lo cut filters and attenuation, \$1,195

Yamaha - XM6150, Distribution Amplifier, 3RU, 6x120watt or 3x300watt (bridged), 70volt distribution, temp and "PC" protected, 100db s/noise , Features Yamaha's low heat high efficiency "EEE", \$1,695

COMMUNICATIONS and TALKBACK SYSTEMS

BRAND - MODEL Type of device , Rack Size(RU), Physical Features, Audio Features, Other features,List price (inc gst)

Clear-Com - AB100 Announcers Console, Broadcast Announcers Console, Combines Talkback, Mic Pre, Headphone functions, Broadcast Quality Mic/line, Silent mic switching, Stereo headphone amp, \$3,645

Clear-Com - Matrix Plus3 Digital Intercom System, Digitally switched Intercom System, Modular Construction. 8-200 Ports, Broadcast Quality / Cat5 / Optical fibre, Interfaces suit telephone, radios, codex etc, From \$18,895

Clear-Com - Party-Line Master Stations, Production Intercom System (Analogue), Rack Mount 1/2 RU. 2-8 channels, 200Hz-12kHz. Tailored for max intelligibility, True Hands free operation. Universal PSU, From \$4295

Clear-Com - Party-Line Remote Stations, Production Intercom System (Analogue), Beltpacks and Loudspeaking stations (squawk box), 200Hz-12kHz. Tailored for max intelligibility, Standard 3pin mic cable. Remote mic kill, From \$945

Creative Audio Concertcom - C100BP, Single Channel Beltpack, 3 pin XLR in and out, 4 pin XLR headset socket, Mic switch, call button and LED's, volume, \$534

Creative Audio Concertcom - C1015BP, Dual Channel Beltpack, 5 pin XLR in and out, 4 pin XLR headset socket, Mic switch, call button and LED's, volume, \$670

Creative Audio Concertcom - C110, Dual Channel Master Station/Power Supply, 3 pin XLR in out per channel, program input, Front panel mic or headset, Clearcom compatible, \$2,134

Creative Audio Concertcom - C140, Four Channel Master Station/Power Supply, 3 pin XLR in out per channel, program input, Front panel mic or headset, Clearcom compatible, \$3,934

Electro-Voice - BP 1000, Beltpack, Single Channel Beltpack, Balanced Audio, Flush Mount Controls\$706

Electro-Voice - BP 2000, Beltpack, Two Channel Beltpack, Balanced Audio, Flush Mount Controls\$925

Electro-Voice - EMS 4000, Extender, 4 Ch Extender, Balanced Audio, Illuminated buttons\$3,883

Electro-Voice - MS 2001, Master, 2 Ch Master, Balanced Audio, Built in Speaker\$2,818

Inter-M - RM-916, Remote Paging Mic Amplifier, Flat mount, 245(W) x 60(H) x 205(D)mm, Output Level / Impedance +4dB/ 600ohm, Bal, Zone Control Circuits, Auxiliary Input , \$506

Jands - EziCom E100, Single channel Beltpack, Steel construction. Integrated belt clip, 200Hz-12kHz. Clearcom compatible, Entry level belt pack system, \$395

Jands - EziCom E200, Switched 2 channel Master Station, 1ru Rack mount Case. , 200Hz-12kHz. Clearcom compatible, Entry level Master Station. Powers up to 20 E100's, \$995

Jands - EziCom E300, Speaker Intercom Station (squawk box), 200Hz-12kHz. Clearcom compatible, Surface mount or flush mount case options, \$595

Jands - EziCom E400, Switched 4 channel Master Station, 1ru Rack mount Case. , 200Hz-12kHz. Clearcom compatible, 4 switchable rings with assignable program input, \$1,295

Philips - Bi-way, IntercomFull duplex 2-way Intercom, Hands free\$1,480

Vega Wireless - Q700 Wireless Intercom, Full Duplex Wireless Intercom, Base Station (1RU) plus up - 6 Beltpacks, True 2 channel intercom, Program and page output, UHF Operation. 1200 frequencies over 30MHz range, From \$23,895

EVI Audio relaunches Dynacord in Australia

When sound systems started to get beefy back in the late 1960's, the Dynacord brand was actually very successful in Australia.

The late Henri Freedman built his Freedman Electronics business off the back of Dynacord- you would find Dynacord PA systems and guitar amplifiers everywhere. Some of these systems soldier on today, although times have changed.

Now the brand is firmly back, with the decision of EVI Audio to relaunch what has always been a successful brand in Germany, with a raft of new products.

segment. Early results were the KI cinema amplifier offering an output capacity of 25 watts. Providing work for just four employees, the company meanwhile moved to Landau and their appliances carried the trademark "Dynaphon".

In 1948 the growing number of customers bought the first portable mixing amplifiers, which by then already carried the name DYNACORD: This brand – a combination of the syllables "Dyna" (from "dynamic") and "cord" (building the link to musicality) – quickly turned out to be prophetic. Within

BRAND NEW AUDIO

DYNACORD MP7 Entertainment System - breaks all limits

The brand new DYNACORD MP7 addresses numerous sound problems in entertainment, gastronomic, and industrial applications, as well as in the permanent installation and contractor business.

Closing a gap that existed for quite a long time, the MP7 incorporates all the features that formerly were available only through individual components. The MP7 is extremely compact and flexible and with its modern design suitable for mobile or permanently installed applications (19"-adapter and wall-brackets are optionally available).

The DYNACORD MP7 employs mixer, power amp, and equalizer in a single enclosure.

Additionally, it houses two stereo FX-units, 7-Band Master Equaliser and three microphone channels offering extra Low Cut Filters and 3-Band Equalizer. Four Line channels allow the connection of CD-Players and turntables. An "Assignable Transition Fader" allows cross fading between individual channels.

The integrated processor power amplifier provides an output power capacity of 2 x 300 W.

Additional features are: PFL function, Signal/PEAK indication for each channel, two phones jacks and stage-lit light.

DYNACORD MP7 is the perfect solution for all non-live-act applications. Its unique features stand as equivalent for cost, time and space-saving operation.



DYNACORD MP7

Milestone – where it started

Music has long been recognised as one of the best ways to entertain and distract people from the cares of everyday life. Engineer Werner Pinternagel would have been well aware of this when in 1945 he founded a radio repair workshop in the Bavarian town of Pilsting (about 130 km away from Munich).

Indeed, the Thuringia-born and raised visionary was busy from the outset, which prompted him to expand his horizons and test out new theories.

Within a year, Pinternagel started to experiment with amplifier engineering – which makes the company one of the world's oldest designing manufacturer in this market

just a few years, the rapidly expanding company became one of the world's leading enterprises in the still young field of orchestral electronics and electrical engineering.

In 1954 the handicraft company had been transformed into a small industrial enterprise, which showed its high-performance, trend-setting and often visionary products at every international fair of importance, a move which enabled Dynacord to establish a significant export market from the outset. In order to satisfy the increasing demand, Dynacord moved to Straubing in 1958.

At that time, the company employed 80 people producing a turnover of 1.27 million German Marks with an outstanding export

(please turn over)

Remember this?



Special feature

Remember these?



Representing the immense repertoire of the rapidly growing array of products, which includes many milestones in the history of professional audio gear, here are some Dynacord worldwide recognized innovations:

- "Echocord" (the ultimate reverb and delay unit, 1959)
- "Bassking" (the style defining bass amp, '63)
- "Eminent" (the legendary mixing amp, '62)
- "Echocord-Mini" (built in the years between '66-'80), sold over 26,000 units!
- "Gigant" (large scale amplifier)
- VRS 23 (fully electronic reverb/reverb systems, '80-'88)
- DRP 16 (digital stereo delay unit)
- DRS 78 (gold medal stereo reverberation system, '78)
- AC one
- PowerMate
- LittleMax
- Cobra System

There is no doubt that with these products Dynacord has made its own unique mark on the audio industry, as it will continue to do in the future.

(continued from previous page)
rate of 10 percent. Dynacord's history of success is inseparably connected to the expansion of the German and international entertainment industry.

Looking into the company's reference archives reveals that virtually every top-selling artist or act wanted to perform with the legendary "Sound by Dynacord": Tom Jones, Donovan, James Last, Lale Anderson, the Original Oberkrainer, The Lords, Udo Jürgens, etc. (the list goes on and on). They all celebrated their greatest successes using Dynacord equipment.

NEW: Dynacord speaker systems

Dynacord present a new generation of loudspeakers. The Corus Pro Series boasts three models, and all come with an integral stand adapter.

All the bass units in the Corus Pro series are equipped with passive crossovers and PowerMax technology, which allows relatively small systems to deliver enormously powerful low frequency reproduction.

The full range cabinets are slanted on one side so they can also be used as monitor cabinets, and have protection circuits inbuilt.

All cabinets feature extremely durable painted surfaces, robust protective steel grilles, and castors on the larger bass cabinets. Timber is slotted and glued - properly.

System sizes range from 8" 2 way full range systems, all the way to 15" 3 way systems.

Power handling runs from 300 watts to 1800 watts

Monitors offer the perfect plug and play monitor solutions for a wide range of applications. They are loaded with a 12" woofer, a CD Horn and integrated full-range power amplifiers, delivering 360 watts. (See picture below)



Mathias von Heydekampf, managing director since 1997, and his dedicated team of over 500 individuals are there to see to that. The focus for any innovation remains the same as it was from the start, and that is the musician; the user himself.

The latest evidence of this philosophy comes in the form of the COBRA system, the world's first compact line array system.

Designed with the wisdom of experience yet with the future in mind, Cobra represents the kind of technical innovation that will keep Dynacord at the forefront of the audio industry for many years to come.

