

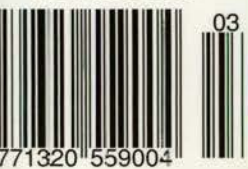
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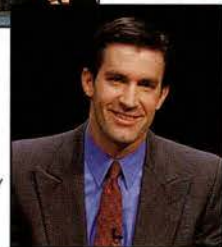
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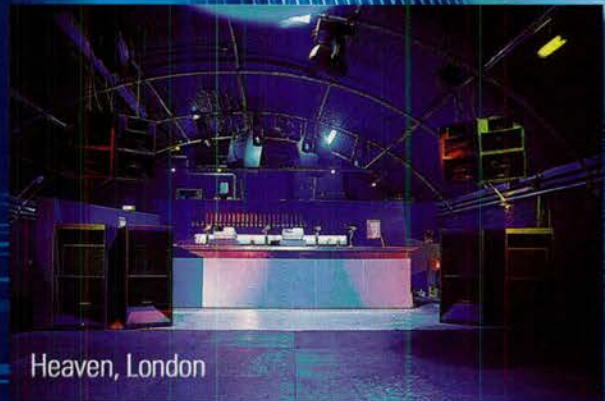


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From The Editor

As we start the downhill slide to the end of the year, it is good to see the industry seems to be moving and expanding. Numerous hire and production companies have started or expanded with new premises or new outlets. All good signs in the 'post-Olympic' entertainment industry.

Of course, this generalisation can not be applied to every company - Gearhouse being the obvious example.

The general media have, of late, been talking about a world economic downturn. The implications of this are far too complex for this non-financial writer, however there is talk of this downturn pushing up the Aussie dollar.

If this happens, the local equipment exporters and manufacturers may not be too happy, but it will make it more viable for world class performers to tour locally. Such a result would be ideal to avoid situations like the U2 tour. U2 decided not to include our region of the world in their current tour because the price they would have to put on tickets would keep people away.

Also, I recall reading somewhere that during mild economic stress, the general public seem to frequent entertainment establishments slightly more (perhaps to escape the reality of their lives?).

So hopefully the economic push and shove' could result in an improvement in the live performance scene - an effect that would be welcomed by us all.

While we are still some time away from all of this happening, even now there is an improved outlook for productions being staged locally over the next few months, with big shows like Wizard Of Oz getting under way.

As always, only time will tell.

• **John Grimshaw, Editor**
john@conpub.com.au
or call +61 2 9876 3530



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Giotto Spot 400: beats them all!

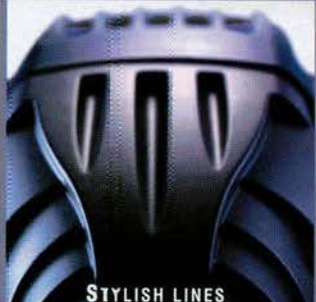


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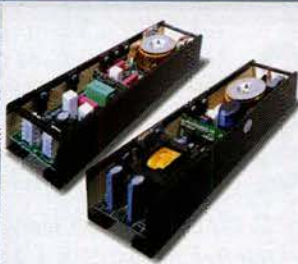
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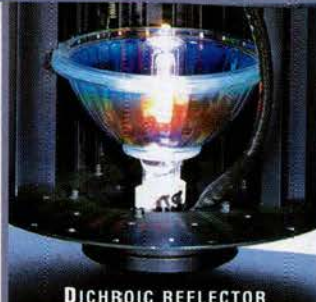
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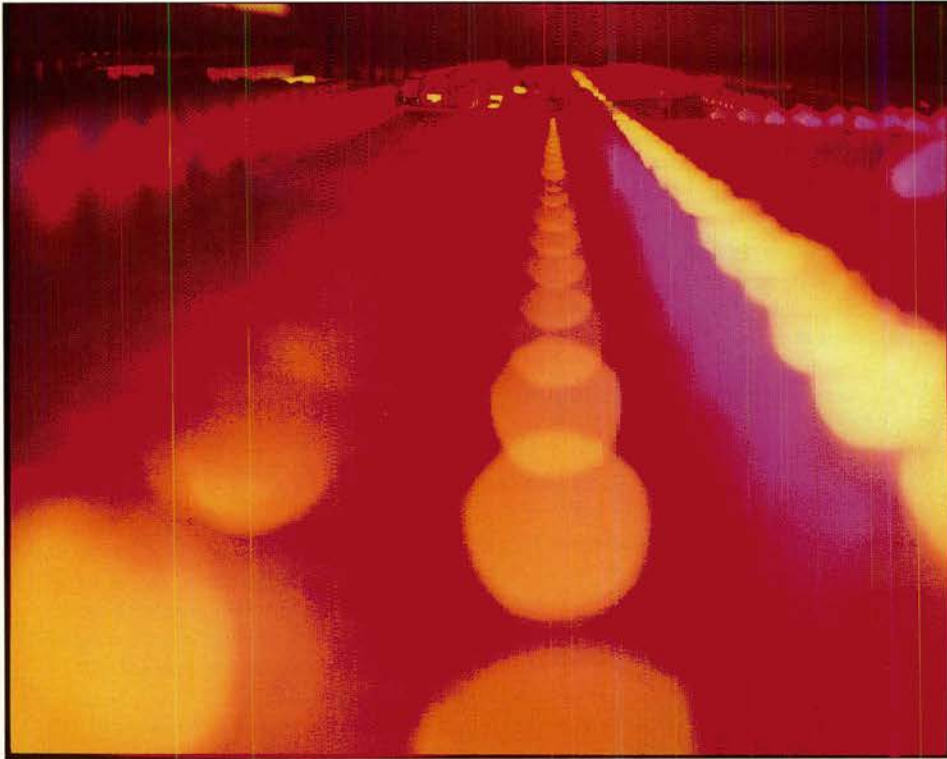


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Connections

The Asia/Pacific Professional Audio and Visual Technology Monthly

SEPT. 2001



Analogue consoles still in the mix

... at least in Studio Land. Floating Point Studios have a brand new 60 channel Audient console that crowns an impressive facility. Julius Grafton reports:

Dance and electronic music dominates the recording scene today, and rarely do you find a band all playing together to form a track. Now it is usually created on computer with some live instrumentation stripped in.

The warm grooves of Pnau have dominated the high rotation lists as we go to press, just one of several artists recorded at the fast rising Floating Point Studios in Sydney.

Occupying an innocent yet funky house somewhere just south of downtown Sydney, the studio comprises a spacious control room with the entire back wall dominated by a new, large format, analogue mixing console.

Either side are racks and racks of outboard. Really nice muted greys and blues create a soothing environment, and the acoustic treatments were conceived by Gerald Stewart of ITC in Hornsby.

"You need a lot of tracks for electronic music" explained co-founder **Martin Eckel**, "for

layers and effects'. Floating Point sure do have a lot of track capability, their 32 input ProTools Mix Plus system is connected to a 60 channel Audient ASP 8024 console, the first of its kind in the country.

"We didn't want a digital console", continued Martin, "we want to get the best of both worlds - since we already use ProTools. A lot of people mix their whole project in ProTools, which is as good as it gets in terms of digital. But what we do is mix intensive, really busy".

With partner **Peter Tzanetos**, the young duo analysed the market for a large console, initially pondering the purchase of a second hand SSL or Neve. "We looked at a lot, including second hand Euphonics, Otaari, Neotec, Oram and even a new Trident. There were a lot of considerations, but mainly we just didn't want digital control".

(please turn to page 26)

RALLY FAILS AS LX ASSOCIATION PLAN DIMS TO BLACKOUT

Last month Connections reported on lack of enthusiasm towards a proposed lighting association. The association, known as ALIA, is proposed as a business venture, soliciting *Platinum*, *Gold* and *Silver* corporate memberships. At this stage it appears it will be privately run.

Despite our report detailing lack of support, the organisers ran an item on their website: "Confusing Headline", which continued: "Everybody we have spoken to throughout the industry, without exception, has given overwhelming support. Perhaps you could forward copies of your messages of support to Connections so that they can realise our serious intent regarding the association and lend their support as well".

So we sat and waited, and eventually received just one brief and lonely email of support for ALIA - from a Mr. Adam Peer Smith, Sales Manager (UK & Scandinavia) for Roscolab Limited.

Perhaps not getting it, the organisers went on: "A successful association would need to have professional officers to drive it forward and implement its programmes."

Professional *paid* officers I ask?

As I reported last month, professionals from the lighting industry in Australia are very wary of this proposal, concerned that it appears to be akin to a job creation scheme for the two freelance journalists involved.

Connections does not support this proposal in its present form. We have, we do, and we will support *meaningful*, *democratic*, and *representative* associations.

- **Julius Grafton**.

Connections

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Who is doing what?

AVC FORMS STRATEGIC ALLIANCE WITH AMBER

Perth based company AV Communications (AVC), manufacturers of ProSolutions and TieLine Codecs, has announced a strategic distribution alliance with Amber Technology.

AVC has appointed Amber Technology the master distributor for AVC's manufactured range of ProSolutions products in all Australian states except Western Australia where customers can choose to purchase directly from AVC or from Amber.

The ProSolutions product range includes AVC switchers, distribution amplifiers, level meters, signal converters, remote controllers and silence detectors.

AVC has developed strong distribution in Asia, United Kingdom, Europe, South/Central Africa in the past two years and has recently opened a dedicated north American office in the US.

AVC's competitive advantage is creating high quality broadcast technology solutions to link equipment and people together globally. Amber Technology's core strength is providing an extensive distribution network of local offices allowing cost effective access to dealers and end users.

Peter Amos from Amber Technology said, "the ProSolutions range fits neatly into our product focus and we are looking forward to working with AVC".

• www.avcom.com.au

NAS- new name for NSCA

National Audio Systems is a more memorable title than NSCA, which also happens to be the acronym for a successful USA trade show. So recently NSCA, the Melbourne distribution firm headed by Peter Holland, changed name quietly.

They still handle JTS microphones, McLelland processing, and Chiayo wireless and PA products, along with a lot more, and still operate from scenic Viewbank in Melbourne. But the name better reflects what they do.

"We aim to be a one-stop shop for the audio contracting dealer" confirmed Peter Holland, "and we have several deals in the pipeline. In fact, we may need to move to handle the extra stock".

• www.nationalaudio.com.au
or call +61 3 9434-1888

~ STEVE LAW IS NOT IAN BALDWIN ~

In our HILLSONG story last month we noted sound designer Ian Baldwin mixed the live audio at The Olympics. In fact Steve Law was the engineer. Ian was a system engineer. We apologise for the error.

MACH BACK WITH SHOW TECHNOLOGY

Mach is the pro audio arm of Martin Professional, the leading lighting firm from Denmark. The Mach brand had been progressively built up in Australia by its former distributor, Bruce Fozzard. Recently Martin changed distribution in Au, citing the need to bring its lighting and audio distribution under the one umbrella.

Show Technology have acquired distribution of Mach loudspeakers. Hans Madsen from Mach told Connections what makes Mach different:-

"We have taken a customised approach instead of a versatile approach. All products have been designed for a specific application. For the installation series, that means that we design the speakers as top-boxes rather than full-range boxes. We do that as they will typically fly and be supported by a sub anyway."

"Technically the top-box design is characterised by designing the I-series speakers to roll off at around 90 Hz. By doing this we gain app. 3 dB in sensitivity and output compared to a full range design, we can make the cabinet more compact as we do not need large air volume to reproduce sub-bass and we can design the woofers as mid units with short coils and conical diaphragms with better clarity and detail."

"Dispersion is very wide in the smaller models and narrows in towards the top of the install range so all from low ceiling to medium throw applications can be covered. Aesthetically we have chosen a very slim baffle so that the speakers can slide elegantly up under the ceiling in horizontal installations. www.martin.dk





Australian rock legends, Diesel and Richard Clapton, with an XSive rhythm section. (Pic by Dave Anderson)

Music labels flirt with live DVD

Concerts with surround sound are here! Julius Grafton saw one in Sydney....

Australian rock legend Richard Clapton cut a live DVD last month at Sydney's City Live – a great venue desperately in need of a late license. Despite the early hour, an all star band comprising Clapton stalwarts, INXS members, and guitar legend Diesel, rocked hard for the cameras.

"This isn't the first DVD race, contrary to media comment today" stated engineer John Simpson. Partner George Gorga reiterated, describing the first live DVD the duo engineered during the Olympics, that of the Savage Garden concert. "We also did Kylie in Sydney" he stated, "recording three of the shows in a room under the seats".

Simmo (Simpson) and George had eschewed the location truck in favour of a site shed outside the Clapton gig, since they not only own a lot of the equipment they use, they also have firm preferences as to the stuff they don't own. Like the Amek Recall desk, hired from Ian Richardson at Audio and Recording.

"The shed is a nightmare" said George of the air conditioned shed, "it can only be trucked in during the early hours of the morning". That said, the shed made a reasonable studio once the fluro lights were turned off and absorptive screens placed along the walls.

The idea isn't to create a soundproof and perfect portable studio, because the show is recorded for later mixdown. A live to air broadcast of the kind Simmo usually does needs a bit more of a mixing environment,

but this show worked with The Shed.

All mic's and lines used for the live gig were actively split from the FOH and Monitor system, and fed to The Shed. 40 channels presented themselves, all carefully checked by ARIA Producer of the Year, Steve James.

"I just walked in" said Steve, "George has done it all. I make sure the source is correct, tune the drums, check the lines and make sure it is all spot on".

The team work well together, assisted by Rohan Holland. The show comprised two halves; firstly Richard Clapton did an hour or so with his four piece band and three female backing singers. Then, the INXS rhythm section plus Diesel (Mark Lizzotte) joined for a final hour.

House sound was mixed by Clapton veteran Marty Walsh. Marty nowadays only works for Clapton, who typically does a couple of shows a month plus some corporate events. Clapton has had countless high selling albums across a career spanning 30 years, and features musicians less than half his age in his backing band. They usually rock – hard – and did this night.

As the songs were unwrapped and hurled off the stage, the stems were being created outside in The Shed. Routed direct into the Recall desk, each channel was given basic EQ then fed into primary and secondary multitrack recordings.