Dynacord Range

LittleMax Systems	Forum Line
PROMATRIX System	Corus Line
PowerMate 600	X-Amps
CPA 2000 System	DSP244
PowerMate 1000	DDL 240
ELA Loudspeakers	AM 12
PowerMate 1600	Standard Precision
XA System	Linear
PowerMax Systems	Power Max 230

For further information on Dynacord, please contact EVI Audio (Aust) Pty Ltd
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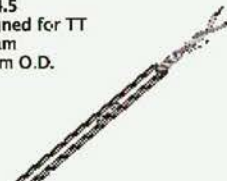


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02N2A
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web: www.cls.com.au
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When Get Lit said they had a G Spot to show us at Connections, we simply had to take a look...

by John Grimshaw

The G-Spot 250 is the baby of the range, using the MSD 250W lamp source. The unit is a fairly simple moving head fixture, with 11 fixed colours, 6 rotatable/indexable gobos, your typical three-facet prism effect (also rotatable/indexable), focus control and mechanical dimmer. The unit tested came with the standard 15° lens, though there are optional 12° and 18° lenses.

In general use, the lamp was quite responsive and easy to control. The full pan movement of 530° and tilt movement of 230° was fluid and smooth, with 16-bit focus positions perfectly repeated on demand.

The built-in dichroic colours have the usual range of "L.R.-subtle", vibrant colours as standard, and the prism feature worked as expected with

no surprises.

Internally, the optical components are all pretty well laid out, with plenty of room to spare. The gobo wheel is easy to access, with the gobos reasonably easy to change without tools. Interestingly, the colours of the model tested were glued into place. Because there was no documentation covering changing the colours, it would seem that altering the factory selection of colours is not a simple process.

This unit is competing with a diverse range of alternatives – there were eight moving light profiles under 300W in the last market report (Connections July, 2001). In price, they ranged from High End Studio Spot @ \$17,000 to the TAS Pro spot @ \$4,472. This robust little unit is priced currently at \$4,500 (plus GST), so it will depend on its little extra features to single it out from this crowded field. Bench testing this lamp revealed a few interesting points.

The G Spot 250 is designed to allow the user to control the cooling fan speed for those moments when absolute silence is required. The fan control at the fitting has four options:

- High – fans at max speed (over-rides DMX fan control)
- Reg – fans are DMX controlled, and can also vary their own speed independently if an internal over-temperature of the fitting is detected.
- Low/Off – the fans are switched to the lowest possible speed until the fitting reaches its maximum internal temp, and then switches off the lamp.
- Low/High - the fans are switched to the lowest possible speed until the fitting reaches its maximum internal temp, when the fans are switched to high speed.

The obvious use for this feature is in intimate theatrical venues, where excessive fan noise during quiet moments in the show normally means that moving lights cannot be used. By carefully using this feature, a designer could limit the amount of noise for short periods, while still making use of the light.

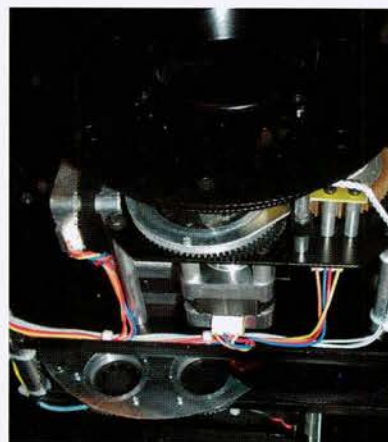
Because of this feature, the unit has extensive temperature monitoring, which can be displayed on the LED display. Temperatures under 45° will allow the user the control the fan speed as

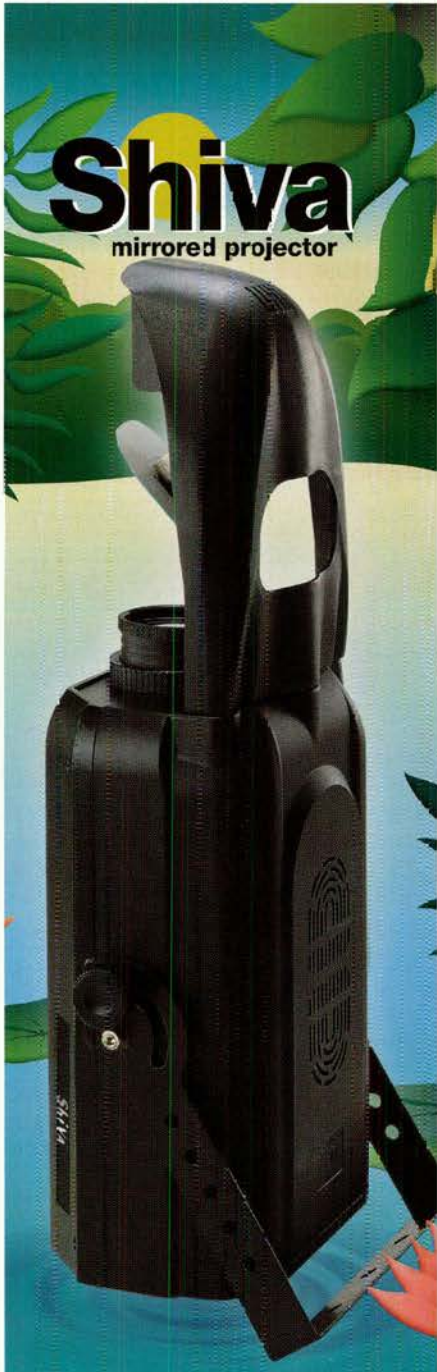
required. Over 70°, and the lamp will switch off automatically.

The unit has a built-in fault finding ability to identify over-heating, mechanical and some electrical errors.

Physically, the unit weighs around 16kg, so it is quite easy for one person to carry and install.

In total, not a bad combination of features for the price.





Shiva

mirrored projector

Shiva is quality throughout. Sleek die-cast aluminum case outside, inside: large optical path, AR & IR coated lenses, nine exchangeable gobos, nine dichroic colors + white, strobe and dimming. Shiva comes with standard DMX512 control (4 or 6 channels), and uses a HSD 200 lamp.



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NEWS

EarSight

Last months work for Wild Blue Angel helped to secure a record contract with US Label "Live Up" Records.

Stargate Music Productions

Stargate Music Productions will be moving into a new facility towards the end of May. The new Studio will still be situated in the northern Brisbane metropolitan area. Call 07 32606294.

Jinglemakers/FIGJAM

Report an update to Cubase v5 32bit with Apogee UV22.

Gangstar Studios

PRE SONUS VXP, WAVES L2
ULTRAMAXIZER, TASCAM
CDRW2000 @ CDA700 COMBO
... they say stay tuned next month
for an announcement! (?)

CHARTS



Shakaya

Stop Calling Me

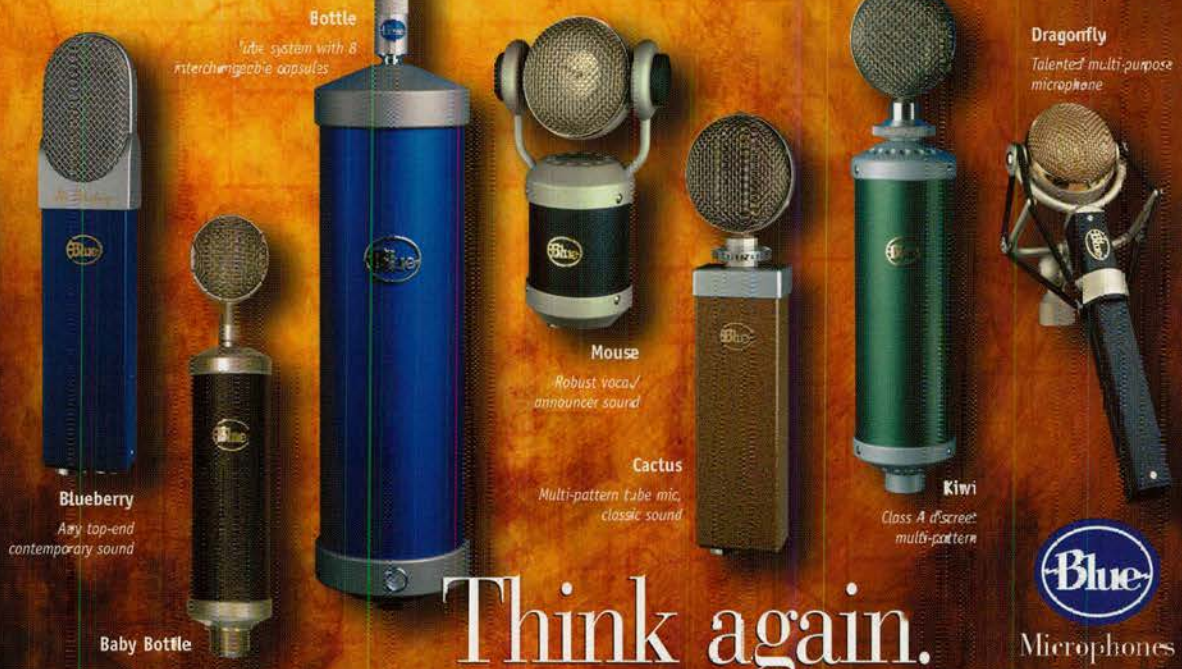
Produced and arranged by Reno Nicastro, Megatrax Digital Studios. Mixed by Cameron MacKenzie at Sing Sing Studios. Mastered by Tony Mantz at Sing Sing Studios.