Because of the very new medium of DVD, which essentially is mixed in 5.1 surround, (please turn the page)

CHAMELEON OPENS BRISBANE OFFICE

To coincide with the opening of their Brisbane office, Chameleon Touring Systems have appointed Brian O'Connor to the position of Manager, Brisbane. Brian is a well known industry figure who has over 20 years technical and production experience. Together with managing new and existing business, two of Brian's initial tasks will be to assist Chameleon fulfil recently awarded lighting contracts with the Goodwill Games and CHOGM.

Like the Sydney office, Chameleon Touring Systems Brisbane will offer state-of-the-art lighting equipment as well as full technical production and event services. • For further information please contact Tony Davies on +61 2 9310 5222 or Brian O'Connor on 0419 988 435

ARX Distribution Deal

Australian owned P.A. and signal processing manufacturer ARX has appointed The Resource Corporation Pty Ltd (TRC) as its Australian distributor.

Although TRC has been distributing and selling ARX products for some years, this appointment formalises the long standing relationship between ARX & TRC. TRC have a significant amount of stock on hand of ARX products to support the dealer and installation markets.

• The Resource Corporation Pty Ltd: +61 3 9877 8233 www.trc.com.au

STAGWORKS USURP

Stageworks Australia has been awarded the contract for the Sheraton Mirage in Port Douglas, replacing Staging Connections, and now operates from the resort, also servicing surrounding hotels and venues. Managing Director and owner of Stageworks Australia, Peter Hassall said "I am extremely happy with the growth of Stageworks Australia over the past two years. I have the most amazing team of people working for me – I couldn't ask for better staff – their passion is my driving force."

• Stageworks Australia: +61 7 40322411.
web: www.stageworks.com.au

Who is doing what?



PICTURED FROM LEFT-

JOHN (SIMMO) SIMPSON – famous TV sound engineer, key role in Olympics audio with Col Stevenson.

STEVE JAMES – ARIA producer and engineer of the year. Actually mixed Telly Tubbies, enjoyed biggest selling single of his career with them, 1.4 million copies in four weeks! Mixed punk in the 70's and 80's – mixes the attitude!

GEORGE GORGA – (front) live sound, recording engineer, partners with Simmo on projects like outside broadcasts of major events. Lives with singer Margaret Urlich and their two small children on a farmlet in Sutton Forrest.

RICHAN HOLLAND - Assistant

IAN RICHARDSON – Audio enthusiast, live and recording, owns hire / production / studio company called Audio & Recording. Has built own equipment of some note.

extra mic's are placed for ambience.

"When we did Savage Garden, we had to recreate some of the audience ambience after" explained Simmo. "I went to Lake Technology, and a guy there did some research, changed the timing and phase, and did it!"

There's some debate, and a lot of interest, about what is mixed to where in the left – centre – right and rear environment that is 5.1 surround. "Where do you place the listener?" queried Simmo. "You'd want to be centred in a stadium, with the band sound wrapped slightly around"

"I mixed quad in the old days" said Steve James. "But you can't put tom's behind your head, maybe Pink Floyd could. Back then we mixed reverb and ambience to the back speakers".

Steve actually mixed soundtracks for some early Concord flights where the airlines pioneered some quad headphones. Needless to say, this audio wilderness didn't catch on, probably to the relief of the recording community!

"The big worry with surround is phase cancellation. People don't just sit in a chair and listen to music, do they?" stated Steve.

He debated the use of the centre speaker in 5.1 and pondered with me whether he could send dialogue between tracks there. But we decided that most surround systems feature an unmatched and inferior centre speaker, which is usually only used for screen dialogue. Better to keep music out of it! "Maybe I'll just put some bass there" Steve says.

In any case, provided all the stems (individual channels or tracks) are captured, including the six tracks of ambience, the whole project is mixed elsewhere. In this case, at Studios 301.

George and Simmo have recently acquired a pair of Mackie HDR 24 hard disk recorders, which are acting as primary recorders this night, with the previously headlining Tascam DTRS units relegated to backup. "We used to bring in six Tascam's (DA 38/88), plus six backup machines" said George. "With hundreds of tapes!"

That the leap to hard disk recording has made life easier is an understatement. The Mackie 24 track devices are well regarded in this shed at least, each has an internal Mackie Media 20Gb drive, plus an external one. Each drive stores about 90 minutes.

At this stage you can't stream from one drive to the next, rather you need to stop the project and reassign the drives. But I saw this done in under 20 seconds, so it is hardly an issue.

A two track master tape is also mixed, so Steve James can listen and get a handle on how the show progressed, before he starts putting it back together off the stems. The Mackie's are taken to 301 and downloaded onto ProTools for the mixing session.

Some minor processing took place between the Recall and the multitracks, Clapton's vocal was smoothed through an Amek 9098 preamp, plus a TC Gold processor was used for compression.

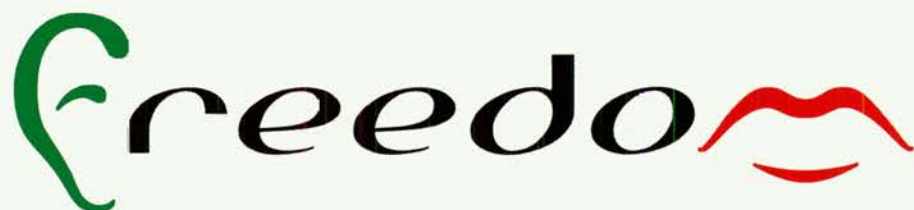
The monitoring was also from Mackie, a pair of HR 824 monitors sat in front of the Recall. George explained they adopted the Mackie monitors a while back and found "mixes translate better".



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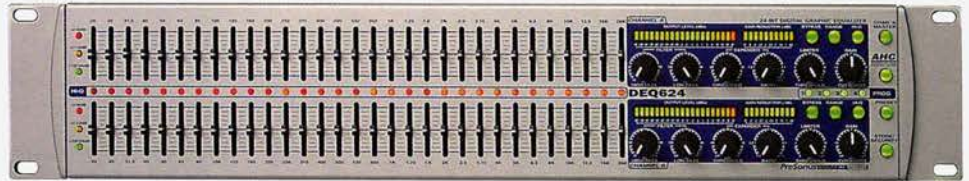


Not 18 foot at all

Next time you dance with one of these accursed things (the winchup, that is!) spare a thought for all those LDs out there who think they *actually* crank up to 18 feet.

Fact is, according to Peter Lazareff at ALE in Sydney, the 18 foot winchup actually only extends a mere 16.5 feet. Peter says the winchup has hardly evolved since it was created at the long gone Scientology workshop known as Rock Industries. There, the true believers in Ron (Hubbarc) slaved day and night in primitive conditions for their keep, making a device which 20 years later weighs in heavier, and now boasts a crane winch.

Aside from the proverbial sky hook, how else do you hoist a truss quickly?



PreSonus DEQ624 24-Bit Stereo Digital Graphic EQ

The PreSonus DEQ624 utilises 24-Bit Digital Signal Processing while giving the user a familiar analogue interface. The two 31 Band Equalizers offer three switchable ranges of operation: +/-6dB, +/-12dB or +12/-24dB. A Security feature on the DEQ624 locks out all of the front faceplate controls using a programmable password-style of access. Once engaged, the DEQ624 will retain all of the settings programmed by the installer, regardless of power shutdown.

The user has the ability to recall up to four presets on the DEQ624. In addition, the DEQ624 features a brick wall limiter with variable threshold as well as a downward expander featuring variable ratio and threshold.

A unique feature on the DEQ624 is AHC (Adaptive Hum Cancellation). When en-

gaged, this algorithm identifies 60 cycle hum caused by ground loops and dimmers and uses phase cancellation to eliminate the problem without causing any alteration to the audio.

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

- Cost is A\$1,995.

Australian Audio Supplies, +61 3 8415 1466.

AN INTERESTING MIXER

ETEK is an Italian designed and engineered range, and the Etek DD 1223 is interesting. It is a digital 12-channel mixer, with 4 mono + 4 stereo channels, with different modes available for the use of the inputs.

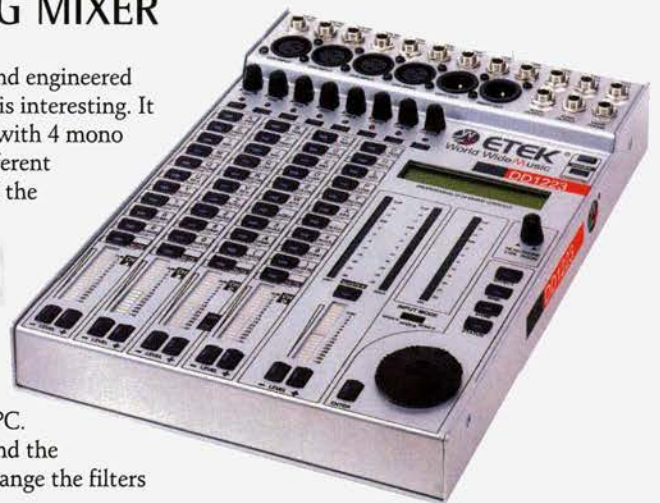
For each channel there is a gain control for the input signal level followed by a semi-parametric 3-band equalizer. The mixer can also be used together with a remote controller - such as a PC.

In this case the user can expand the functions of the mixer and change the filters into full parametric.

Following the equalizer, the solo mute and pan-pot functions allow the selection and monitoring of a single channel to left or right. The fader is simulated by a 16-step Vu-meter displaying the current level and two +/- keys to increase or reduce this in real time. Each function can be recalled by means of the various keys and completely edited in real time. An internal multi-effects unit gives each channel a programmable effect.

The DD1223 also features a Midi IN/OUT/THRU Interface.

- Landing soon at under A\$2000.
- From CMI: +61 3 9315 2244



ALLEN & HEATH TO DEBUT NEW ML 3000

The new ML3000 is a 15 bus live sound VCA console designed to make high quality VCA automation affordable for mid-range PA / AV rental and installation work. Like its bigger siblings (ML4000 and ML5000) the ML3000 is equipped with the LCR plus system, which uses blend and pan controls on the inputs and groups to allow signal positioning anywhere across the centre and LR buses.

- TAG, +61 2 9810 5300

Looking for a quality CD RECORDER?



With the
PROFESSIONAL
Bits you need?

CDR-W33
CDR-W66

The new CDR-W33 has three DSP functions to fine-tune your analog sources. A 3-band parametric equaliser, a digital limiter with adjustable ratio and Super Bit Mapping® capturing near 20-bit quality on industry-standard 16-bit compact discs via 24-bit A/D/DA converters.

Add that finishing touch with CD TEXT™ data, you can record via a PC keyboard input terminal conveniently placed on the front panel.

And, for professionals needing to convert from 48kHz digital sources, the CDR-W33 has a built-in sample-rate-converter.

A quality CD player/recorder that's budget-priced, so you can

afford to stack rack 'em up using the fully featured, wired/wireless remote that comes supplied.

With the new CDR-W33 you get every last bit of performance.

Moving up to the CDR-W66, you get balanced analog and AES/EBU digital I/O plus expanded sample rate conversion for studio quality 24bit, 96kHz recording as well as double speed copying.

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What will you be using soon?

With the increasing popularity of in ear monitoring (IEM), monitor engineers are looking for processing solutions that make large numbers of mixes sound great concurrently. Dbx has combined multi-band compression, equalisation and reverb in one programmable IEM from dbx Professional. The device is designed so the things like bass kicks drowning the vocal track can be avoided. The IEM Processor intelligently splits each band frequency and provides high quality reverb from Lexicon.

The unit can be preset to an optimum for the venue conditions or for each individual song. It has a user friendly front panel which provides instant access to all effects at the touch of a button, with a logical, clearly-lit, custom display. A graphical user interface is also available via a standard Windows

Funktion One loudspeaker systems arrive down under

Funktion One Research is the latest offering from **Tony Andrews**, and **John Newsham**. They founded Turbosound in the mid 1970s and now Funktion One Research has continued their holistic approach to loudspeaker design.

The wave-guide and driver technology has been developed to the point where the two devices are now contemplated as a single unit. All of the drive units used in the new Funktion One designs are new, and have been developed specifically for each model.

Funktion One is distributed in Australia & New Zealand by Funktion One Australia, a new company set up by **John O'Donnell**, formerly Head of Sound at the Victorian Arts Centre, and **Frank Hinton**, Managing Director of ATT Audio Controls.

• Contact John O'Donnell at jod@funktion-one.com.au



dbx IN EAR MONITOR PROCESSOR

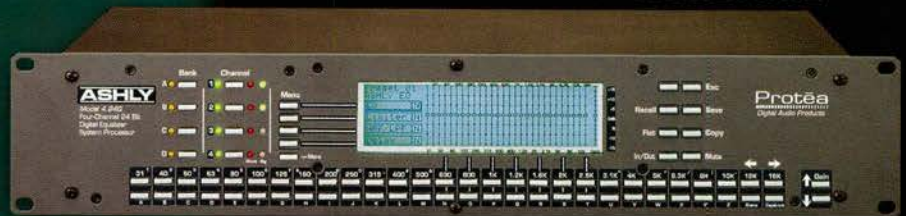
compatible computer.

The IEM provides extensive processing fine tuned for ear monitoring applications, including 4-band stereo multi-band compression, multi-band Peak stop limiting, 5-band parametric EQ and stereo adjustment control. It also uses industry standard Lexicon

technology for the reverb and the stereo adjust, dbx proprietary Type IV Conversion System reverberation processor to put life into flat ear mixes.

- Cost: RRP A\$4,595.
- dbx is distributed by Jands Electronics +61 2 9582 0909. www.jands.com.au

FINALLY, A POWERFUL 24-BIT DIGITAL EQ THAT THINKS IT'S ANALOGUE



Protēa

The incredible new Protēa Digital Equaliser from ASHLY is like nothing you've ever experienced for live sound, permanent installations, or even recording. It completely redefines the possibilities of equalisation with four independent channels of 28-band, 1/3-octave equalisation, accomplished in full 24-bit digital resolution. Its simple, push-button interface is as close to analog as you can get, while maintaining

unprecedented control over all parameters via a high-resolution LCD display which provides immediate visual representation of all functions. Need to adjust a frequency? Press the button and watch the fader move in real-time on the LCD display. Plus, it provides built-in full-function compressor/limiters, time-delay alignment functions, high and low pass filters, and much more, all fully programmable and storable. Whether you operate it from the front-panel, from the available full-function remote (which works from up to 1000 feet away with an ordinary mic cable or snake), or via the free Protēa System Software for Windows™, you won't believe the control and quality the Protēa affords you. We've even designed it to grow with you, with 2- and 4-channel digital equalisation slave units available for expansion of up to sixteen channels of precise, reliable digital equalisation. Never has digital equalisation been so easy to use.