NSW

ARTIST	PRODUCER	ENGINEER	SESSION
A# Sharp +61 2 9153 9988 (www.asharp.com.au) 24tk Analogue/32tk digital, 3 live rooms			
The Wolverines	Jeff Cripps	Jeff Cripps	Album
James Blundele	Jeff Cripps	Jeff Cripps	Album
The Spitz	Jeff Cripps	Jeff Cripps	Album
Mary MacKillop School	Jeff Cripps	Jeff Cripps	Album
Bush Traks Pty Ltd +61 2 66891290 (www.bushtraks.com) Airconditioned digital multitrack studio			
Durga Babies	M. Turner/T. Tonkin	Dave Highet	Album
Asia Lee	Brian Lee/Dave Highet	Dave Highet	Album
Damian Gerard Sound Studios +61 2 9555 1710 (www.damiangerard.com) 2' 24 track Analog, Pro-tools Digital			
Trakky Dax	Undercover Music	William Bowden	Mastering
Jenny Morris	Undercover Music	William Bowden	Mastering
Intercontinental Playboys	Marshall Cullen	Russell Pilling	Ep
Rob Younger	Rob Younger	Russell Pilling	Album
Edensound Mastering +61 2 9682 9066			
Nickelback (USA)	Roadrunner Records	Martin Pullan	Live track for single
Monique Brumby	Monique Brumby	Martin Pullan	Album
Caroline Horn (USA)	Kerryn Tolhurst	Martin Pullan	Album
Dale Cornelius	Dale Cornelius	Martin Pullan	Soundtrack
Floating Point Studios +61 2 9318 1550 (www.floatingpointstudios.com)			
John Mclean	Peret Von Stromer / M. Eckel	Martin Eckel	Album/Vinyl Single
Jenny Morris	Nick Littlemore	Peter Mayse	CD Single remix
Bliss'n'Esotericism	PJP & Bliss	Jonathon Notley	Album/EP
Mako	Peret Von Stromer	Peret Von Stromer	Album
Gangstar Studios +61 2 4739 0451 (www.gangstar.com.au) 96 track digital recording/mixing/mastering.			
Sarah Charlwood	Dave Dwyer/Rebecca Dwyer	Dave Dwyer	Pre-Production
Glister	Dave Dwyer	Dave Dwyer	Album
Giant (Feat Andre Eikmeier)	Dave Dwyer	Dave Dwyer	Album
Bernie Segedin	Dave Dwyer	Dave Dwyer	Mastering
Hindsong Studio +61 2 6582 7070 Project Studio specialising in music production for radio/TV advertising			
Balance	David & Lyn Hinds	David & Lyn Hinds	Album Pre Production
Australian Solar Timbers	David & Lyn Hinds	David & Lyn Hinds	TVC Soundtrack
Jinglemakers/FIGJAM Recording Studios +61 2 9822 4035 (jinglemakers.com) 128tk Digital Studio			
Alan Neal	Dave Hallard	Dave Hallard	Country Album
Every day Living Jingle	Dave Hallard	Dave Hallard	TV Jingle
Ridgi Didge Security	Dave Hallard	Dave Hallard	Tv & Radio Jingle
Milkbar Recording Studios +61 2 9516 4559 (www.milkbarstudios.tv) 96chEuph/Sony 3348/48I/O's Ptools5.1/Quested monitoring+THX spec			
Alex Lloyd	Brent Clark / Alex Lloyd	Brent Clark	Tracking & Mixing - Neve Room
Grinspoon	Phil McKellar / Grinspoon	Phil McKellar	Tracking - Neve Room
Post-Production for Film and Television			
TVC - soundtrack	Rex Goh	Ricky Ho	Tracking - Euphonix Room
Nugget - soundtrack	Daniel Denholm	Daniel Denholm	Tracking - Neve Room
Rockinghorse +61 2 6688 4005 (www.rockinghorses.com.au) 48ch Neve V, ProTools Mix 24plus with 4 24bit888.Studer A820 24trk Anlg tape			
Women In Docs	Anthony Lycenko	Anthony Lycenko / Ben McCarthy	Album Mixing
Hotel 44	Artist	Jim Arnold / Anthony Lycenko	Ep Tracking and Mixing
Rover Street Media	Darran Muller	Michael Worthington	Album Mastering
JunkBeats	Dave Brammah / Anthony Lycenko	Jim Arnold	Single
Soundwarp +61 2 9905 7144 (www.sounswarp.com.au) Audio Mastering, Restoration			
Submerged	Simon	Meredith Brooks	EP
Sandunga	Sergio	Meredith Brooks	EP
Gympie Muster	Trish	Meredith Brooks	Album Compilation
George Bracken	Grant	Meredith Brooks	Restoration
Studios 301 +61 2 9698 5888 (www.studios301.com) Recording studios for all genres			
Waikiki	Paul McKercher	Paul McKercher	Album
Diesel	Craig Portiels	Craig Portiels	Mixing
Lee Kernaghan	Rob Fiester	Garth Porter	Mixing
Nikki Webster	Chong Lim	Nick Cervonaro/Anton Hagop	Recording
The Vault +61 2 9555 8298 48 trk analogue protocols 5.1 with 3 x 888 io SSL 4040E/G vibey space on waterfront for all your mixing tracking needs			
Selvyn	Matt Lovell	Matt Lovell	Mixing Singles
Mick Hart	James Cadsky/Mick Hart	James Cadsky	Mixing Album
Nature Nature	Jim Moginie/James Cadsky	James Cadsky	Album
Ultimate Army Of Prawns	Heath Johns/Lachlan Mitchell	Lachlan Mitchell	Mixing
Shakravidia	Shakravidia/Nick Mainsbridge	Nick Mainsbridge	Vocals
Trackdown Digital +61 2 9550 6890 (www.trackdown.com.au) 64 Track Digital Music and Audio Post Production			
Garage Days	Fox Searchlight Films	Simon Leadley (E), Torei Lista (E)	Music Editing
Crocodile Hunter Collision Course	M-G-M	Tim Ryan (E)	Music Editing
Fairy Tale Police Department	Yoram Gross-Emtv	Scott Ryan (E), Erica Bell (E)	Children's Animated - Audio Post
Stargate Music Productions +61 7 3260 6294 (www.users.bigpond.com/dash.stargate) Multi-format facility; uses both vintage & state of the art equip			
Belinda Butler	Mclvor / Butler	Dash Mclvor	Demos
Freddy Greensill	Dash Mclvor	Dash Mclvor	EP

QLD

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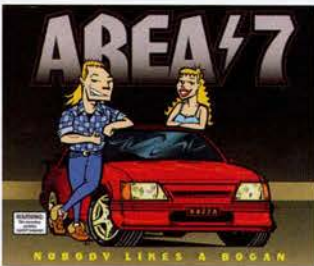
CHARTS



Natalie Imbruglia

Wrong Impression

Produced and engineered by Ian Stanley. Mixed by Andy Zulla at Metropolis.



Area 7

Nobody Likes a Bogan

Recorded and mixed by Kalju Tonuma at Sing Sing Studios. Engineered by Kalju Tonuma and Richard Stolz. Mastered by Don Bartley at Studios 301.

NEWS

Hindsong Studio

Added a Bellari RP 533 Studio Tube Multi Processor mic from Pro Audio Supplies, and are now basking in valve warmth! "A great sounding unit at a very reasonable price." David & Lyn Hinds' family studio has a great view of the beach!

Damien Gerard Sound Studios

Introduce the All New High Tech Retro Room replacing the original retro room within the Festival Complex. It features a new Pro-Tools suite with adjoining vocal booth and is ready for bookings from 1st May.

TARAMALIN SOUND

Have installed a Tdif To Light Pipe Converter for their Digi 001 System.

news: mail@conpub.com.au

QLD

Jim Cooper	Dash Mclvor	Dash Mclvor	Album
Lance Galloway	Galloway / Mclvor	Dash Mclvor	Album

Taramalin Sound +61 7 32089736 (www.taramalin.com.au) 32 track digital Tascam DA 98 & 38 16 track analogue : Pro Tools 40ch console			
Defuse	Defuse	A Lahey	EP
The Gods	A Lahey		Single
Wing It			Single
Jennifer Cameron	B Kerswell		EP

TARAMALIN SOUND +61 7 3208 9736 (www.taramalin.com.au) 32tk digital DA98, 16tk anlg. &P/Tools. 2 nice rooms Drum booth & main studio.			
Lazyboy	A Lahey	A Lahey	EP
Defuse	A Lahey	A Lahey	EP
The Gods	A Lahey	A Lahey	Song
Warren Hutt	A Lahey	A Lahey	Demo

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Broken Shanty	Eric Vandersande	Michael Monteith	Record, Edit, Mix, Master

Post-Production for Film and Television

Thelmas Grapes	Eric Vandersande	Paul Jackson	Music Video
Scott Penny	Eric Vandersande	Scott Penny	3D Animation & Music

SA

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Realm	Steve Fieldhouse/Realm	Steve Fieldhouse	CD Tracking
Found Objects	Steve Fieldhouse/Chris Lambert	Steve Fieldhouse/Chris Lambert	CD Album Mixes
Peter Gelling	Peter Gelling	Steve Fieldhouse	Looping, pre-mixing
Post: Found Objects	Steve Fieldhouse/Chris Lambert	Steve Fieldhouse/Chris Lambert	Film Soundtrack

VIC

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Fez Perez	band	Adam Dempsey	Live recordings
Guernica	Guernica	Adam Dempsey	Single
Jamie McKinnon	Jamie McKinnon	Ken Shulman	Album

Earcandy Studios +61 3 9866 4663 24 track Hard disk geared to singers/ songwriters -not bands

Kayla Rain	Tony Hunt	Tony Hunt	recording next single
Diane Viduka	Tony Hunt	Tony Hunt	recording demo package
Meisha	Tony Hunt	Tony Hunt	finishing off single

Honeyface +61 3 9507 2067 (www.honeyface.com) 32tk PC based studio w/Neumann mics & valve outboard. Specialise in acoustic albums

Dom Jurcec	Mark Hilton	Mark Hilton	Alternative album
Tom Griss	Mark Hilton	Mark Hilton	Solo Pop album

Lo Ricco Sound Studios +61 3 9701 6220 Recording Studio

Susie Ludica	S. Ludica & M. Lo Ricco	Marcello Lo Ricco	Album
Aneta Turner	Anthony Costanzo	Marcello Lo Ricco	Single CD
Al Taweel	Al Taweel	Marcello Lo Ricco	Demos
Bleier	Eddie Perfect	Marcello Lo Ricco	Demos

Metropolis +61 3 9696 2111 (www.metropolisaudio.com.au) Music Studios; Mobile Recording; Film & T.V Post - All Formats

Killing Heidi & Space Like Alice	Paul Kosky	Andy Baldwin/ Robbie Adams	Album
Paul Kelly	Paul Kelly	Ern Rose	Album Tracks

Post-Production for Film and Television

Human Nature	Dave Rutter	Ern Rose	Music Television
Jimmy Barnes	Drew Thompson	Brian Mc Mahon	DVD Mixing

True Form Recording +61 3 9391 0907 24Tk Digital Recorder, Classic analogue console & outboard

Unconscious Pilot	Neil Gray	Neil Gray	E.P.
Walter Ego	Dean/Band	Dean Fisher	Demos
The Living End	Neil/Band	Neil Gray	Demos
Flaming Rat	Neil/Band	Neil Gray	Track Drums

Wombat Rd +61 3 5145 4204 24tk digital & 16tk analogue

Jim Lock	B Clissold/J. Lock	Barrie Clissold (E)	Album
George Rawlings	B Clissold/G. Rawlings	Barrie Clissold (E)	Album Tracking
Sonny Lambourne	Sonny Lambourne	Barrie Clissold (E)	Album
Fluctuation	B. Clissold/Band	Barrie Clissold (E)	Demo Album

WA

POONSHEAD +61 8 9339 4791 (www.poonshead.com) Audio Production, Recording, Mastering

Last Years Hero	Rob Grant	Rob Grant	Demo
Wilberforce	Rob Grant	Rob Grant	EP
Jet Sunset	Rob Grant	Rob Grant	Single
Rob Castaldi	Rob Grant	Rob Grant	Album

Satellite Recording Studio +61 8 9470 4003 (www.satelliterecording.com) Pro Tools Mix Plus. 64 Tracks x 24 bit.