Optional 4.2480 Full-Function Remote Control with Display



Optional Slave Units in Two (2.2465) or Four (4.2465) Channel Versions, Which Can Operate Independently, are Controllable from The Master, Remote, or a Computer to Greatly Expand Your Possibilities

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FOH ENGINEER TEST:

FOH engineer A and FOH engineer B are each tuning venue-appropriate line array systems using well recorded demo material. All equipment is identical or equivalent except for the loudspeakers. Each proceeds to adjust system response to taste. Engineer A tweaks house EQ. Engineer B tweaks house EQ, alters processor settings, adjusts amplifier levels, lands the arrays to check polarity, whimpers softly and contemplates a career in footwear sales.

Which engineer is using a KF760 system from EAW?
(check one) Engineer A Engineer B



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The Line is Drawn

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EAW is the worldwide technological and market leader in the design and manufacture of high-performance, professional loudspeaker systems.

What will you be using soon?



COOL 1 RACK UNIT DJ MIXER!

EXPAND YOUR AUXILIARIES WITH THIS LITTLE BOX

The Shure AuxPander is a new auxiliary send expander which turns any mixer into an 8-bus console.

These days, most performers use stereo in-ear monitoring, which demand twice as many sends as the old mono foldback system, so the AuxPander gives the band more sends.

Some theatre consoles aren't big enough for all the under balcony, stage lip and effects output sends. Enter the AuxPander – designed for touring musicians and sound engineers who are running out of holes. It's also useful for audio contractors in a multizone audio system, which usually needs a few inputs with lots of outputs.

Just plug the AuxPander into the insert points of your console. You get eight extra sends. AuxPander can mix eight input signals and send them to any eight outputs in any combination, and at any volume. The little beast is expandable vertically and horizontally which means you can plug two together and have an 8x16 or a 16x8 matrix.

- Cost: RRP A\$2,195, including Jands Electronics Pty Ltd +61 2 9582 0909 www.jands.com.au



Check THIS out. Rane's MP2 is a new 1RU, two channel mixer capable of taking two line and two phono inputs making for a total of four signal sources. These inputs can then be assigned to either side of the 60mm Active VCA crossfader. The MP2 also has mic input, master volume level as well as a cue pan fader which fades between the master cue and program cue on either channel A or B.

It has three output options: Audio can be fed to the main system by the dedicated

balanced 1/4" jack outputs, as well as a separate auxiliary output (also balanced 1/4" jacks) with its own level control. The third output is an unbalanced RCA pair labelled "Tape Out".

The MP2 fits into a standard 1RU rack space, so now you can have a rack-mounting Dual CD DJ console, which with the appropriate CD player, is only 4RU high.

Cost: RRP A\$1,495.00

- Jands Electronics, +61 2 9582 0909.

GROOVE SAMPLING WORKSTATION

BOSS announce the SP-505 Groove Sampling Workstation. It offers powerful sample editing functions found primarily in software and expensive samplers - fetatures like *Sample Chop* (and we don't mean lamb chop either) for dividing loops into individual drum hits and creating new loops, plus graphic wave editing and automatic BPM sync.

With the proliferation of sample-based music, producers need creative and simple ways to get the most out of loops. To this end, the SP-505 incorporates a new Sample Chop feature which divides loops into individual parts and maps them to the pads. From there, users can reconstruct a groove by playing slices like a drum machine while recording to the 15,000-note Pattern Sequencer-complete with adjustable swing. A BPM Sync function makes it possible to match the tempo of up to 16 phrases with a single command.

A powerful sampler in its own right, the SP-505's 16 sample pads can store up to 250 samples which can be played back with 8-note polyphony. Out of the box, users get 124 seconds of high-quality mono sampling (62 seconds stereo), while an optional SmartMedia card provides up to 66 minutes of recording and the ability to import .WAV/AIFF files.

- Roland, +61 2 9982 8266



Smooth CD-RW

Tascam's CD-RW4U sells at A\$1299 - and has a DATA recording port and PC / MAC recording software - as well as the usual SPDIF and Analogue audio inputs and outputs. This makes it unique!

It boasts 20-bit converters, and writable formats include CD-DA (including CD-TEXT), CD-ROM (MODE 1), CD-ROM XA MODE 2 (FORM 1, FORM 2), CD-R, Video CD, and CD Extra (CD Plus).

- More from Tascam SRD, +61 3 9682-0411



Slash, burn...call it what you like! But for a very limited time Mackie's New FR Series MK II Power Amps are at these ONCE ONLY prices*

POWER TO THE PEOPLE

M-800

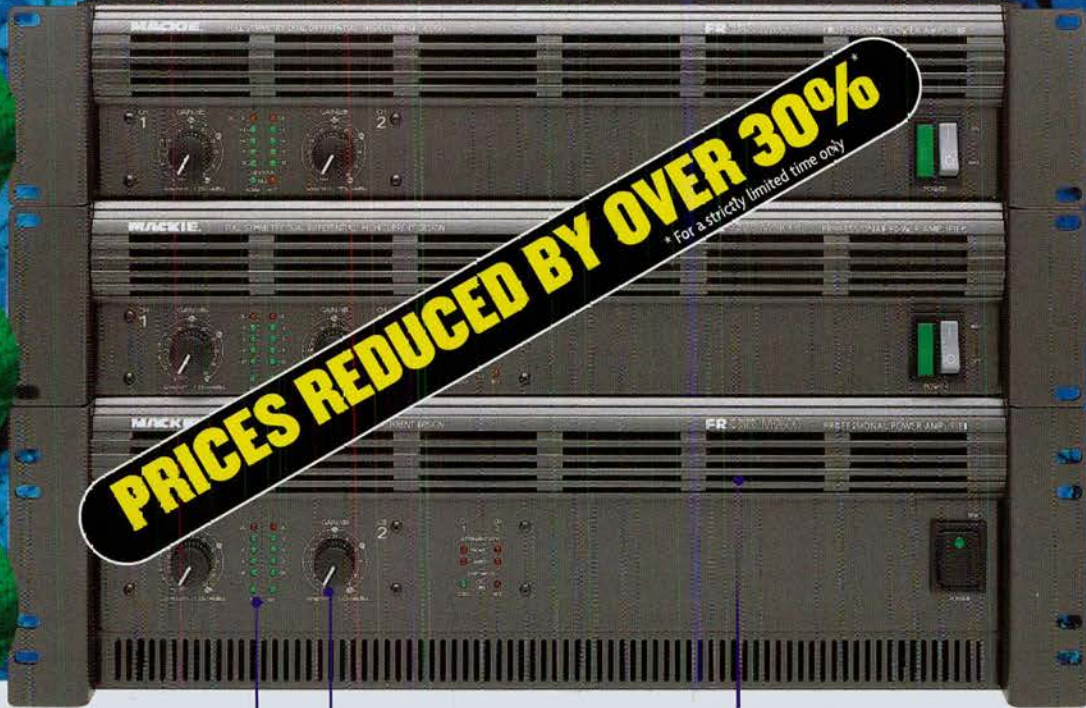
The ONCE ONLY price
\$1050 Inc GST
Usually \$1595 RRP
Inc GST

M-1400

The ONCE ONLY price
\$1350 Inc GST
Usually \$2095 RRP
Inc GST

M-2600

The ONCE ONLY price
\$2350 Inc GST
Usually \$3495 RRP
Inc GST



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* For a strictly limited time only

5 year warranty



made in the USA



FR series amplifiers



Mackie FR Series MK II Power Amplifiers pack more features, have longer warranty and feature bullet-proof, built-like-a-tank Mackie reliability. There's useful features like an electronic subwoofer crossover, variable CD Horn EQ, 6-LED stereo output display and mirror-polished heat sink.

Now at these ONCE ONLY prices, FR Series amps are available on y from Participating Mackie Dealers, and for a very limited time.

Gain controls are detented for accurate, identical channel levels setting and are calibrated in volts as well as dB.

Eighteen status LEDs (versus the competition's four). LED ladders display power output up to and including clipping, plus separate signal present indicators. Hot and Cold Temp LEDs show you the FR Series amps' thermal status at a glance. Short circuit LEDs give early warning of cable and speaker problems before

you apply full power. Front LEDs indicate the amp's internal safety circuits have activated.

Cool air from the room (instead of hot air from inside the rack as with the vast majority of other amps) is blown across a mirror-polished heat exchanger via two short paths instead of one long one, then out the sides of the Mackie FR Series Power amplifiers. Result: increased output device reliability under demanding conditions.



5 Year Limited Warranty underscores our confidence in the reliability of FR Series Power Amps.

Constant Directivity Horn EQ on each channel smoothes the frequency response of CD horn/compression drivers. Not found on the competition amps, CD EQ is variable from 2kHz to 6kHz. At 6 kHz it's also handy for adding openness and "air" to any PA system.

Amp Mode lets you easily select stereo, mono or bridged operation.

Male & female XLR inputs/outputs give you easy signal pass-through and double your chances of having the right connector gender. And naturally, there are 1/4" TRS inputs, too.

Exclusive Mackie Fast Recovery Design lets you drive the M-800, M-1400 and M-2600 harder than the competition. Special circuitry and minimal negative feed-

back prevent the amp from "sticking" in a high-distortion state when driven into clipping reducing audible distortion, effectively increasing headroom.

Switchable limiter works independently on each channel to gently attenuate the signal level just enough to prevent clipping.

Built-in subwoofer crossover (on the M-1400 and M-2600) eliminates the need for a separate costly electronic crossover. Precise 2nd-order Bessel design with selectable low pass settings. (125Hz/63Hz on M-1400, 120Hz/90Hz/60Hz on M-2600)

Continuously Variable Low Cut Filter on each channel lets you precisely tune your bass cabinets to their optimal resonant frequency. Dial in any frequency from Off to 170Hz. The competition limits you to a pair of fixed

low cut frequencies set by itsy-bitsy dip switches.

Audibly-quieter operation. 107dB signal-to-noise spec vs. 100dB for the competition.

Want more info? FreeCall 1800 50 20 25 for a catalog and the name and location of your nearest participating Mackie Dealer today. (Be warned: These prices are for a strictly limited time and available only from participating Mackie Dealers.)



	M800	M1400	M2600
4-ohm bridge	800W	1400W	2600W
8-ohm bridge	550W	3000W	1700W
2-ohm load	400+400W	700+700W	1300+1300W
4-ohm load	275+275W	500+500W	850+850W
8-ohm load	140+140W	300+300W	500+500W

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* All Prices quoted include GST

What will you be using soon?



SUPER ECONOMY COLOUR CHANGER

Geni's latest compact colour changer has a high output, great effects, instant audio shows and DMX control. With it's one colour wheel, the Mcjo Color delivers fifteen colours plus white. No dimming, just colour and strobe.

Price: \$459 inc GST

Show Technology: +61 2 9748 1122 www.showtech.com.au

American DJ -H20 Projector

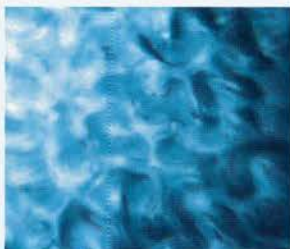
American DJ now offers nightclub and bar patrons a visual alternative for enjoying "liquid refreshment" with the H20 Effect Light. This lighting fixture projects a tranquil mood background, the H20 casts soothing, rippling water effects on walls or any surface.

Designed to add a peaceful touch to any atmosphere, the H20 can be used as a lighting tool to help "chill out" any crowd.

A high-output projector, the H20 has a dichroic colour wheel inside that will automatically switch colours. Visions of cool, blue streams will suddenly appear as a sea-green waterfall when the H20 switches from one soothing colour to next.

The H20 is fan-cooled silent unit and comes complete with a high-output JCR/H5, 150W lamp.

- A\$549 inc GST
- From LSW, + 61 2 95682100



COEMAR iSPOT 150

The iSPOT is Coemar's newest compact moving light. It comes with internal programming, gobo indexing and remote focus, to name a few. It's also competitively bright with a high output CDM150 lamp with a life of up to 6000 hours.

The iSPOT also features a range of programs, all able to be played back on connected projectors (up to 32 units) without the need for any control source to be attached. Here's a good idea: programs are instantly recorded into the internal memory of the projectors as they are being controlled by a console.

The + and - buttons on the projector allow direct manual control of the internally recorded programs. They can be played in sequence, in sound-to-light mode, or in auto mode. Any small 6 channel DMX controller can be used to create dynamic shows by altering the main parameters of the projector's recorded programs.

- Price: A\$4,485 RRP inc GST
- Coemar DeSisti Australia: +61 3 9467 8666



NEW SOFTWARE BOOSTS JANDS EVENT 4 SERIES

Jands Electronics' new generation of hybrid lighting console, the Event 4 series, combines ease of operation with automatic or manual control options. The Event 4 series is designed for clubs, small concerts, cabaret, theatres and corporate events -wherever the console operator requires a compact, full-featured hybrid lighting console that produces a range of sophisticated lighting effects.

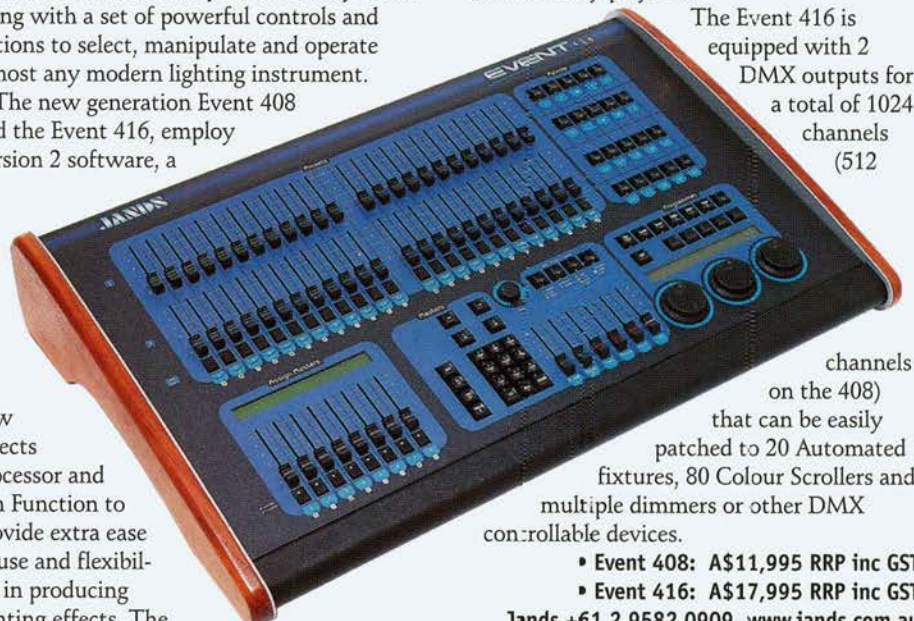
The Event 4 Series feature all the familiar characteristics of a two preset memory board along with a set of powerful controls and options to select, manipulate and operate almost any modern lighting instrument.

The new generation Event 408 and the Event 416, employ Version 2 software, a

Effects Processor allows adjustment between fixtures and the size, speed and shape of the resulting effect. The Fan Function offers versatility in the relationship between position, colour and beam.

Once a favourite look is set up it can be stored to a memory, which can also be recalled manually. A mask feature permits selected fixture parameters such as intensity, position, colour or beam to be eliminated from memory playback.

The Event 416 is equipped with 2 DMX outputs for a total of 1024 channels (512



new Effects Processor and Fan Function to provide extra ease of use and flexibility in producing lighting effects. The

channels on the 408) that can be easily patched to 20 Automated fixtures, 80 Colour Scrollers and multiple dimmers or other DMX controllable devices.

- Event 408: A\$11,995 RRP inc GST
- Event 416: A\$17,995 RRP inc GST

Jands +61 2 9582 0909 www.jands.com.au

MAC 2000

Attention to Detail

Optics

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

Quality that only comes from attention to detail.

Power

Intense light output from a powerful HMI 1200-watt source

Optics

Extraordinary, multi-coated, 10-lens optical system and multi-faceted glass reflector system

Graphics

Multiple effect wheels combine to create unique Moiré, morphing, iris and 3D effects (all wheels house glass gobos)

Color

Full spectrum CMY color palette and effective CTC system

Operation

Newly developed 3-Phase Motor Technology ensures fast and smooth movement

Handling

Convenient pan/tilt-lock mechanism and specially designed flight case for easy fixture handling

Martin



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What will you be using soon?

Lighting Balloons

Coemar De Sisti Australia now distributes a range of large inflated balloons equipped with an internal lighting system.

This is a good solution for filming, for outdoor evening events, and product launches, exhibitions, and special events.

They are available in various sizes and lighting systems (both tungsten halogen 3200 degree K and discharge 5600 degree K) also in cylindrical shapes.

Lighting balloons are safe as they use helium, which is a non-flammable and harmless gas. The lighting is totally diffused with 360-degree coverage, providing glare-free, shadowless lighting.

- Coemar DeSisti Australia:
+61 3 9467 8666

MIXER GETS A FACELIFT

Stanton has listened to feedback from DJs worldwide and the result is the RM3S. Now with a cue pan fader between the PFL and master, DJs can now monitor the mix more accurately.

The spacing between the EQ knobs on each channel has been improved to make it easier to tweak the frequencies on the fly. Stanton has added a new crossfader with a more gradual curve control.

The RM3S comes in silver to match Stanton 100 series turntables or Stanton Dual CD Players. The unit is priced at the same price as the original RM3 - \$795.00 RRP.

TURNTABLES HIT THE DECK

Stanton STR8-100 (Straight Tonearm) and ST-100 (S-Arm) turntables are now available in Australia.

Stanton say 'these babies are loaded with torque'. The turntable is designed to feel and react exactly like the industry standard turntable. It also has up to +/- 25% pitch control and key correction (aka master tempo)

- Cost: Stanton STR8-100 and ST-100 A\$1,395.
- Stanton is distributed by Jands,
+61 2 9582 0909



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M3D™

Keeping the third dimension in line™



**...right to the outer limits
of sound reproduction.**

**Introducing Meyer Sound's new M3D Line Array Loudspeaker System –
the first totally integrated, self-powered, directionally controlled line array.**

BroadbandQ™ Directivity Control marries a remarkable new high-frequency REM™ (Ribbon Emulation Manifold) and Constant-Q horn with our award-winning low-frequency directional control technology. The result is consistent 90-degree horizontal coverage from 35 Hz to 18 kHz with more low-frequency power than any other line array system.

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Self-Powered Integration – Meyer's proven 4,800-watt four-channel amplifier with proprietary, phase-corrected processing powers the M3D. RMS™ (Remote Monitoring System) interface is fitted as standard.

Interested? Call us for a brochure and the name of your local representative. And check out www.meyersound.com/m3d. There's lots of information there...

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

- Self-powered, quick to set up
- Arrayable vertically and horizontally in multiple columns
- Captive QuickFly™ rigging with custom CamLink system
- RMS™ (Remote Monitoring System) standard
- Immensely powerful

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www.meyersound.com.au

**Meyer
Sound**

www.meyersound.com/m3d

What will you be using soon?



WIRELESS NETWORK PROJECTOR

Sony Australia has announced the release of its first wireless network projector the VPL-PX15. It does not require physical connection to a notebook for presentation purposes and can be wirelessly connected to a LAN to be

addressed by anyone on the network.

Using a wireless LAN PC card, the PX15 can become a cable-less member of your network. This means that several notebooks can be networked simultaneously with the projector for presentations requiring multiple person input.

Sony Australia's Business Communications Group Marketing Manager, Mr Ian Lowe said

the PX15 brings a new level of flexibility to the projector market. "In a fixed environment the projector can be networked so that anyone logged onto the network can drive the projector from their desktop. For mobile presentations, the projector can be wirelessly connected to a notebook, or even hold presentations in its internal memory therefore negating the need for a notebook altogether."

The PX15 has a built-in 10Base-T/100Base-TX interface that enables physical connection to a LAN. Alternatively, the projector can be wirelessly connected using a wireless LAN PC Card.

Key specifications of the PX15 include a light output of 2000 ANSI lumens, a 200W UHP lamp, three 0.9 inch LCD panels and XGA resolution (1024 x 768).

• **Cost: RRP VPL-PX15 A\$13,750**

• **Sony Australia Limited: 1800 017 669 or visit www.sony.com.au/projectors**



PLUS U3 PALMTOP PROJECTORS LAND THIS MONTH

The new PLUS U3 Series provides 1,000 ANSI Lumens of brightness – a significant increase over the 800 ANSI Lumens provided by the original PLUS palm-sized series.

New zoom capability is intended to allow users to achieve image size without having to move the projector. A short-focus lens enables users to give bright, up-close, picture-perfect presentations even in environments the size of a cubicle.

The new U3 Series projectors feature a magnesium alloy case, which is 20 times stronger than plastic and alleviates any concern about breakage during transport, and features a built-in sliding lens cap which automatically protects the projector's lens.

Additional features include a patented PLUS optical engine and new UHP lamp, as well as RGB and YUV component video input. The new PLUS U3 Series will be available for delivery September 2001.

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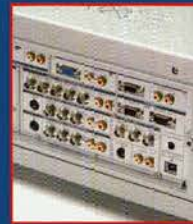
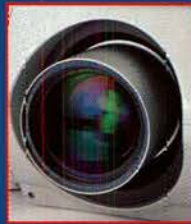
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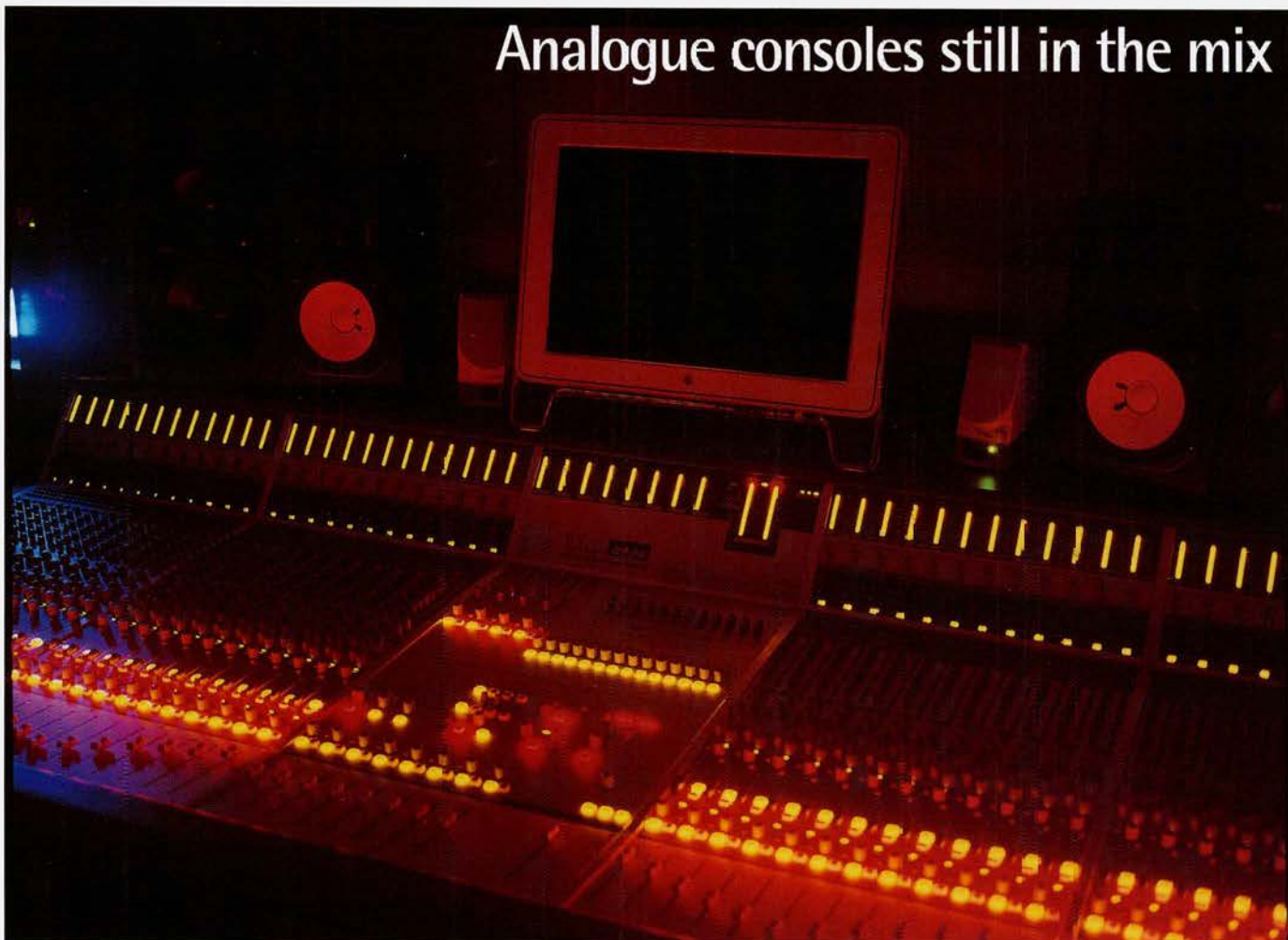
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Analogue consoles still in the mix



(Continued from page 9)

Floating Point has some SERIOUS outboard!



Audient is a new company based in the UK, headed by David Dearden and Gareth Davies. Between them Dearden and Davies have over 50 years experience in the Professional Audio industry and before forming Audient were the founding partners of DDA - a company whose mixing console designs are well regarded everywhere. Audient make just one

model of mixing console - this one - which comes in various frame sizes.

The trend in large scale music recording is to keep audio in its native analogue format until it hits the recorder which is now almost always hard disk digital. So the role of the large format analogue console continues, but some kind of rudimentary automation is preferred. The Audient installed at Floating Point has optional Audio Mation automated faders, run from Audio Mate software. This allows real time fader adjustment and muting on 56 of the 60 input channels, plus all 8 subgroups.

The automation package connects to the desk via midi, out of a cooking variety Apple Mac, and each midi channel controls 8 channels of mixer.

Sitting at the Audient, the first thing that strikes you is the ergonomics. The console isn't cluttered with extras like dynamics processing. In Australia, the new airline Virgin Blue boasts lower fares on the premise that you are just paying for the flying, with frills, meals and drinks left out of the price. Audient could almost say you are just paying for the mixing, due to absence of lots of features that almost always are replicated outboard anyway.

The ASP 8024 is purely and simply a mixing console, with enough surface space for the fourteen auxiliary sends per channel, group assignment to 24 groups, and full parametric EQ. Unlike many consoles where

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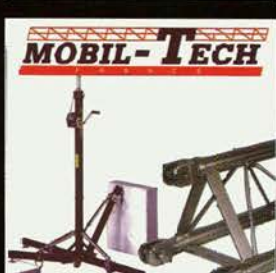
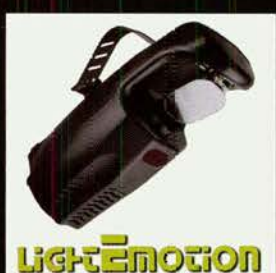
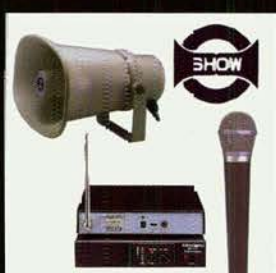
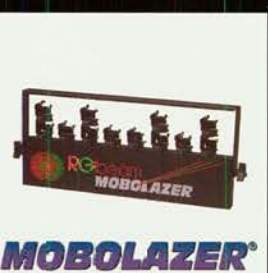
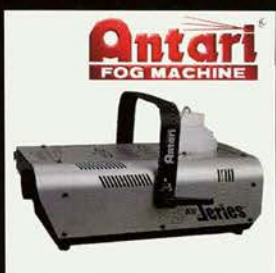
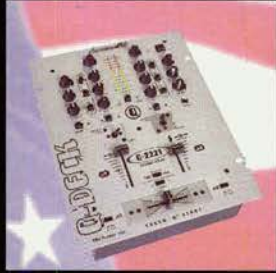
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Who is doing what?

parametric EQ means just sweepable frequency centres, or switchable cut and boost width, full parametric means that the cut and boost can be adjusted for tight (0.4 octave) to broad (2 octaves).