KC Cortez	Alfredo Malabello	Alfredo Malabello	Album
Surreal	Russell Bailey	Darren Halifax	EP
Jason Norris	Jason Norris	Darren Halifax	Demo
Just Jazz Talent School	Melinda Sweeney	Darren Halifax	Sound for stage show

WITZEND +61 8 9336 1888 24 trk Digital, 16 trk Analog

The Giant Steps	The Giant Steps	Alan Dawson	Single
Acapulco Brothers	Acapulco Brothers	Alan Dawson	Album
Heads We're Dancing	Alan Dawson	John Galbraith	Album

DMX DEVICES

BRAND - Model, Model No, Function Description, Operational Features, Physical Features (inc size), Other Features, List Price (inc gst)

- Artistic Licence - CuePatch**, C-Pat-1024, Softpatch system for up to 1024 channels, Softpatch, 400 scene backup and monitoring, 2RU 19" rack mount, LCD screen & keypad, DMx opto-isolation, recall up to 10 patches, \$8,280
- Artistic Licence - DMX Hub**, DMX-Hub, 4 DMX universe, 4xDMX inputs + 4xDMX outputs to ethernet Cat5, 1RU 19" rack mount (depth=257mm), IEC mains, Full data indicators LED's and 5pin XLR's, \$7,999
- Artistic Licence - DMX-Split**, DMX-Split, Compact DMX splitter/isolator 5 outputs, Portable unit with 2x5pin + 1x3pin outputs, Compact size, 24v DC PSU, only 0.67kg, The 5pin outputs have a 2nd output on pins4+5, \$1,306
- Artistic Licence - DownLink**, DL-UK, DMX to ethernet converter, 2 DMX universes, 1024ch, Front panel selection of 256 DMX universes, Wall mounted panel. 146x85x39mm, Full data indicators LED's and 5pin XLR's, \$2,206
- Artistic Licence - Microscope 3a**, MS-3a, Hand held DMX tester with moving light libraries, LCD display, keypad, easy to use menu system, 125x93x45mm, internal rechargeable battery, 12 preset memories, PC link software, \$1,876
- Artistic Licence - Uplink**, UL-UK, Ethernet to DMX converter, 2 DMX universes, 1024ch, Front panel selection of 256 DMX universes, Wall mounted panel. 146x85x39mm, Full data indicators LED's and 5pin XLR's, \$2,214
- Avolites - DMX Splitter**, AV-33-65-1000, Isolated DMX Splitter, 1 In 8 Out, 19" Rack Mount 1U, \$2,646
- Avolites - DMX Splitter**, AV-33-65-2000, Isolated DMX Splitter - Truss Mount, 1 In 6 Out, Truss Mounting, \$2,335
- BCD - DMX-S3**, 3way DMX splitter, all 5pin XLRs in small rugged box, Opto/iso on every output, \$350
- BCD - DMX-S2D**, 2way splitter with both 3&5pin inputs & outputs, 3&5pin XLRs in small rugged box, Opto/iso on every output, \$350
- BCD - DMX-S8**, 8way Rack mount DMX Splitter, 1RU, Power LED, Opto/iso on every output, \$850
- Compulite - DeMux**, 150-01x, DMX to DC converter, +/- polarity and multi-voltage output, 1RU 19" rack mount, Available in 24 thru 96 channels versions, \$2,338
- Compulite - DMX Merger**, 192-011, DMX/CMX Merger (HTP or LTP), Override fader for merging control, DMX.

Is this report, we asked lighting vendors to tell us about any DMX device they have that is not a lighting desk or a dimmer.

There is quite a wide variety of equipment here, including splitters, testers, de-multiplexers and some other interesting widgets.

Vendors were restricted in the number of characters they could use to describe their products, so there are bound to be some complex devices where the functions are only hinted at.

Compiled by John Grimshaw

BRAND	Distributor	Phone	Web	No of Devices
Artistic Licence	Coemar De Sisti Australia	+61 3 9467 8666	www.cdaust.com.au	18
Avolites	Universal Lighting & Audio	1800-648-111	www.ula.com.au	2
BCD	Bill Coghill Design	+61 2 9500 8090	www.bcd.cx	3
Compulite	Coemar De Sisti Australia	+61 3 9467 8666	www.cdaust.com.au	26
ELC	Clearlight Shows	+61 3 95531688	www.clearlight.com.au	14
ENTTEC	ENTTEC	+61 3 9819 2433	www.enttec.com	4
ETC	Jands Electronics	+61 2 9582 0909	www.jands.com.au	32
High End Systems	Universal Lighting & Audio	1800-648-111	www.ula.com.au	1
Interactive Technologies	Bytecraft Entertainment	+61 3 8710 2555	www.bytecraftentertainment.com	4
Jands Electronics	Jands Electronics	+61 2 9582 0909	www.jands.com.au	3
LSC	LSC Lighting	+61 3 9561 5255	www.lscighting.com.au	12
MA Lighting	Show Technology	1 800 646 666	www.showtech.com.au	4
Martin	Show Technology	1 800 646 666	www.showtech.com.au	4
SGM	Universal Lighting & Audio	1800-648-111	www.ula.com.au	1
Soundlight	ENTTEC	+61 3 9819 2433	www.enttec.com	1
Strand Lighting	Bytecraft Entertainment	+61 3 8710 2555	www.bytecraftentertainment.com	6
TechArt	Coemar De Sisti Australia	+61 3 9467 8666	www.cdaust.com.au	12
Theatreight	HERKES ELECTRICAL	+61 2 9319 2452	www.herkes.com.au	6
VXCO	VXCO Lighting System	+41 32 675 34 89	www.dmxcreator.com	2

BCD: DMX-S3



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Distributors welcome...



ELC - (top to bottom) DAM44, dmXPPOINT, Focus Brain, Show Store, and Mini Store



Enntec - (top to bottom) DMXEtherGate IN, DMXEtherGate OUT, DMXPlayback, DMXPlaybackRemote



Jands Electronics: JD8

indicators, 1RU 19" rack mount, Inbuilt scene backup function, \$3,478

Complite - DMX splitter, 191-0xx, DMX splitter 1 to 3in, 3 to 8 outputs, front panel switching for input selection, 1RU 19" rack mount, Ability to work with Bi-directional DMX and CMX, from \$1680.00

Complite - E-Mix, 158-017, DMX-ethernet-DMX converter + DMX Merger, 2xDMX inputs + 2xDMX outputs, 10MB ethernet link, LCD display, truss or rack mount, 30x24x9cm, Up to 64 DMX streams on a Cat5 cable, \$7,795

Complite - E-Mix 2, 158-019, Low cost DMX-ethernet-DMX converter + DMX Merger, 4 DMX inputs or outputs, Cat5 ethernet, 1RU 19" rack mount, connectors on front or back, Multiple config recall from front panel, \$5,936

Complite - Mux, 155-01x, DC to DMX converter with DMX merging, +/- polarity and multi-voltage input, 1RU 19" rack mount, Available in 24 thru 168 channels versions, \$2,338

ELC - DAM44, Audiodmx matrix, Digital control of audio level opto-isolated dmx, Start CD play/skip /4 channel pan, 19" 1RU , DMX Selector (10ch or 20 ch), \$3,025

ELC - dmXLAN, Node 4 (Node 2 also available), 4 x DMX in & out universe address number, Up to 256 DMX universes in system, 19" 1RU , Priority/ HTP/LTP/Merge , \$4,095

ELC - dmXPPOINT, Merger/Splitter/Router, 2DMX inputs 6 programmable outputs, LTP HTP merge LoTP merge PriorityA/B input fail , 19" 1RU , LTP 2in-1 out, \$3,350

ELC - Focus Brain, wireless remote, Remote control of full DMX 512 , 30 memories x-Fade remote desk deactivation , 19" 1RU , Can control two main units 513-1024, \$4,295

ELC - Mini Store, 64ch recorder, Record/Playback Autoplay on power up, Start with contact closure, 200mm x 150mm x 44mm, 5pin or 3pin output available, \$1,595

ELC - Show Store, 2GB Hrd disk, 26hrs of Realtime dmx recording upto 99 shows, External control by PC/Contact/ Dmx Clock & timer, 19" 1 RU, Up to 99 indexes per show, \$3,980

Enntec - DMXEtherGate IN, DETGI, DMX to Ethernet convertor, Plug & Play, reliable, remote routing and patching, 1U half width, \$670

Enntec - DMXEtherGate OUT, DETGO, Ethernet to DMX convertor, Plug & Play, reliable, remote routing and patching, 1U half width, \$670

Enntec - DMXPlayback, DPB, Reliable, fool proof 12 show DMX show recorder, Program using free software, DMX capture or RS232 , 1U half width, \$470

Enntec - DMXPlayback remote, DPBR, DMXPlayback add-on used to trigger up to 12 shows, 1U half width, \$280

ETC - ETCNet2 DMX Node, ETC-4101A10XX, Distributes DMX, RFU and ETCLink over Ethernet, 4 universes per Node, over 32000 EDMX addresses, 1RU rack or wall mount, front or rear sockets, 4 DMX ports, configurable as in or out, POA