There is a short (60mm) fader, and a long standard one on each input channel. The fader path can be flipped, so your multitrack return may be mixed on the automated long faders, or left on the short fader.

14 auxiliary outputs on each channel strip mean that the myriad of outboard effectors used by Floating Point can be assigned as required. There's some serious stuff there – such as a vintage Roland 301 tape echo, Dimension D, Stereo Flanger, Vocoder and such. At the other end of the investment is a Lexicon 480L, which is the reverb of choice for many pro studios today.

While a lot of the tracks are created in the control room, a live room is located in the middle of the house, linked by a camera to the control room. The live room is just large enough for a drum kit, and has a tight 70's sound, according to Martin. "Not many studios have a whole band standing around" he stated, indicating electronic music has revolutionised the studio so that the control room is almost always larger than the live room. A decade ago it was the other way around. The other thing that has mainly gone away in modern studio design is the machine room – but some larger facilities remote house their hard drive arrays in a form of machine room to avoid distraction from the chatter of the drives.

Speaking of hard disk drives, expansion of the ProTools system at Floating Point to 48 tracks is on the cards. The Mac based ProTools system is fairly standard in music recording today, as well as Post Production. Post is another market sector Floating Point operates in, from separate premises. "You can't have a young hip-

hop group coming in all vided up and lighting a spliff in front of Post clients", stated Martin.

It is refreshing to see two young dudes who met at Uni and did an SAE course investing half a million dollars in their business. It is also cool to see them prepared to buy a new brand of console. And finally, the coffee machine at Floating Point is worth a credit too. Thanks guys!

(Continued on page 69)



Peter Tzaneos and Martin Eckel

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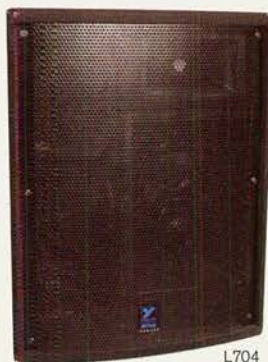
SPEAKER SPECIFICATIONS	L368	L418	L704	L804
System (2 or 3 way) config	3 way	3 way	3 way	3 way
Power (W PGM)	350	400	700	800
Impedance (Ohms)	8	8	4	4
Sensitivity (dB @ 1W/1m)	101	102	102	103
Frequency Response (Hz)	45Hz(-6dB)-1700Hz	45Hz(-6dB)-1700Hz	45Hz(-1dB)-16000Hz	45Hz(-2dB)-13000Hz
x-over Frequencies (Hz)	175Hz/9000Hz	250Hz/3200Hz	250Hz/1600Hz	250Hz/600Hz
HF Driver	AEB H.C. 120	De600	De600	De300
Mid Driver	1x6"	1x6"	2x6"	2x6"
LF Speaker	1x12"	1x15"	2x12"	2x15"
Bi Amplifiable (Y or N)	Y	N	Y	Y
Connectors	2xSpeaker 4	1xSpeaker 4	2xSpeaker 4	2xSpeaker 4
Dimensions (HxWxDxBW)cm	63.5x55x46x38	71.5x55.5x4	92x72x48.5x50	101x71.5x47.4x5
Weight (kg)	23.5	47	56	60
Wheels	N	N	Y	Y



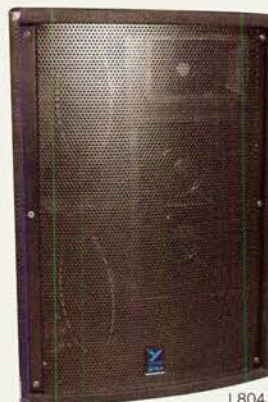
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L418
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L804
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For Roxy Music to tour again is certainly a blast from the past. When band members Brian Ferry, Andy Mackay and Phil Manzanera announced they would be reforming Roxy Music for a special world tour, plans were immediately put together.

by John Grimshaw

With nine albums between 1972 and 1983 (all of which charted in the Australian top 50), there was enough fan support to justify bringing the tour to Australian capitals.

The last tours for the whole band were in 1975 and 1981, and Brian Ferry has toured as a solo artist a few times since then. When Connections had the opportunity to go backstage and have a chat to the crew of this tour, we found a bunch of people that were very much enjoying the show that had taken them from the UK to the US before Australia.

The show is a retrospective romp through the various ages of Roxy Music's life. It very much has the feel of a true seventies rock and roll show, but with modern technology to make it look and sound the best it can.

This tour interesting because the band have breathed life into some of the old musical instruments that haven't seen the light of day for more than twenty years. FOH engineer, Levi Tecofski, says that the idea behind the sound for this tour was to reproduce the

music using the original musical instruments as much as possible. With up to ten musicians on the stage at any one time, this makes 68 individual stage sends that Levi has to mix on two Midas XL4 desks coupled together at FOH.

On top of that, Levi uses quite a number of tube based compressors – one for each guitar send and well as vocals. On Brian Ferry's mic, Levi specifically uses an Avalon AV 734. You could tell that Levi really liked the warm sound from this particular compressor, because it "rocks so hard". He went on to say, "If I could give birth to one I would."

The effects rack was reasonably modest, with all of the usual suspects from

Lexicon, TC Electronic, Yamaha, DBX etc. The full system & VDOSC arrays used on the Aussie leg of the tour were supplied by Jands.

One of the equipment racks that does tour with the band is a rack of Mackie HD24 hard disc multi-track recorders. Four in all, three of the units are used to record almost every show (the fourth is a backup unit). Levi says that there are loose plans to make a live album from these recordings at some point down the road, though no specific plans have been made.

The VDOSC system is tuned and managed by Pat Richardson and Mike Hackman. Levi said that he was very pleased with the quality of sound that these guys have achieved and maintained. The Speaker system consisted of 36 x L-Acoustics V-DOSC Elements, 12 x L-Acoustics dV-DOSC Elements, 4 x L-Acoustics ARCS, 20 x L-Acoustics SB218 Sublows and all Crown MA5002VZ amps.

Lighting

The lighting was originally designed by Liz



Mixing Monitors with 2x Midas Heritage 3000



VDOSC Engineers - Pat Richardson (seated) and Mike Hackman



Levi Tecofski with his "arrow head" of Midas XL4's pointing at the stage

INSTALLATION HEADACHES?



SET & FORGET

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



FLEXIBLE FEATURES

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

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Arena Concerts



The "Putney VCS3". This synthesiser was used on the original Roxy Music album, and has sat in Brian Ferry's studios ever since. The device looks to be a glorified occiloscope, with numerous additional effects.

Berry for the first leg of the tour. Rich Garrod from Varilite in the UK is man on the ground operating the show and adjusting the design as required from country to country and venue to venue. The system is almost a full Varilite rig, with 38x VL6B, 40x VL5 and 14 VL5B taking up the bulk of the duties for lighting the show. There is also 9x Source Fours, some ground row, 8x 4 lamp

ACL's and 4x truss spots.

Just as the music begins with Roxy Music's earliest work, and moves forward in time with each song, the first three songs of the evening are lit as if the band has a bunch of Par Cans in the air rather than VLs. The first song's simplistic light moves to colour chases and eventually introduces moving light.

The show is operated on the new Varilite Virtuoso desk that tours with the show. Rich says that the desk is a breeze to work with, particularly coming from the Varilite Artisan. Desk. One problem they thought they would have in bringing the show to Australia was that LX data distribution would have to be all DMX. The Varilite fixtures can talk to the Virtuoso desk using either DMX or Varilite's proprietary data protocol, the latter giving much greater control and feedback to the operator. Varilite UK were under the impression that the fixtures they would be offered here would not have the modification chip that allows using the special protocol. So after the US, the system was designed to use DMX as the control protocol. By the time they got here and discovered that they could have used the Varilite protocol, it was too late to swap back.

Rich is very much a devotee of the Varilite control and fixtures, "They just seem to have a better response – a snap colours and gobos truly snap into place".

Video

The video for the tour is enjoying a rare placement out in the main FOH mixing

position. This is because the video has been used more as a show effect than as a simple show relay to the cheap seats. A single video image is projected onto a rear cloth from two Barco ELM machines that sit in the FOH mixing position. The back cloth is framed by camouflage looking netting on one side, and conventional drapes on the other. The resulting space is not a conventional rectangle. In addition, the image deliberately covers the main stage area where the musician area.

Video Director, Chris Keating, has obviously enjoyed being a significant part of the creative visual effect for the show – as the video is certainly not what you would expect. The initial brief was to create an arty or abstract approach to providing video for the tour. Using various effects, the camera images are never sent to the projectors as clean colour images. Chris's main effect on the camera images has been dubbed 'Warhole-esq', which is a 'posterised, chroma effect' that reduced the image to only four or five colours. The resulting look seems to have stepped out of a seventies film clip.

Another effect Chris uses is his 'Top Secret' black and white conversion technique – called Lynchcam (Chris's homage to David Lynch, director of Twin Peaks, Eraserhead etc). So as to create the roughest black and white conversion possible, the camera mix is sent to a small 4" black and white monitor mounted in the rear of one of the equipment racks. In front of the monitor is a small lipstick camera that is focused tightly to the small screen. The resulting image also looks like it has been translated from the seventies – though Chris would like to see this image even rougher. Apparently he spent quite a bit of time unsuccessfully trying to track down an over-used worn out monitor.

In numerous numbers during the show, the effected camera images are not used on the screen at all, and various other images are projected onto the musicians and the back cloth. These images include film of a lava lamp at work – which, when used, becomes the main source of lighting for the song.



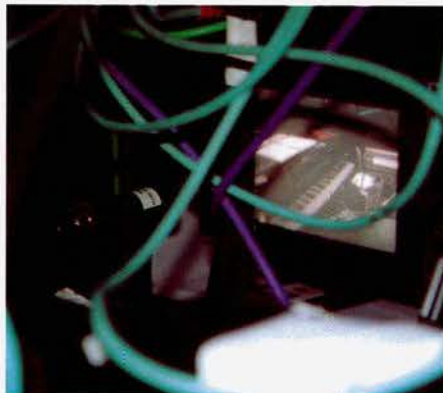
Lighting Operator Rich Garrod at the Varilite Virtuoso Desk



Video Designer/Operator Chris Keating seated at his FOH mixing position.



"Posterised, Chroma" effect used on most video sent to the screen. The image is projected from the front via two Barco ELM projectors, with the image deliberately spilling over the band.



The top-secret "Lynchcam" effect - small 4" black and white monitor with lipstick camera pointed at the screen.



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By John Grimshaw



The new Sharp XG-V10XE is a 4000 ANSI Lumen, LCD projector that looks to be aimed at the upper end of the venue installation market and the hire and production companies. What sets this projector apart from its competition in these markets is pure and simple – price.

Brightness:	4000 ANSI lumens (dual lamp mode)
Contrast:	400:1 ANSI contrast
Native Resolution:	1024x768
Imaging Type:	3 panel LCD (1.8")
Lamp Type:	2x 200W UHP (1000hr each lamp)
Dimensions:	530x643x221 (WxLxH)
Physical Weight:	18.9kg (no lens)
Speakers:	2x 3W
Vision Inputs:	5 total - 2x RGB/ Component, 2x Video/S-Video/ Component and 1x DVI
Vision Outputs:	RGB 15pin HDD (from Inputs 1&2 only)
Vision Source:	All standard TV, and computer signals up to UXGA
Operating Noise:	52dB SPL (1m weighted at 1m from air vent)
Price (RRP):	Projector \$39,900 with ANLV40EZ lens \$45,400
Lamp Replacement:	\$1,100 approx
Sales Enquiries:	1300 135 530
Internet:	www.sharp.net.au

As always, the projector was set-up without first consulting the instruction manual to assess its ease of use. This led to discovering the only significant drawback to the design of the projector – there was no obvious way to quickly focus the projector. That problem is exacerbated by the fact that the projector relies entirely on the GUI (Graphical User Interface or On Screen Display) to make any adjustments. It was a bit hard to focus a projector when you were not sure if the control you were modifying was, in fact, the focus. Of course, I could have turned to page 29 of the user manual.

Once focused, the projector was given a basic colour, brightness and contrast set up from its default settings. This projector is a dual lamp projector that allows the user to optically use one or both lamps at the same time. For all of the tests done here, the projector was used with both lamps operating.

It was quickly discovered that this projector had quite good 'Lens Shift' capabilities. Lens shift is used to adjust the vertical position of the image, and is especially important to compensate for the height of the projector in relation to the centre of the screen. The lens shift range of this projector allows it to be placed anywhere between inline with the centre of the screen down to in line with the bottom of the screen.

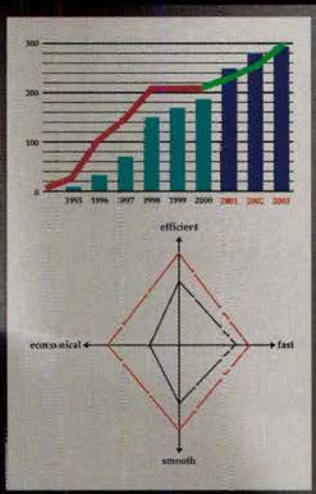
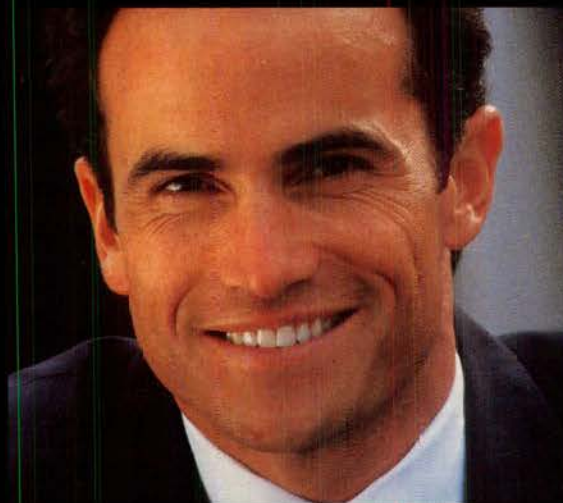
General composite and component video sources from DVD were used to look at the image quality. The projector passed this simple test with ease, indicating it had good imaging electronics supplying the LCD display chip. There are three mode options for dealing with progressive display

(video) types – 2D, 3D and Film Mode. According to the documentation, 2D is for very fast moving images, 3D is for slower moving images and Film Mode is optimised for film sourced material (except from Pal 50Hz sources). During testing, it was found that 3D mode was actually a pretty good 'all round' mode, giving pretty good results regardless of the video source. It does a little smart processing of images by using preceding and succeeding frames to estimate motion. The only drawback is a very subtle lag in the picture display. This lag is only identifiable if you have a reference monitor running beside the projected image as happened in the test. With the reference monitor turned off, the lag was more or less imperceptible.

Next came the battery of set up and display tests from Gary Kaaye's software. Using the main RGB input, the computer was tested in its native resolution of 1024x768. With correctly set contrast and brightness settings, this projector had an excellent ability to display extremes of dark and light grey. In fact the 256 step grey scale was one of the smoothest 'blends' this reviewer has seen in a projector under \$100,000. Usually LCD and DLP displays suffer from slight imperfections in the grey scale, appearing as vertical striations. This is largely due to imperfections in the electronics driving the display chip – a problem that Sharp seem to have avoided.

One of the drawbacks of any high light output projector is the difficulty in achieving good blacks – the brighter the light source, the more light that passes through pixels that are supposed to be

(continued over)



No Wonder it has the Best Position in the Boardroom.

The NEC PlasmaSync 50MP1 50" Wide XGA Plasma Monitor

The PlasmaSync 50MP1 is the best way yet to reach an audience and hold their attention. Its flat 50" display is not only impressively large, but it delivers an awesome 1365 x 768 resolution for incredibly sharp detail and colour reproduction. It offers outstanding visibility under all lighting conditions and its thin profile and versatile mounting options enable it to be used virtually anywhere. But that's not all this advanced monitor has to offer. You'll be able to take advantage of the first MULTI SCREEN operations (video and computer images) offered in a plasma monitor, as well as Digital Zoom, full digital compatibility and more. For business, for education, for sales...for whatever target audience you want to reach, the PlasmaSync 50MP1 is the most advanced, dramatic way to convey your message.

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A comprehensive I/O panel



Control buttons on the top surface of the projector

black. This projector manages to get a reasonably decent black level despite the very bright source.

The tests for precise pixel placement also ended up considerably better than expected. The overlaying of Red, Green and Blue pixels to make a white pixel relies on VERY precise (translate to expensive) optics after the imaging chip and before the lens. The Sharp projector manages to successfully overlay the three pixel colours with very little colour displacement, resulting in a very sharp picture.

Physically, at under 20kg, the projector is quite manageable for one person to carry and install.

Like many projectors, this device comes with a mouse interface. However, this projector handles the interface in a very intelligent way. It rightly assumes that a presenter will be closer to their laptop than the projector. So, a USB infra-red receiver device is supplied, and can be plugged into the laptop. The result is that the remote that operates the projector also becomes the computer mouse with none of the distance hassles

Other features of this projector were picture in picture (input from sources 4 or 5 could be placed in a small frame over a main picture from source 1, 2 or 3), digital noise reduction for video sources, a special GUI display of all adjustment settings (this is a great idea), button locking to prevent 'finger trouble' from unauthorised users, and an air filter.

Additional features that were not tested include stacking, RS232 control, DVI input, audio and custom background picture (instead of black or blue) if no input is present. There is also an expansion slot for future upgrades such as SDI input, and networking.

Final Thoughts

This projector is indicative of the trend of increasing quality, high end projectors being produced by companies at a considerably cheaper level than the 'Rolls Royce' brands we have become used to. Increasing technology is driving down the price of precision optics and electronics, and is allowing more players into the projector market. It will be interesting to see how this device from Sharp copes with the harsh realities of hire and production.

The main things I would like to see improved on this projector would be simplified focus control that does not rely on the GUI (i.e. more direct control buttons), and improved blacks. – hardly significant issues considering the price.

Testbed On The Move...

After this month, The Projector Testbed will live in the new Connections insert - Projector. This insert, which first appeared in last month's August issue of Connections, will occur every second month.

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September, 2001

Welcome to Coemar De Sisti Australia Pty Ltd

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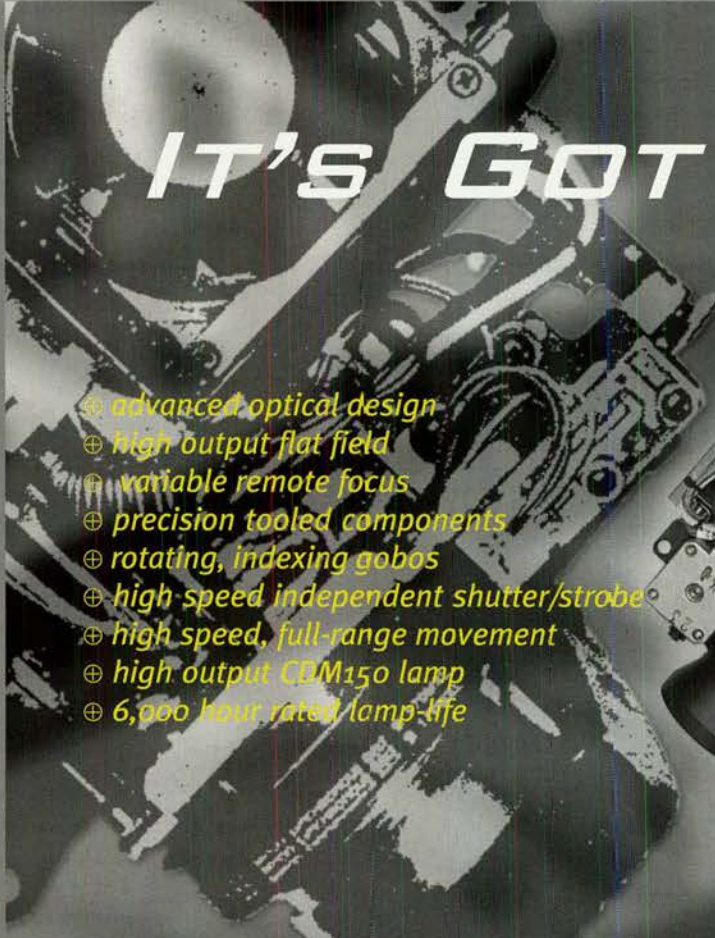
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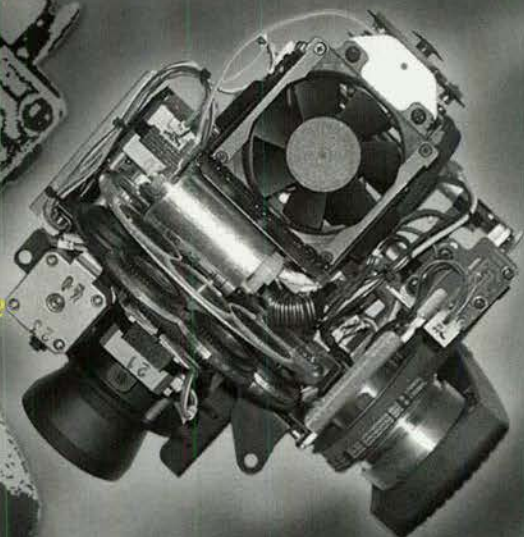
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- ⊕ 6,000 hour rated lamp life



i SPOT 150

Sometimes its what's on the inside that really counts...and sometimes looks are important too! Coemar's new iSPOT is a winner in both departments. This compact and versatile light is loaded with features you just won't find anywhere else - internal programming, gobo indexing, and remote focus to name just a few. It's also much brighter than the competition. So while others try to impress you only with what's on the outside, just one look at the iSPOT and you'll be impressed, look inside and you'll know just why!

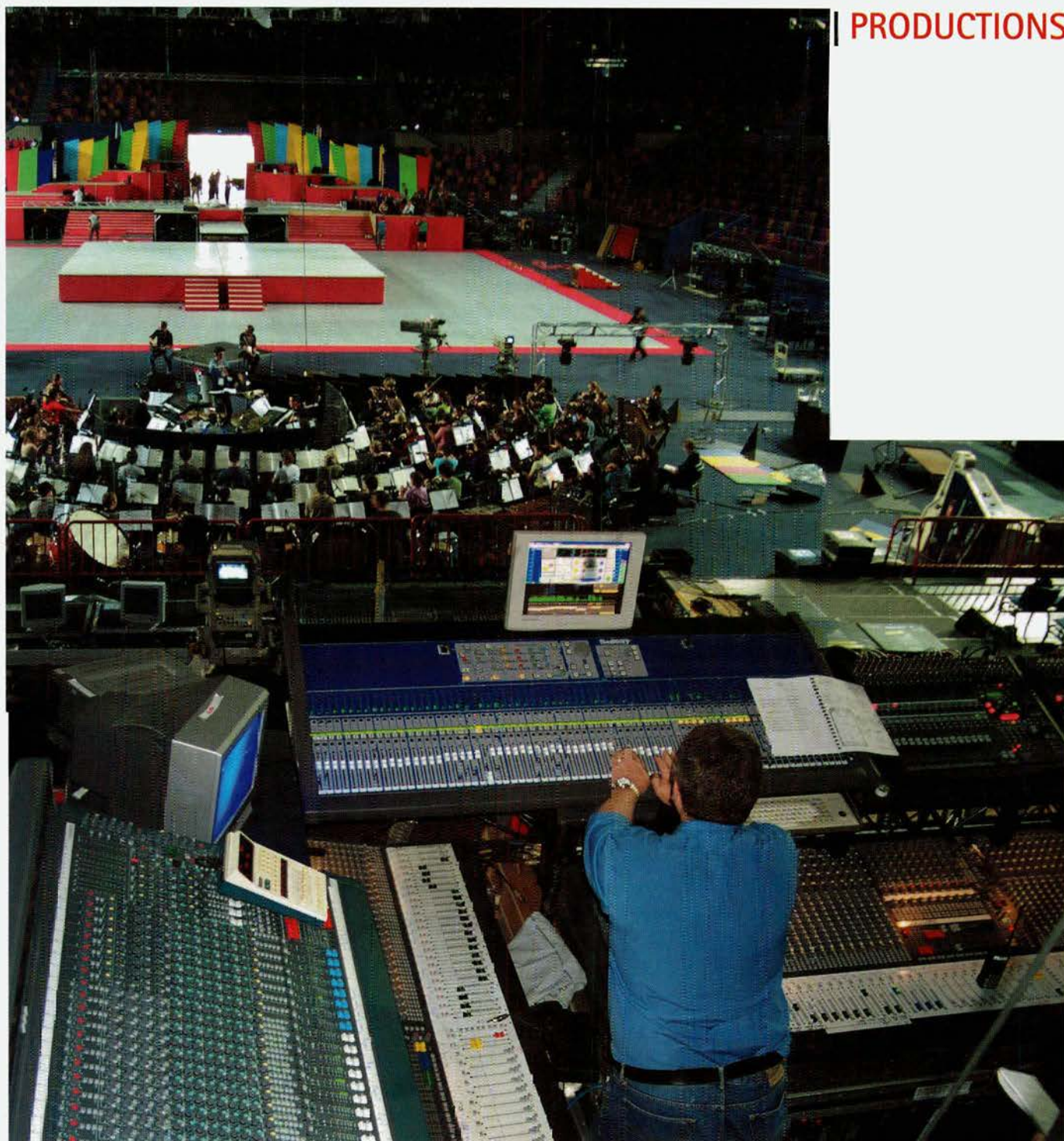


M E L B O U R N E • S Y D N E Y • B R I S B A N E

Last updated Monday, April 3, 2001 22:43:02
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340 channels at the Goodwill Games

The biggest live audio job yet handled. Yep, bigger than the Olympic's opening. We went to Brisbane to see how it was wired up.....

Audio Director **Tony Moffat** gets like Vangelis with more faders than any human has ever attempted alone. Let's see how... At left is a Soundcraft K3 (top) and a Series 5 underneath. He has his hands on an Innovason digital, atop another Series 5. Then there are two Spirit Digi:a' consoles on his right! The venue floor was the stage, with a 100 pce orchestra and in the distance a full rock stage.

It's customary to try to be frugal when specifying live audio, so **Tony Moffat** decided to pair some of the orchestra microphones at the opening gala for the Goodwill Games in Brisbane last month. But the Australian sound designer still ended up with 340 channels and fifteen mixing consoles.

It was the largest live audio show yet seen anywhere in the world, and Moffat also became the first human to mix 216 of those channels, almost alone. The front of house audio position at the Brisbane Entertainment

Centre resembled a massive Vangelis keyboard rig on steroids, or some kind of audio hell – depending on your perspective. One thing was for sure, you couldn't stand up in there and see much, because there were mixers EVERYWHERE!

If you count to seven and get confused, then that's how many FOH consoles there were in use. Moffat was surrounded by two levels of desks: a pair of 56 input Soundcraft Series Fives; a 24 channel Soundcraft K3; two Soundcraft Spirit Digital mixers; and an



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Goodwill Games



Jo Ross & John Simpson, (Network Nine) and Chris Kennedy (Norwest Productions owner).

It's The Doc, aka Peter Wood, trying to figure out where mic #39 will be at minute 47 of the show. Meanwhile Peter Twartz (bottom) already knows, since he is the spectrumeister.....



Innovason digital console. Right next door was another Soundcraft Series 5, this one delegated to rock band mixes for this performer heavy spectacular.

The story starts with young event producer Andrew Lopez getting the nod from the Goodwill Games to produce the televised opening. Most people now know that the Goodwill Games were created years ago by Ted Turner, the ousted chief of CNN, who boldly went where no one dared and threw a couple of hundred million presumably spare greenbacks at an alternate Olympics. The Brisbane games may well have been the last – but it was good business for the region.

Lopez commissioned Moffatt to design the sound. Moffatt's star has firmly risen, he designed the Paralympics opening and closing audio, and has been very active for a long time on the corporate, school spectacular, and televised event audio scene. He also possesses a good voiceover technique.