ETC - Response Interface Equipment, Complete line of DMX interface equipment , Converters/Opto-Isolators/ Mergers/Analysers, Supports DMX, AMX192, D192, K96, 3 pin outputs provided with phase reverse switches, POA

ETC - WYSIWYG, Lighting CAD and Visualisation Software, CAD, paperwork, rendering, realtime visualisation, Accessories: WYGit2 Box and Pipe Tape Printer, Can be used in-line with your lighting system, POA

High End Systems - Handshake, HE-10020001, Use with Palms for convenient & portable control, DMX Control, Diagnostics, Software upload, Clips onto selected PalmPilot models, Compatible with WholeHog software, \$2,324

Interactive Technologies - DMX-2-Emulator, DP-EMU, DMX to High End Emulator protocol convertor, Control of Emulator fixtures by DMX consoles, 203x155x51mm, .7kg, \$1,400

Interactive Technologies - MicroTech DMX, MicroTech DMX, Handheld DMX multipurpose Diagnostic tool, Check dimmer levels, data link errors, update rates, Live Edit, playback, alter levels, assign groups , \$690

Interactive Technologies - Radio DMX, RD-2400-2, Wireless DMX distribution transceiver (2 required), Plug and play; up to 1km line of sight range, 203x155x51mm; .9kg each unit, Expansion to 8192 dimmers with 16 transmitters, \$7,400

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Using the RadioDMX system, lighting control networks can be seamlessly transmitted through the air. Such "wireless" transmission allows for the operation of lighting instruments in new and exciting locations and makes getting control signals to impractical or inconvenient places a snap.



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NSW - 4/1-15 Rosebery Ave, Rosebery NSW 2018 Tel: 02 8344 3800 Fax: 02 8344 3801



Interactive Technologies - Sidewinder DMX, SD-125, Virtual DMX console for Palm Pilot or similar, Internal scene memory; user-definable macro buttons, 60x101x38mm; .2kg, data diagnostic & cable testing, opto-isolated, \$1,213

Jands Electronics - DD6-2, JND-DD6-2, 8 way Opto-Isolated DMX Splitter w/ Thru output, Provides 6 x 5-pin outputs and 2 x 3-pin outputs, 1RU, Power/data/phase LEDs, control via frontpanel, 3 pin outputs provided with phase reverse switches, \$1,095

Jands Electronics - DD8, JND-DD8, 8 way Opto-Isolated DMX Splitter, Provides 8 x 5-pin AXR DMX outputs, 1RU, Power and data LEDs, control via frontpanel, \$1,095

Jands Electronics - DDX 60c, JND-DDX60C, 60 way Digital to Analogue Converter, Converts DMX to +10V wire-per-channel technology, 1RU, Power and data LEDs, control via frontpanel, Test software aids troubleshooting and focussing, \$1,495

LSC - DmxChange, DMXCHANGE, Powerful 6 in / 12 out DMX routing unit., Each input can be routed to up to 12 outputs, 1 RU unit with menu driven LCD, Universal power supply., \$3,740

LSC - DmxSplit, DMXSPLIT, 4 way DMX low cost data splitter., Fully isolated input / outputs. Self contained, Rugged metal enclosure measuring 192x138x42mm, With attachment bracket for hanging in truss., \$814

LSC - IsoNode, ISON, DMX isolated inlet boxes for distributed systems, Plug and use. Leds show DMX and power status, Fits standard wallplates. Plugs into backbone., Automatically overrides downstream sources., \$385

LSC - IsoPort, ISO1, DMX isolated outlet boxes for distributed DMX, Plug and use. Leds show DMX and power status, Fits standard wallplates. Plugs into backbone., Available in 1, 2 or 3 output models, \$330

LSC - LinkLight, LL2, Analog->DMX multiplexer, DMX->Analog demultiplexer, Works with +10V or -10V analog., 1RU unit finished in grey with front mounted DB15s, Selectable power supply., \$1,650

LSC - MultiSplit, MSPLIT5, Fully isolated DMX rack-mount splitter., Available in 5 or 10 output units; 2 RU rackmount; connectors mounted front or rear., Built in termination switch and link connector., \$1,650

MA Lighting - MA DMX Booster, MALCON700, DMX Opto isolated splitter, DMX in/out + 7 split out, 1ru, 7 opto isolated 5 pin outputs, \$1,699

MA Lighting - MA DMX Merger, MALCON100, DMX Merge unit, Merge HTP/LTP 2 streams into 1, 1 ru, Ability to offset second DMX stream, \$2,525

Martin - Lightcorder, MARCON420, DMX Recorder, Recording DMX and playback via 6 faders, Aluminum case/ rubber surround: 390 x 60 x 132 mm, \$2,299

Martin - Martin DMX512, MARCON1609, 4ch opto isolated DMX splitter, 1 In /thru and 4out via 3pin cannon, weighs 1.4kg, 293X108X49mm, \$1,000

Martin - MP2 Uploader, MARCON400, Software Uploader/DMX tester, 20 x 4 LCD display and 8 navigation keys, Aluminum case/rubber surround: 390 x 60 x 132 mm, 16 storable snapshots, \$2,199

Martin - The Wife, MARCON430, DMX512 Test unit, Complete DMX testing device, comes with protective pouch, Generate DMX512 or re-transmit buffered DMX512 or MIDI, \$1,599

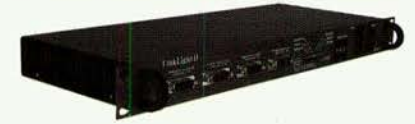
SGM - DMX Splitter, SG-020-2249, Isolate and split DMX a signal, 1 In 6 Out, \$1,610

Soundlight - DMXTester, Featured packed handheld DMX tester. Rigger remote, Fault finder, DMX in, DMX out, Signal analysis, 15 hour battery life, large backlit LCD screen, \$1,760

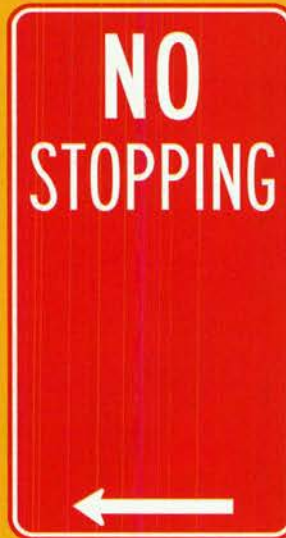
Strand Lighting - SN100, SN100, Multi-function networking nodes, Distribution of DMX, Video signals, 350x200x70mm, 3.1kg, Remote VDU scroll controls, Floppy disk drive, \$11,000



Jands Electronics: DDX 60c



LSC - (from top left) IsoNode, IsoPort, DmxChange, LinkLight



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

Yes, it's that time again when Lots of Watts holds their huge 36-hour June Sale. From 9am Wednesday June 5th, right through to 9pm Thursday June 6th, come and grab a bargain on ex-demo stock, ex-hire equipment, and traded equipment. And while they're in the spirit of things, they'll even have some new stock on sale!

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Soundlight - DMXTest



Strand Lighting - DMX Node

TechArt DMX Interface boxes



Strand Lighting - SN103, SN103, Multi-function networking nodes , 4 DMX I/O, Focus remote & Handheld control, 215x215x120mm, 4.2kg, 10BaseT Ethernet connections, \$9,175

Strand Lighting - SN110, SN110, Multi-function networking nodes , 2 DMX I/O, fully programable, priority patching, 114x114x101mm, .89kg, Dimmer Status reporting, Web browser configurable , \$2,141

TechArt - 6 way DMX split, TA-DMX6, Six way DMX splitter/isolator/amplifier, DMX + Power LED's. 3 + 5 pin inputs + outputs, Truss box or rack mount versions. 240v @0.5A, Independent PSU's for each pair of outputs, \$1,395

TechArt - DC to DMX, TA-Mux, DC to DMX converter PCBs from 12 to 168 ch's, Designed to be fitted into older analogue consoles, 48ch version measures only 140x120mm, Also available in 2RU, 19" rack mount version, from \$750

TechArt - DMX relay, TA-DMXRelay, DMX controlled relay box, 1 to 12 relays (dry contact) controlled via DMX, 2RU, 12" rack mount. 240v, 0.5A, Relays can be latch or momentary action, from \$850

TechArt - DMX split PCB, TA-SP2, DMX splitter PCB for use in OEM products, 2 ch's can be configured as i/p or o/p, Only 80x65mm. 240v input, Power + DMX indicators, Linking PCB's allows any config. (eg. 1in,8out), \$180

TechArt - DMX to DC, TA-DeMux, DMX to DC converter, from 24 to 2048 channels, Can be configured for any voltage/polarity., Rack mount with optional dual power supplies, Optional plug in cards for easy maintenance, from \$1200

Theatrelight - 4WAY SPLITTER, TLDX4, 4way DMX splitter /booster /1in 4out, tTrue RS 485 isolation, Standalone unit/outboard power supply, \$725

Theatrelight - 64ch DMX-Parralel , TLDXR64, 64CN DMX-Parallel/analogue receiver, selec DMX address/voltage output minus/plus 10-15v, 19IN 1 u high rackmount, optically isolated output, \$1,095

Theatrelight - 64ch DMX-Parralel , TLDXS64, 64CN DMX-Parallel/analogue receiver, selec DMX address/voltage output minus/plus 10-15v, Standalone unit/outboard power supply, optically isolated output, \$995

Theatrelight - 8 WAY SPLITTER, TLDX8, 8 way DMX splitter/booster 1in 8 out, True RS485 isolation, 19u\in rack 1 U high on board power 250 vsupply, DMX output front or rear mount, \$1,195

Theatrelight - CONTACT 6, TlCNT610, 6chn DMX controlled relay pack, control,motors,strobes,pyrotechnics, 19inch rack 2 U high,standalone, 6chns, 6 mcbs.safety delay turmon/off, \$945

Theatrelight - DMX LINK 1000CHN, TlDMXLK, DMX MERGE/SOFTPATCH, 2 DMXIN/2DMX OUT/10X10 PAGES BACKUP, 450X340X95MM TABLE MOUNT, PRINTER AND VIDEO PORT, \$3,095

VXCO - DMXCreator 1024, Allows control of DMX via pc, track editor, effect engine, up 128 dmx-devices, blue colour, small interface, DMX IN 512 ch., DMX OUT 1024 ch., USB, EUR 1220

VXCO - DMXCreator 512MK2, Allows control of DMX via pc & autonom, download of 2000 scenes into interface! , red colour, small interface, DMX IN 512 ch., DMX OUT 512 ch., Parallel Port, EUR 1220



VXCO - DMXCreator 512MK2



VXCO - DMXCreator 1024

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By John Grimshaw

SANYO Pro UX Multiverse Projector PLC-EF30

...a big name for a big projector. This medium to large venue projector turned out to be a quite impressive machine as Connections put it through its paces...

This is an SXGA (1280x1024) native projector that uses three of the large 1.8" TFT LCD display panels to create its image. The light source is from two 200W lamps, which can be run simultaneously for extra bright images, or individually for extra long life between lamp changes.

On setting the unit up, it was quickly apparent that this was a very capable projector, with image quality quite impressive on most tests. Initial video testing using PAL on composite and S-video inputs, and HDTV on component was quite good. The projector coped with all signal types quite well, and looks to have quite good scaling electronics because the standard PAL signal was surprisingly good.

Another interesting point at this early stage of testing was the good contrast. Typically, +4000 Lumen projectors in this price range tend to have a very ordinary contrast ratio due to the blacks being – well, grey. While there was some inescapable light leaking through on the black portions of the screen, it was significantly less than other equivalent sized projectors I have tested.

During testing of the VGA and DVI inputs, this projector showed itself to be a very precise unit, with excellent pixel accuracy, the ability to define extreme shades of dark and light grey, and a very smooth 256 grey scale ramp. In fact, I found very little to fault this projector during image testing.

ANSI Brightness measurement was performed in both single lamp and dual lamps modes, with the single lamp mode yielding 1826 ANSI lumens, and dual 3453 ANSI Lumens. While this measured level is considerably less than the 5800 ANSI Lumens that the specification sheet indicates, Sanyo indicated that some of this variation could be due to the fact that I was using a "Standard Zoom" lens, while the spec measurements would have been taken using possibly one of the fixed lenses (non-zoom lenses have far better optical characteristics than zoom lenses). In any case, the measured results were about what I expected.

There is a range of nine different lenses,



including short throw fixed, long throw fixed, and short, medium and long zoom, depending on the installation requirements. All of these lenses are Sanyo branded and less than \$5000.

The projector itself is not small, however at 20kg it is moveable by one person. It would be well suited to being permanently installed, and would be quite at home shooting at a 6m screen. The one thing that really gives this device and advantage of the competition is the price. The SXGA model tested is priced at \$46,000 – considerably less than many of its equivalent counterparts. For those that cannot quite come to that kind of price, the lesser XGA model has almost the same specifications, and is priced at \$32,000.



Projector and plasma displays are tested by John Grimshaw using: Displaymate - Multimedia Edition (www.displaymate.com.au)

Jgtec HDTV Set top box supplied by Anderson Audiovisual +61 2 9586 3230 (www.andersonsav.com.au)

NOTE: ANSI Brightness

It is one of those mysteries of the universe exactly how manufacturers calculate their ANSI Lumens levels, some are reasonably accurate, some are decidedly not.

It would be good advice to think, instead, about the wattage of the lamps used. While the actual light output from a projector will vary depending on the optics, at least the lamp wattage would give most people a better indication of what to expect than the wildly variable ANSI Lumen measurement by manufacturers. It is precisely this reason why Sony do not release brightness and contrast specifications

General Specifications

ANSI Lumens:	5800(spec) 3452 (measured)
Display Engine:	3x LCD 1.8" TFT
Resolution:	SXGA (1280x1024)
Lamp:	200W x 2
General Features:	Lens Shift, Laser pointer on remote, Keystone Correction,
Sound output:	3.0W Stereo
Fan Noise:	40dB
Dimensions (W x H x D):	420 x 195 x 600 mm
Weight:	18kg (no lens)
Price:	\$46,000 (no lens)

By John Grimshaw



As plasma displays are still expensive, but production volumes and market competition is now beginning to force the prices down. It seems that every manufacturer is bringing out new plasma models (check out next month's Plasma Market Report for more detail), which brings us to Sony's latest, the 32" PFM32C1.

This display is equally aimed at consumers and professional installation markets. Certainly its size will make it useful in numerous applications where 37" and 42" models are just too big, but does it "cut the mustard" in terms of display quality?

Resolution:	1024 x 852 Pixels
Pixel pitch:	0.84 x 0.39 mm
Active area (W/H):	715.68 x 399.35
Viewable picture area:	32"/820mm (diagonal)
Colours:	16.8 million colours
Sampling rate:	13.5 to 140 MHz
Price:	\$10,999

The initial set-up of the unit was as easy as you would expect. Initial testing using a PAL signal via composite, S-Video and component inputs revealed a very competent display, with a very good ability to reproduce simple video signals as well as scaling letterbox video to full screen. There were no discernable artefacts generated by the display, and colour balance was quite good after adjustment.

The hot issue in plasma displays is the contrast, which in this model measures to be around the 500:1 mark. This was largely due to the fact that the blacks were not dead black. While this does not create any significant issue regarding picture quality, it is worth noting to those that do not understand contrast ratios that the difference between a measured ratio of 500:1 and 1000:1 could be as simple as the measured light at the black square being 16 Lux instead of 8 Lux – a very small difference indeed!

Testing using HDTV source revealed that this device is very well suited to this application. Images were excellent – so much so that it was revealing imperfections in the broadcast digital signals as they occurred. The unit was also very quick to lock into different vision source types.

When intensive testing of the full capabilities of the display started, there were a number of key issues detected. The display certainly had the ability to display quite good detail on sharp/small pixels. There was also excellent definition of the extremes in the grey scale screens – individual grey scale steps were easy to see and visibly different. However, if there is a significant amount of white on the screen, this ability is reduced.

When a full white display is produced, the electronics of the unit automatically pull back the intensity of the 'white' so as to prevent damage to the screen. In normal video viewing conditions, this is fine because it would be rare for video to go

white or mostly white. However, the average computer file often uses vast amounts of white (ie spreadsheet). When white is displayed, the screen brightness reduces significantly. Starting from full white, the display was gradually stepped down in brightness using the 256 shades of grey until the image was discerned to be less bright. For the first 20 steps down, from 255 to 235, the screen actually seemed to increase in brightness. Somewhere between 226 and 222, the screen finally started to dim as it should.

The display has an excellent ability to achieve a good manual Timing Lock to VGA signals (this indicates excellent signal processing - fine dither patterns of pixels often cause display shimmering). Unfortunately, using the display's "Auto Mode" to find the best timing position resulted in quite ordinary results. Ideal results were achieved by manually setting the "Total H Pixel" and the "Dot Phase" for the specific VGA signal used. Manual settings made here were automatically restored for each different VGA signal type tested.

The 256 colour/grey ramp revealed a couple of bumps in the display's ability to reproduce a perfectly shaded ramp. The most obvious one fell in the bottom quarter of the 'grey' ramp. Testing of the red, green and blue ramps revealed that the red and blue were reasonably smooth, while the green ramp showed the same problem. However, this problem is a subtlety that would be rarely revealed unless you were specifically testing for it, as is typical of plasma and non-CRT projectors.

All in all this is a good display, and given its unusually small size could be quite useful in numerous applications. The weakest point to the display would be its blacks are not as black as some competitors' screens. Its strongest point would have to be that it has very good electronics driving the vision signals.

Perfect for visual speaker support neovo

Neovo's S-15V LCD is ideal for this application. Integrate this unit into a Lectern, mount it on a stand or simply place it on a table. The 160 degree vertical & horizontal viewing angles, combined with superior colour and contrast, guarantees your speaker's comfort.

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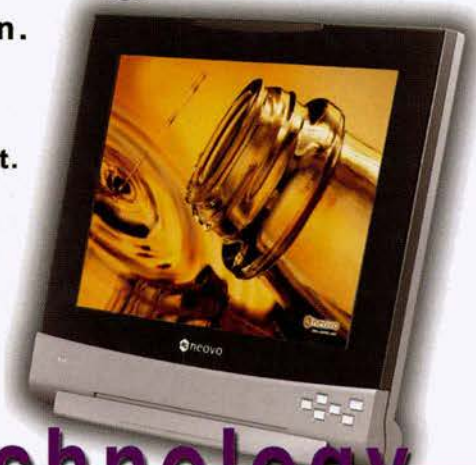


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Recording Beethoven at the House

At TAFE, we are rapidly moving towards the first term of the year, this has been a term that has seen the successful launch of our sound short course programme as well as the introduction of the Certificate 4 in Sound Production. Our new recording studios are in constant operation as a steady flow of talented artistes provide source material for our recording sessions.

Here is a brief rundown on a few of the things that have been happening here recently.

by Scott Watkins-Sully

Theme and Variations, the New South Wales agents for Steinway & Sons Pianos are currently promoting the Brimer Plays Beethoven concerts at the Sydney Opera House. Professor Michael Brimer is playing a series of concerts which cover the entire spectrum of Beethoven sonatas, on a Steinway D series 9ft concert grand.

Professor Brimer has commented that "it is a unique opportunity for a single musician to play all of the Beethoven sonatas chronologically. It allows the audience to hear them with a certain consistency in terms of playing style and as Beethoven composed so many sonatas (32), it stands as a complete study of the composer's life."

This is a fantastic opportunity for us at North Sydney College, there can't be many educational institutions that offer their students the opportunity to record classical music of such a standard in such a venue. Recording direct to stereo, using stereo microphone techniques, students learn to deal with the subtleties and nuances of the stereo sound field. Professor Brimer says that "the mere fact of having to listen to the music with the level of concentration

that is required whilst monitoring the recording, can only serve to shape their understanding of sound in a musical context."