Moffatt in turn cast around the audio community to see what was available and who would best handle the challenge of an event that used the entire centre floor of the Entertainment Centre as a stage. He settled on Norwest Productions, headed by Chris Kennedy, whose star also rose to giddy heights with the brilliant execution of the Sydney Olympic Games ceremonies, under the master – the GOD of live audio

– Bruce Jackson.

Kennedy now commands the inventory, the experience, and the crew network to do any live show yet dreamed of.

TWO CHALLENGES FOR AUDIO

Two main challenges are associated with a large live audio project. First, you need to capture the sources and mix them into pleasing and believable sound. Then, you need to distribute those mixes to wherever the people are.

Item one is enormously complex, because in this case it involves disparate sources, like a 100 piece orchestra at one end of a stadium, and a bunch of rock bands including The Corrs at the other. In between you have assorted marching bands, opera singers, pop groups, digerido players, and things that go bang and clang. A large number of sources are wireless. And a large number of performers have wireless in-ear monitor systems. Every single performer needs stage monitoring of different complexity. And every single viewer and member of the paying live audience expect CD quality audio.

The three tribes of audio consumer need different mixes. Live sound from the front of house mix position was master mixed by Moffatt, except for the rock bands who traditionally are fussy and carry their own engineers. In the case of The Corrs, they brought in their own FOH console and effects, along with their own stage monitor rig and mixer. The other bands on the bill shared a dedicated console at FOH, and a dedicated stage monitor rig and console.

THE COMPLETE SOLUTION FOR FIXED AUDIO INSTALLATIONS

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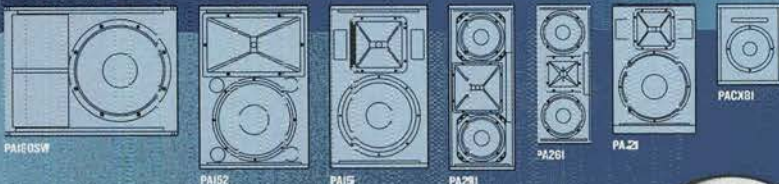
DX8 DIGITAL

THE AFFORDABLE DIGITAL PROCESSOR FOR INSTALLED SOUND APPLICATIONS

The DX8 features 8-by-2 stereo or mono mixing from mic and/or line inputs, 32-bit DSP and 24-bit Analog/Digital conversion, comprehensive EQ, variable compressor, 2 independent RS-232 ports, 48VDC Phantom Power switch per mic input, backup power input and PC-based software.



VISION SERIES



TWO-WAY FULL-RANGE LOUDSPEAKERS

The Vision Series offer accurate, full range sound. They feature RCF transducers, built-in LICC crossovers, dynamic HF driver protection, Baltic birch plywood construction, and a multitude of mounting options.

ART SERIES



TWO-WAY ACTIVE & PASSIVE LOUDSPEAKERS

The ART Series are considered by many to be the best sounding small monitors available. They feature both 12 and 15-inch transducers, active and passive models, plus rugged, resonance-free molded enclosures.

MONITOR SERIES

COMPACT, UNOBTRUSIVE LOUDSPEAKERS

Compact size and a wealth of mounting options make the Monitor Series perfect where visually appealing, high-quality audio is a primary consideration. Features include 5 models, black and white, built-in multi-tap constant voltage transformer (1W, 2.5W, 5W, 10W, 20W), and LICC crossover with high frequency dynamic protection.

SOUND PALETTE

SOPHISTICATED SOUND CONTROL FOR THE NON-TECHNICAL USER

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

4000 SERIES INTEGRATED AMPLIFIERS

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

MACKIE INDUSTRIAL

Goodwill Games

LIGHTING THE GAMES

BY JOHN GRIMSHAW

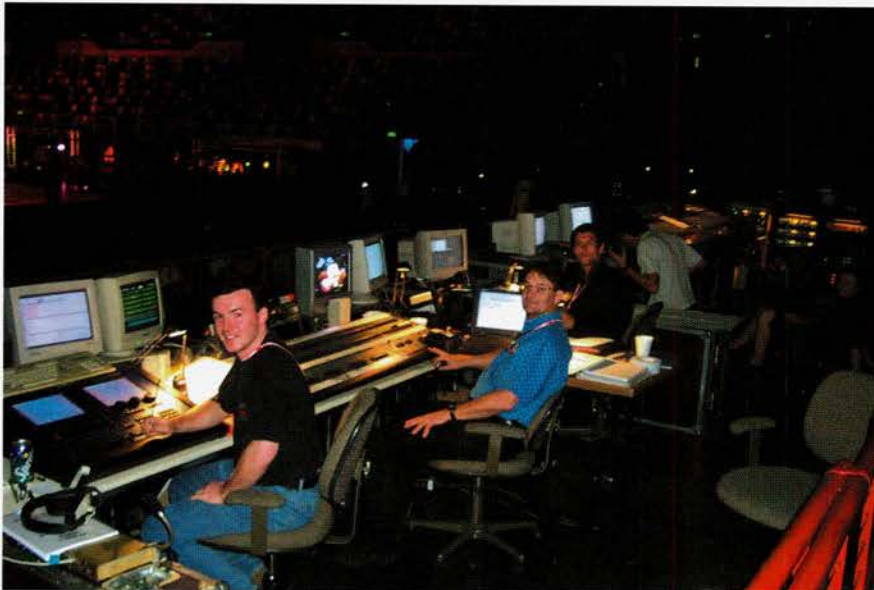
Lighting for the Goodwill Games was certainly a big exercise in execution due to the sheer volume of lights that had to be rigged in the limited time available.

Lighting Director for the Opening Gala **Steve Leiter**, and his crew spent long hours on the preceding Sunday plotting the more than 180 moving lights rigged for the show. In fact, the session did not finish until 7am on the Monday, but that did not stop Steve showing up at 2pm on the same day (perhaps looking a little ragged round the edges) for the technical rehearsals.

Chameleon supplied the crew and equipment for the rig that took around 16hrs to install. The design consists of several triangle shapes, built out of tri-truss and suspended over the main performance area. Surrounding this is a perimeter of truss to supply the

(cont pg 44)

Pic: (left to right) Ian Anderson, Steve Leiter (LD), Jason Waide and Hugh Hamilton. Hugh – a veteran lighting technician of numerous big shows - was busy solving what turned out to be an "ESU" problem with his DMX line to one of the Corrs lighting trusses. Hugh explained that ESU stood for "Equipment Superior to User" – apparently someone forgot to plug in the DMX line to that truss.



The TV audience/tribe took their mix from a room buried away in the dungeon, where Network 9 (Australia) had appointed **John Simpson** as head engineer. He mixed on four consoles, assisted by **Jo Ross**. They sent their mixes to **Steve Corresh**, outside in the Global OB truck. Norwest supplied the equipment in the broadcast mixing bunker, and appointed **Garry Hall** as broadcast audio equipment engineer.

The consoles in the broadcast room consisted of an Amek Recall (hired in for the occasion as it is favored by Simpson), two Ramsa SX-1 large format consoles, and a gleaming purple Midas Heritage 3000 – which was the Master Console for live sound at the Olympics.

Finally the most fernikity tribe of all, The Performers (Talent, trouble, whatever you choose to call Them) were catered to from both ends of the arena, where four monitor consoles were staffed at all times. These sent – variously – a Corrs mix (they used the Midas console from their Jands touring rig), a band mix for rock bands on stage, an in-ear mix and wedge mix, and an orchestra end wedge mix.

Interconnecting the several million dollars worth of consoles and 340 audio sources was a nightmare of multicore cables, passing through XTA active splitters to generate three isolated signal paths for each one channel of audio. These were for FOH, Broadcast, and stage monitors, the idea is to isolate each mix to minimise potential for ground loops. Norwest possess the multicores and the splits to do a show like this, not to mention the several tonnes of microphone cables – and the microphones themselves.

On the subject of multicores, a decision was taken at Audio Management Level (AML) to redesignate the multicores as

'strings'. Presumably this was to avoid confusion when talking about the leading act, namely The Corrs.

WIRELESS MANAGEMENT - AND SLENDER FEMALE BODIES

Finally, in the story of the gathering and origination of audio at the games gala, the increasing proliferation of UHF wireless means any medium to large event needs specialist spectrum management. Otherwise interference from closely spaced or unauthorised sources will spam an otherwise perfect mix.

Norwest called in two of their far flung network of crew to spearhead the wireless management at the show. Peter Twartz is by day the procurement and international supplier liaison officer with Jands Electronics.

He has a long background in live audio, and when Jands moved heavily into wireless systems with Shure some years ago, became the company expert on frequency spectrum. "I've got an awareness of what you can, and can't get away with legally", he stated. Twartz ministered to 40 channels of Shure U Series wireless microphones, supervised the 15 channels used by The Corrs, and also administered frequency use of the 20 sets of IEMs (in ear monitors) used around the show. Wireless management involves being organised, because the same wireless mic or headset can be shared between performers appearing at different times on the schedule. Twartz had a rather lengthy spreadsheet, where each vertical segment represented a minute of the performance, and each horizontal line a wireless channel.

The other key person in the wireless department was The Doc. **Peter Wood** has an excellent bedside manner, which is necessary when applying a transmitter pack to the body of a young and slender female performer of the kind found in the girl group Bardot. These virtual silhouette Barby-esque body forms in the hipster jeans present a challenge in terms of hiding a transmitter and secreting wires. Luckily The Doc also has a day job as an E.R. Medic at a major Sydney emergency hospital, which pays slightly better than Norwest. The Doc does live sound as a hobby, starting off with a Church some years ago, which is where an increasing number of audio and technical crew now come from.

Doc's domain was a little room somewhere in dressing room alley, where he carefully issued wireless mic's and belpaks, dressing them onto performers where necessary, and retrieving them when the segment ended. He needed to keep it together, because his collection of available microphones and systems (40 or so) was exceeded by demand. Wireless also means batteries, and Doc had a

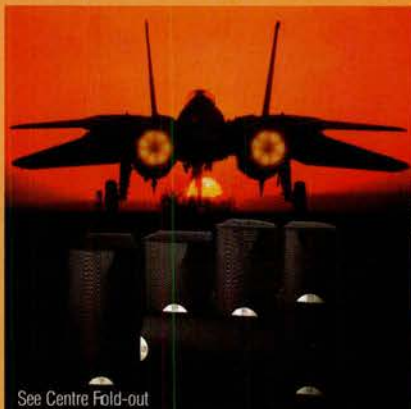
BREAKING THE SOUND BARRIER

BlackLine packs 30 years of Martin Audio concert speaker design into an all-new range. Designed for both portable applications and fixed installation BlackLine provides the flexibility of multi-angled cabinets, rotatable Mid/HF sections for horizontal or vertical alignment and pole, wall or flying fixture options. Engineered 'Road-Ready,' BlackLine incorporates multi-laminate birch ply and perforated steel grille construction, Speakon inputs and compact external dimensions.



F215 BlackLine Speaker

The latest BlackLine addition, F215, is a double 15 and horn speaker targeted at FOH, side/drum fill or a formidable horizontally mounted dance floor speaker. Although a two-way passive design the F215's twin 15" drivers play different roles in the frequency band. While both drivers have the same low frequency characteristics and operate together up to 250Hz, only the upper driver, a specially designed, low distortion bass-mid device, is used up to the 1.3kHz crossover point. This technique avoids the uneven response that occurs when both drivers operate together over the mid-band.



See Centre Fold-out

BlackLine from:
\$A 2,095,
(\$NZ 2,795).
More Info:
[www.tag.au.com/
bline.htm](http://www.tag.au.com/bline.htm)



A&H LAUNCH POCKET BATTLESHIP

Allen & Heath's new ML Series consoles pack enormous firepower

monitors or IEM feeds complete with separate level, pan controls and faders.

into surprisingly compact frames. The two models released so far, ML5000 and ML4000, are designed to meet the demands of large-scale live performances, theatres and festivals. In a nutshell these dual-function big-league consoles come fully loaded with 8 VCA's, 8 sub-groups, 16 auxes (12 for ML4000), 8 mute groups, 128 'snapshot' memories (ML5000), enhanced LCR speaker positioning, IEM feeds and intercom stations for single headset operation of both monitoring and communications.

Comprehensive EQ includes a high pass filter and 4 band parametric controls with sweepable 'Q' on the mids (switchable for ML4000). Construction leaves nothing to chance with extruded aluminium beams, individual vertically mounted circuit boards and interconnection via plugable harnesses.

ML Series is available in three frame sizes 32 Channel: 32 Mono + 4 Stereo (+2 Stereo for ML4000), 40 Ch: 40 + 4 (+2) and 48 Ch: 48 + 4 (+2). Two 24 mono channel sidecar expanders can be added to each console which, when linked to a 48 channel frame, can provide a total of 100 channels.

The LCR plus positioning system extends signal imaging beyond conventional LR and LCR panning by allowing full 3-speaker balance and positioning from each channel and group. For example, a backing instrument such as a guitar, typically routed to LR, can be brought up in the centre speakers for the duration of a lead solo to improve focus and clarity.

ALLEN & HEATH

ML4000 from \$A42,995 (\$NZ55,895),
ML5000 from \$A54,995 (\$NZ71,495).
More Info: www.tag.au.com/ml4000.htm
& www.tag.au.com/ml5000.htm

The sub-group/auxiliary system offers the flexibility to individually assign fader masters 1-8 as either pre-post aux sends or audio subgroups. Aux sends 9-16 (9-12 for ML4000) are designed for conventional use as individual auxes or optionally paired for stereo wedge



TECHNICAL AUDIO GROUP
Investigate: www.tag.au.com



A CD Player that speeds or slows a CD WITHOUT changing the key!!

Designed for performing artists learning new dance routines, for musicians transcribing music or learning a riff, or, for fitness studios controlling the tempo of a workout the new Superscope CD players speed or slow a CD without changing the key. Combined with an A-B loop that continuously repeats a track or section of a track, lead vocal suppression to reduce lead vocal volume and the capability to change the key of a

CD without changing the speed, to literally tune a CD to a singers vocal range, these unique CD players are tailor-made for the performing arts. They're available in a portable format (PSD220/230) for musicians and teachers, or, in a rack mount 'installation-in-a-box' format (PAC750/770) for fixed installations in churches, schools, studios etc.