We would like to extend our congratulations to Theme and Variations on promoting a first class event and to thank them for the opportunity of being actively involved with something so special. We would also like to thank Theme and Variations for their continued support of our studio recording endeavours through the loan of their Steinway B series concert grand. It is a wonderful experience to record any grand piano, Theme and Variations have made it possible for our students to record this magnificent piece of craftsmanship which reproduces an array of harmonics that render the experience quite unlike recording any other piano. Thanks also to Rod Pascoe and DPA microphones for providing expert guidance and essential equipment for these sessions.

If readers are interested in any of these concerts, there are 5 left to run in a series of 10, for enquiries please call the Sydney Opera House on (02) 9250 7777.

SCREEN SOUND

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For over 35 years Film and Television at North Sydney TAFE college has provided cutting edge training for the Australian film and television industry. Now with a state of the art sound studio facility, we are proud to present a series of short courses which take audio training to a whole new level. Screen Sound covers boom operation, location recording, television studio sound, sound for outside broadcast, tracklaying, Foley, ADR, principles of surround sound and mixing for the screen.



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CONNECTIONS LIVE SOUND AND LIGHTING COURSES KICK OFF AT NORTH SYDNEY COLLEGE

We are very proud to announce a series of courses in Live Sound and Lighting, which Connections magazine are presenting in partnership with North Sydney College. Clients that successfully complete the courses will receive a Statement of Attainment issued by TAFE Plus.

Julius Grafton and John Grimshaw (Connections) have put a great deal of work into developing courses that accurately reflect industry needs. There are a great deal of people trying to get into the industry that simply can't find an appropriate starting point. These courses are a basic introduction to industry practices, but more importantly provide an initial point of contact with the industry itself.

The courses are facilitated by top industry professionals and carry the credibility of being run within the TAFE framework. We are very happy to be able to be part of an educational process that has been initiated by people with such close industry contact.

NORTH SYDNEY TAFE FILM AND TELEVISION SOUND STUDENTS LOCATION RECORD AND BOOM FILM

Last October approached by director Marty Murphy to record low budget feature "Lost Things" Scott Watkins-Sully had to decline due to TAFE commitments. Scott and Marty having worked together very closely in the past agreed to give 2 soon to graduate students a break. Craig Sainsbery was chosen to record and Russel Farina to boom, Scott supervised from afar.

The shoot lasted for 2 weeks during November and finished ahead of schedule. It presented all the pitfalls of any windswept beach location which the boys handle with true professionalism. Shining reports came back from both producer Ian Iveson and Marty. Apparently the boys enthusiasm shone through and their sense of humour appealed to Mr. Murphy, scary! All in all an excellent opportunity for 2 of our students to crew in major roles on a feature shoot before they have even completed their studies.

Since completing his Diploma in Film

and Television, Craig Sainsbery has enrolled in the Sound Production Course in order to get a grasp on music recording. Whilst busy with his studies Craig is labouring away on dialogue editing for lost things.

The film is due for completion later in the year.

THE SYNOPSIS

Four Australian teenagers head up the coast for a surfing weekend on a deserted beach. When they meet Zippo, a wild character living in the scrub, things begin to turn weird. Very weird. Reality and the stuff of nightmares begin to merge as the kids try to understand what is happening to them and save themselves from a fate worse than death.

TAFE TALK is written by
Scott Watkins-Sully
scott.watkinsully@tafensw.edu.au

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ENTECH & TRADESHOWS

I would like to congratulate you on another fantastic Entech. Regardless of the rain and sopping wet clothes, it lived up to its reputation as a quality tradeshow yet again.

I would like to add some comments to the Email from Peter Collis in the "Letters & Email" section of the March connections. Entech is a valuable and vital part of the Australian production industry and I have missed only one in the show's history (for some reason the nurses wouldn't let me out of my ICU bed). I have always come away more informed, better trained and better equipped to face my clients. But Peter brings up a valid point that I tend to agree with.

In the Australian production industry there are a number of lucky people that have only one role in one branch of the industry but for the most part there are many of us, and I include myself, that must work across several disciplines to produce a healthy living. This means that come tradeshow time a choice must be made as to which one to attend as I can only afford to travel interstate once a year or so.

I concur with Peter's thoughts. The Australian audiovisual / production / television and video industry is small compared to overseas, as is the number of people in these industries and the clients we service. I certainly would not object to the opportunity to travel to a single trade show that covers the realms of Entech, Infocomm and Broadcast World etc all under the same roof, at the same time. It would be an event worth travelling to!

Lloyd J. Bevan
Owner / Manager
Brite Lite Productions

SAD AND BITTER

I am writing from a company called "A Touch Of Style" Dance and Promotions, as we were the company that was hired to supply [Get Lit] with the professional Dancers for the ENTECH Trade Show - in reply to Libby McAllister's letter. (*Last Month*)

These "hotties" as she so eloquently puts it, are very talented professional dancers, who put hours of hard work and sweat into perfecting their vocation - which if she removed the pole from her rear end she would know is more than "wriggling and shaking their boobs".

Unfortunately they have been cursed with good looks and great bodies. (sorry Libby - you would rather they dance in Moo Moos?)

Then Libby continues her onslaught to Get Lit, who had the sad misfortune with coming up with a clever and innovative gimmick; she obviously didn't make the connection between lighting, clubs and performers. Not even the males escape her wrath - all those "Fat Ugly Old Men" - how rude!!!

You're right, Libby.

Not everyone attending ENTECH was male, but obviously the other females were capable of admiring the girls as talented performers rather than "Scantly Clad Hotties" - I think YOU might be the "sexist cow".

I am sure Get Lit will not be bothered that you won't be purchasing their lighting - the dungeon you live in wouldn't require much more than a candle.

Kym Vahtrik and the Directors
A Touch Of Style

Assumption and Deduction is now not mere Speculation

I write regarding the "piece" in March Connections concerning the Digital Console that Lars Broggard used on a gig for the Rod Stewart tour. You are to be awarded five stars for deduction Poirot!

Lars has indeed used a DS-3 to establish if touch screens would work live. As you correctly say, the DS-3, as is all our range, designed for Post Production and Film applications.

We're always looking for ways to exploit our technology and knowing Lars, we asked him to conduct an experiment for us.

As you know, both the Innovation and Yamaha use a lot more knobs and switches than our consoles so a simple experiment was a good way to find out how our Series worked live.

We're not sure of the outcome and I wouldn't read too much into it.

However, once again full marks for observation!

Todd Wells
Soundtracs, England

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Bigger And Better Bottom End

Late last year I purchased four Quest Q500 (15" & horn) after seeing them mentioned in your magazine. They have turned out to be very satisfactory for my particular hire needs. My next purchase was going to be some subs to go under them.

Well, that was until I tried the four of them stacked together. These speakers have reinforced my original basic ideas of full range sound boxes and that is, if you have a box that works well, as a full range box and you want a bigger sound, just add more boxes. The bottom end just gets better naturally and you don't have to introduce a foreign speaker known as a sub or a crossover etc to the rig.

Lots of companies like Nexo have simplified their speaker set up's by making their PS series full range passive boxes. Sure, they have subs to match their systems and they work very well having been built from lots of high tech research and development, plus the use of their special controllers.

However I am in the business of providing a service for many different market areas and one of those areas is not just in the upper corporate market. I also need equipment to provide for my other clients who have much lower budgets to meet.

Having eight boxes that I can use together as one rig, or split into two rigs, or even three or four always makes sense to me. Especially when the sound is clear and tight and lacks the boom sound I often hear with foreign subs. (Foreign meaning: Speakers of different brands and those not purposely designed to match other brands.)

I can load and unload all these boxes in and out of a venue on my own if I have to. I can even carry them up stairs on my own. I could

not do that with most subs without getting very tired very quickly.

The only thing you have to make sure with this theory is that the boxes can be arrayed properly and they have the ability to produce a reasonable bottom end as stand alone boxes. Then when they are stacked together they will improve by 3db, every time you double the number of boxes. In my case and with most requirements that's enough to provide my client's with very satisfactory sound for their budget.

I must also mention that I have met many professional musicians over the years who have had one pair of full range top boxes and one pair of subs and have sold the subs and replaced them with another pair of full range top boxes. The reason for this they said was, four full range top boxes sounded much better.

Richard Autenzio.

Proprietor of Show Biz Sound Brisbane.

Congratulations on ENTECH

What I really enjoyed about it was having products which were manufactured overseas being demonstrated by the manufactures staff rather than just a sales droid who had only got to see the products for the first time the day before the exhibition opened.

The particular products which benefited by this were WYSIWYG (which I'm just about to order) the new Vari-lights, The Grand MA range, The little ENTTEC console, HOG 3, Catalyst and products from Martin and Clay Paky.

Richard Grenfell
BLOW Productions

Architectural Lighting Designers

Way to go John! That [person] from "the other lighting MAG" has got no idea. I came from the background of Rock-n-roll and stage lighting and I can assure you it is not easier!

The reason I became an Architectural Lighting designer is after 15 years on the road I decided I wanted to sleep for a change. I walked straight into it with no training and within 6 months won an award of excellence from the IES.

Now that could mean a few things:

1. I am a hot designer (although I would like to believe it I am probably just a bit above average)
2. My skills in Stage lighting prepared me well in the basics, meaning good enough to walk straight into it
3. The IES have been inundated with the same old [designs] for so long that when something different is done it must be good!

My guess is 1, 2 & 3 are correct. One is not necessarily easier than the other, just different.

Tim Warren - Lighting Design Manager
at SK LIGHTING DESIGN

Ed - I personally invited someone who holds a different view to the above to write a reply to the editorial last month - and I am still waiting...

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30 YEARS OF ROCK LIGHTING AND SOUND

By Graeme 'Yogi' Harrison and Julius Grafton

The Story So Far :

It *seemed* like a good idea. Colin Baldwin, Graeme 'Yogi' Harrison, and Julius Grafton got together to plan a museum exhibit at ENTECH. It went really well.

Now we've decided to build on the research and run a historical feature in Connections.

This is where you can send us your old pictures and recollections, so we can piece together the ancient days of the biz.

Along the way the material on hand may need the odd fixup, so let us know. One day it'll all be on the conpub website forever.

The research was done from Sydney, so initially the words you read are skewed from that perspective. Forgive us!

Feel free to contact us at -
mail@conpub.com.au

It is impossible to review the development of performance audio & lighting in Australia without mentioning the Sixties, because that is where it really started. Not much was going on in Sydney. AWA, Magnavox and ROLA (now known as Lorantz) dominated the local speaker industry. Extremely high import duty taxes at the time encouraged local companies to make speakers and public address systems. It is worth noting that modern audio and stage lighting systems were derived from cinema audio systems (such as Altec) and theatrical and industrial (building) lighting.

Bob Purvis in Perth was one of the earliest pioneers of audio reinforcement in Oz. He was the first audio hire contractor in Western Australia in 1955 (and possibly the whole country) with his company Purvisonic Sound. A very young Ian McLean was his apprentice. Ian went on to work for Seeburg background music systems. Purvis built amps and speaker boxes and was the first person to import the legendary SAE amplifiers to Australia.

Ian McLean moved to Sydney in the early sixties and started building column speaker

boxes with 4 x 8-inch ROLA speakers in each, each tapped with a 5-watt (100-volt) line transformer. Ian built his own 50 watt mixer-amplifiers to drive them. He went on to build his own version of a self-powered box in 1974 by using a modified JBL 4530 cabinet made by WASP Industries with an Altec 211 horn. His hire company, 'Sound Affair' was very active during the Seventies and later changed its name to SAVI (Sound And Visual Innovators) in 1993. Ian founded the Sontec Group in the Eighties which has recently been absorbed by Chubb Industries. He now runs Tecsound, a sound contracting business.

Gary Nessel and John Woodhead founded the Strauss company in Melbourne in the mid 1960's. They manufactured guitar and bass amps from day one and PA amps and boxes from the late 60's. It soon became a case of not who used Strauss, but who didn't! A young Frank Hinton joined as sales manager.

The 'Polka' guitar amps and 'Emperor' bass amp were to become the prime choice of musicians across Australia. They built large-scale sound systems from Altec Lansing designs, powering them with huge Strauss valve amps and using Strauss active crossovers. They built their own mixers and were well in advance of their Sydney counterparts. In 1969, the company went under. NOVA SOUND was formed from the remnants of Strauss by Al Butler, and continues today.

In 1960, an RCA engineer named Victor Kay (Snr) moved to Sydney from Brazil and went to work for AWA. Import duties on

Buffalo with Wasp & Dynacord equipment



Sherbet's first Cord PA



Flake's Wasp equipment

Stonehenge with a Vibe Lightshow



imported speakers at that time was around 45%, so Victor made his own 12-inch and 15-inch speakers in 1963 under the name of 'Lafayette'. Victor formed the ETONE company in the late sixties to manufacture speakers. They still do to this very day.

In Brisbane, Tony Troughton, a former chief engineer for the Western Electric Company (U.K.), started building guitar, bass and PA amps under the name of VASE in the early sixties. Troughton had been a pioneer of active PA technology and recording equipment in England.

Brisbane was actually the 'rock capital' of Oz in those days and VASE sold incredibly well. His apprentice was a young man called Jon Burnett. Hans Overeem was also developing a reputation in Brisbane and was the first person to build an aluminium-extruded amplifier in the world.

If you're wondering what was happening in the lighting world around the late 1960's, the answer is not much. Strand made Pattern 23's and Pattern 42's, and the infamous Pageant Lantern. Some locals copied them with inferior designs.

Lights at pop concerts were very, very basic.

- **NEXT MONTH:** Jackson and Story create a company called J and S.

Wild and outrageous -!

There was something wild and outrageous about working with a rock band. The generation gap was a huge canyon, anyone older than 25 did NOT listen to pop or early rock music. Blue denim was the uniform of a generation, and not seen on anyone else.

How times have changed!

Back then, we really did have a persecution problem. If you were a 'long hair', you could get beaten up or thrown in jail. Municipal Halls always had old authoritarian attendants who would make life very hard for young struggling roadies.

Try driving a very old car any kind of distance and then imagine how poor the roads were.

We loved it, because we sure didn't do it for the money.



Jeff St John (right) with Phil Cullen from Mac Lightshows on his left. Phil pioneered commercial lightshows at a time the rest of us were fixated on psychedelic lighting.

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Frankfurt 2002

Line arrays from Bad to Worst

If it's March then it must be Frankfurt Music-Messe time. Just about the biggest show of its type anywhere in the world, with exhibitors' stands revelling in all aspects of the terpsichorean muse. Everything from Concert PA through to glockenspiel hammers, and all points in between, covering at least nine exhibition halls (Yamaha actually having their own hall!)

The trouble with a show as large as this is that you can't possibly hope to see it all in any depth. So much to do, so little time, and unless you jog around at a slow trot all day every day without stopping, you'll always miss something.

If you are working on a stand, as I was, then the only part of the show that you can see during opening hours is the part that is on a direct route between your stand and the toilets! Still you do get to become quite friendly with the people you pass 3 to 4 times a day in this manner! (Or 7 to 8 times, depending on the state of your bladder). The only word of warning is that if the people on these stands are offering nibbly things like peanuts, they're best to be avoided unless you like them extra salty!***

Line arrays were everywhere - everybody it seems is trying to flog one. Every stand that you visited, if they made speaker boxes, then they had a line array on display. Even Elder Audio, a Chinese plastic box manufacturer had leaned their clones over sideways and hung them up in a pseudo line array.

Manufacturers were calling any box that could be stacked one on top of the other a line array. Let me give you an example:

On one stand that I had to pass en route to the toilets, people dressed up with coconut husks on their heads had to push a speaker box on wheels around a slippery obstacle course surrounding a giant cobra hissing dry ice, while Indiana Jurgens yelled out words of encouragement helped by two dusky maidens. You might, as I did, ask yourself what all this might have to do with pro audio.

Well it turned out to be a marketing promotion for the new Cobra box from EV subsidiary Dynacord, a 'compact' line array! A square cube featuring 'Hornloaded' SPL. The actual contents of the box were not being divulged, and even with the aid of my trusty mini-Maglite it was hard to discern what was in there.

Elsewhere on the EV stand the X-Array system was nowhere to be seen, having been supplanted by the new X-Line Array! That must make all those customers who bought the much hyped X-Array system really happy!

Honestly, the speaker business is becoming

more like the car business everyday. And look, I'm not just picking on EV - they just happened to be near me - it was the same all over the show. Meyer Sound had a new baby line array on display, which looked like their little UPM-1P box laid over on its side with a new horn. Nicely put together, with beautifully engineered rigging hardware that looked like it cost more than the cabinet! But why? That was the question I wanted to know. It looked like a miniature size model of a line array, a little like the model speaker cluster that Turbosound used to display at exhibitions.

Perhaps the final word on the all-pervasive line array mania should come from Italian amp manufacturer RAM Audio, who, not wanting to be left out, had hung a line array cluster of their amps from aluminium truss suspended across their stand. A very neat idea!

Every morning we tried to get in to the show an hour earlier, so that there was a chance to see some more of the show other than our hall.

At times this was quite depressing: In the mega big new Hall 3, drum manufacturer Mapex had a dreadlocked drummer advertising Drum Tattoos, to Energize Your Entire Drum Zone, in 'three awesome designs' - Twisted, Burnin' and Tribal. Drum Tattoos? Flame or barbed wire stickers to put on your drums, so that other musicians' impression of drummers can sink even lower. Yeah, they'll make you play so much better. Perhaps they were designed for the drummers who need to buy the sticks that have "HOLD BETWEEN FINGERS" printed on them!

Elsewhere Marshall had reissued the Jimi Hendrix favourite, the 1959 SLP, but without the ripped and torn grille cloth! There was also a reissue of the 30 watt combo known to everyone as the 'Bluesbreakers' model, thanks to its inclusion on the cover of the seminal Clapton album.

Luckily Col and I had time after the show to wander around the streets of Frankfurt and do some shopping. As we rounded a corner we could see a large crowd of people outside a department store window and hear the sound of dance club music. Intrigued, we elbowed our way to the front of the predominantly male crowd to see what was going on.

It was a girls' underwear fashion parade inside the shop window. Woo hoo! Scantly clad young frauleins pranced up and down to the music, while the large crowd of underwear perverts cheered, clapped and panted outside. Including us!

***It's true - a pub study in France revealed a high concentration of urine in peanuts placed on the bar nearest the toilets.



Always Honest International - Hmm. Displayed on the stand were speaker boxes 'inspired' by every major brand in the industry. But with a name like that, surely no-one would doubt their integrity!

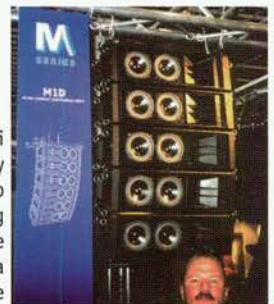
Karaoke Dunny- Displayed on the Ramsa booth, a singalong urinal with a microphone. What will they think of next?



Plastic Line array - Elder Audio's concert line array

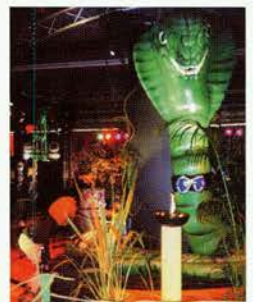


Meyer mini system- Luckily this little chap happened along so I could give you some idea of scale



Truss box - From Stage Accompany, this beautifully finished piece of engineering seems a novel way to combine the audio and lighting rigs!

Dynacord Cobra Let's hope that sssssibilance isn't a problem with the system!



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PLASA - Shanghai Apr 16 - 18 2002 Shanghai www.plasa.org
NSCA - Expo "Reach the Summit" Apr 25 - 27 2002 Colorado Convention Centre, Denver www.nasca.org
Infocomm - China May 8 - 10 2002
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Lightfair - International Jun 3 - 5 2002 Moscone Centre, San Francisco www.lightfair.com
ABTT Jun 19 - 20 2002 United Kingdom +44 20 7403 3778
PALA - Pro Audio & Light Asia/Total Events Asia Jul 10 - 12 2002 Hong Kong +65 227 0688
NAMM - International Music Market July 19-21 2002 Nashville TN www.namm.org
PLASA Sep 8 - 11 2002 Earls Court, London www.plasa.org.uk
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