The installation PAC units also incorporate a cassette with +/-15% pitch control, a simple mixer with four XLR mic/line controls complete with two-band EQ, pan, phantom power on/off and mic/line switch

inputs, a ducking facility to mute or reduce music levels when a mic/line is active and a 110w/ch power amplifier (PAC770 only).

Remote control options include a wristwatch type IR with stop, start, pause, track, pitch and tempo controls (PSD Only) and a wired foot pedal with play and pause.

PSD Portables from \$A 1,295RRP (\$NZ 1,695),

PAC Rackmount from \$A 3,195RRP (\$NZ 4,195).

More Info: www.tag.au.com/sthome.htm

DR STAYS IN PEAK DIGITAL CONDITION

The aptly named DR Series is just what the doctor ordered for small to medium sized installations like churches, hotels and function centres where inexperienced staff need to make complex systems adjustments. The DR128 (12 in/8 out) and DR66 (6 in/6 out) are both cross-point matrix mixers incorporating EQ's (31/15/7 band graphic or 8, 6, 4 and 2 band parametric), compressors, limiters, gates, cross-overs, duckers, gain and level controls and architectural delays. Now with WinDR V2 the Dr has added some revisions and updates to stay in peak digital condition.

Partial patches now provide true independent zoning with 99 available presets to allow changes within individual zones while leaving other parts of the system unaffected.

'Ducking' functionality is vastly improved with the provision of twelve levels of priority (formerly three).

Remote control has been greatly simplified with a direct connection to the existing RS232 port - bypassing the need for a SYSNET card. This faster (19200 baud) connection with simplified MIDI-style instructions is compatible with control strings for other Allen & Heath products such as the ICON and ML Series. Needless to say system cost is also greatly reduced.

ALLEN&HEATH

DR66 \$A 4,295 (\$NZ 5,585).

DR128 \$A 7,295 (\$NZ 9,485).

More Info: www.tag.au.com/dr.htm

TWO STEPS FORWARD ONE STEP BACK



Marantz has

taken CD Recording another giant step forward with the introduction of two new machines the CDR631 and the dual deck CDR500.

Both units offer the most professional of features including a 1MB memory buffer, menu selectable SCMS copy protection, CD-TEXT read and write, IR remote,

comprehensive ins and outs including AES/EBU XLR (CDR631) and the ability to record from virtually any audio source: CDs, LPs, cassette, DAT or computer soundcard output.

The CDR500 adds the unique Automaster(TM) feature for 'Disk At Once' (DAO) copying of a track-by-track recorded CD's. Simple, quick and inexpensive the CDR500 can produce a Red Book Glass Master ready for CD pressing.

Surprisingly these leaps forward in CDR/RW technology are accompanied by a step backwards in price!

CDR631 \$A 1,995 (\$NZ 2,595),

CDR500 \$A 2,295 (\$NZ 2,995).

More Info: www.tag.au.com/cdrw.htm

THE SECOND MOUSE



Marantz have left designing their most comprehensive CD players to this late stage in the CD's life cycle. The thinking is that although 'the early bird gets the worm,' it's the 'second mouse that gets the cheese!' Incorporating market feedback from broadcast, post and live sound reinforcement, designed and built in Japan and field tested around the world you'd expect the new Marantz PMD330/340 Series to be right on the money. The challenge now is to find something you DON'T like about them!

PMD330 \$A 1,095RRP (\$NZ 1,495),

PMD331 (Heavy Duty/Balanced):

\$A 1,495RRP (\$NZ 1,995),

PMD340 (Super Heavy Duty /Balanced):

\$A 1,795RRP.

More Info: www.tag.au.com/cd.htm

marantz
Professional

SECOND GENERATION POWERLIGHT

Rather than resting on the multi-award winning PowerLight's well-earned laurels, QSC have developed PowerLight 2 a new amplifier incorporating recent developments in component design and manufacturing techniques. Like the PowerLight, PL2 is designed for the rigors of touring and packs more features and power into a smaller chassis with accompanying cost savings.

PL2 is fully compatible with QSC's DSP-3 (see below) enabling live sound professionals to set and lock an amplifiers performance for a tour or venue. Even if Digital Signal Processing is not currently an issue the value of a future proof amplifier is a consideration not to be dismissed lightly.

PowerLight 2 'A'

There are two versions of each PL2

model: the standard 'Base' version and the 'A' or Analogue version. 'A' versions were developed in response to feedback from the tour sound market and offer internal analog signal processing including selectable input sensitivity/voltage gain, adjustable two-way 4th-order Linkwitz-Riley crossover with low-frequency delay for driver time alignment, adjustable high frequency attenuation, independent power limiters on each channel with threshold, attack and release times and adjustable CD Horn equalization. Full DSP capabilities may also be added to 'A' versions via a DSP-3 Module.

All PL2's are 2RU chassis, 350mm deep and weigh just 9.5Kg. PL218 600w/ch @ 4Ω \$A 3,295RRP, PL224 825w/ch \$A 3,995RRP, PL230 1,050w/ch \$A 4,595RRP and PL236 1,300w/ch \$A 5,195RRP.



DOWNSTREAM DSP



Never the sort of company to leave you up the digital creek without a monitoring and control paddle, QSC's approach to DSP is as effective for small systems as it is for large - and it works!

DSP for small systems: ONBOARD

Simply put QSC's DSP-3 module bolts to the back of a DataPort equipped amplifier to enable the laptop armed audio engineer to configure and lock, via password protection, an amplifiers' DSP & signal processing settings for a tour or installation. Crossover, shelf and parametric filtering, signal delay, compression and peak limiting are all accessible via user-friendly 'drag-and-drop' software with settings saved and recalled for future use and the latest firmware downloaded via the RS-232 serial port. That's as simple and effective as DSP gets!

DSP3 \$A 1,495.

More Info: www.tag.au.com/dsp.htm

DSP for larger systems: OUTBOARD

For real time monitoring of extended systems QSC's new CM16a provides 16 channels of gain control, monitoring and amplifier management for DataPort equipped QSC amplifiers or for remote real time control of 16 channels of DSP-3 modules. Control and monitoring data is communicated, PC to CM16a, via an Ethernet network and CM16a to amplifier via its DataPort.

CM16a \$A 8,995.

More Info: www.qscaudio.com/products/amps/qscontrol/cm16.htm



QSCControl II

As the system grows so does QSC's DSP solution. QSCControl II is a powerful and flexible system that provides remote management and diagnostics of QSC amplifiers and other audio devices over an Ethernet network. Hundreds of amplifiers can be monitored and controlled simultaneously along with a wide range of advanced functions, such as event logging and real-time monitoring of loudspeaker open or short circuit conditions.

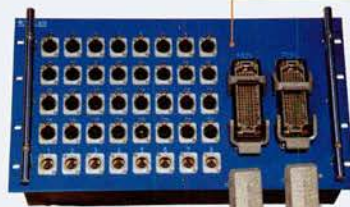
More Info: www.qscaudio.com/products/amps/qscontrol/qsintro.htm



Anatomy of a concert multicore

MultiCores are the arteries through which audio flows. But when arteries become clogged or blocked the result is never going to be good... who better to trust with your arteries than those clinical Germans from Klotz? They know it's a matter of life and death, so when they design their MultiCore Systems they can't wait to over specify, over engineer and over test them.

Lets put a Klotz system on the slab and see what's inside:



RACKMOUNT STAGEBOX

- Parallel Harting MultiPins FOH And Monitor
- 4mm Anodized Aluminium Front Panel
- Stainless Steel Handles

FOLDBACK SPLIT

- Ultra Strong Kabelschuttschlauch (Fan Breakout Housing)
- Uneraseable Connector Numbering
- Extra Strong Wire Cable Restraint
- 10Mtr Cable Length
- Tough PF Type Cable
- Harting MultiPin



MULTICORE

- Typically 50Mtrs
- Tough PF Type Cable
- Harting to Harting MultiPin

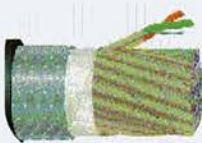
CUSTOM OPTIONS:



Litton Veam Tour-Lock MultiPin Connectors: Add \$A 2,400 RRP (\$NZ 3,100)



Individual Earth Throughout incl. Stagebox Earth Lift Switches: Add \$A 2,000 RRP (\$NZ 2,600)



PS Type OB Spec Cable: Add \$A 475 RRP (\$NZ 625)



FOH FAN

- Harting MultiPin
- 3.5Mtr Cable Length
- Ultra Strong Kabelschuttschlauch (Fan Breakout Housing)
- Extra Strong Wire Cable Restraint
- Uneraseable Connector Numbering



The 32 input/8 return 50Mtr concert multicore system, dissected here, is a standard and a stock item at TAG Part# KM H32/8/50 \$A 10,780 (\$NZ 14,015). But don't be deterred from specifying your ideal fully loaded configuration. Klotz can build to your design; length, size, configuration, componentry and deliver within six weeks.

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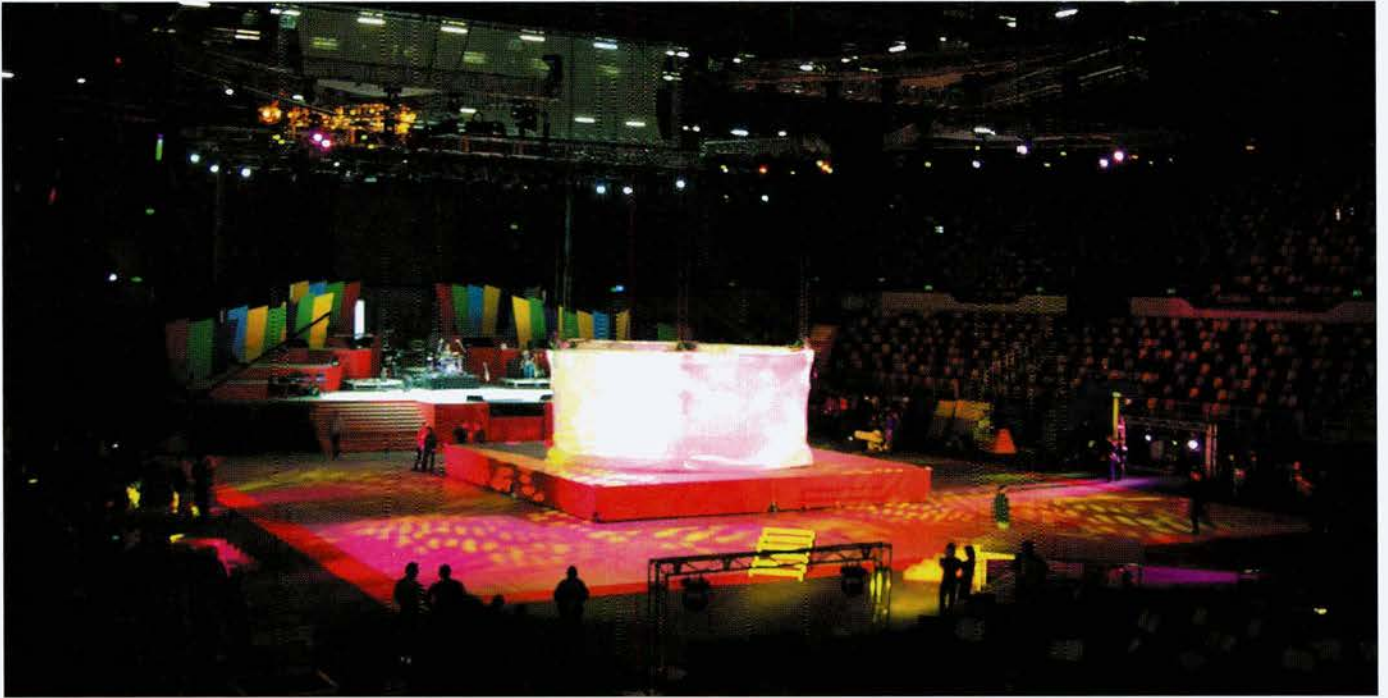
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LIGHTING THE GAMES (cont)

main lighting for the large performance space.

Leiter described the event as not so much a complex show, but there is a lot of it. With a main performance stage at one end of the arena, a full orchestra at the other end, and a full scale dance/performance space connecting the two, there is a great deal of 'real estate' to light.

City Colour CMY floods were chosen to be the workhorse fixture to flood the main performance areas, and with 20 of them in the air there was enough punch in even the darkest colours for the cameras to be able to capture the event.

The show itself consisted of a collection of around 40 performance vignettes, speeches, and other presentations. Each of these had to be lit for television as well as the live audience. Leiter explained that with everything on such a big scale and short timeframe, it was not possible to get too detailed with the plot.

One of the problems faced by Leiter was the four moving stage 'trucks' that were used on the main floor. Each of these was over 1m off the ground, and would have made side lighting from the floor less than effective. The solution

(cont pg 46)

couple of hundred AA and 9v batteries on hand for battery charges. The half used batteries were collected and taken to the children's ward at Doc's hospital for kids to use in their Walkmans and games. "John Farnham suggested that at the Games last year, so I do it", he enthused.

Twartz found available frequencies on the MA (782 – 810 MHz) and UB (692 – 716 MHz) bands. He advised that 28 of these frequencies could be used together at any one time with minimal risk of interference.

While Connections was talking to the crew during rehearsals, the Comm crackles with a message for Doc: "The girls from Bardot are finding their headsets are too tight. Can you attend?" "With only too much pleasure" comes the response!

IN THE AIR – STACKS AND RACKS

The other challenge in live audio is The Distribution Of Sound, and in this case it was achieved admirably. Twelve clusters of EAW Virtual Line Array KF 860/KF 861 cabinets were flown around the perimeter of the arena.

This EAW line array system was the first line array introduced into the region, and the actual 48 cabinets used for this show were the entire complement Northwest used at The Olympics. Admittedly the 110,000 outdoor Olympics crowd also had audio supplementation from the house Bose system, and a variety of flown EAW KF 750 cabinets.

Moffatt chose the EAW system having used it for the Paralympics and at various corporate shows over the past two years. The flown arrays comprised clusters of four, or three, cabinets, which gave Moffatt enough

directivity to keep gain before feedback (the number one enemy of event sound) at bay.

With a staggeringly large area used for the performance, with a stage at one end and an orchestra at the other, the question of time domain looks intriguing. Moffatt could move any of the speaker clusters towards or away from the source in time. But he didn't.

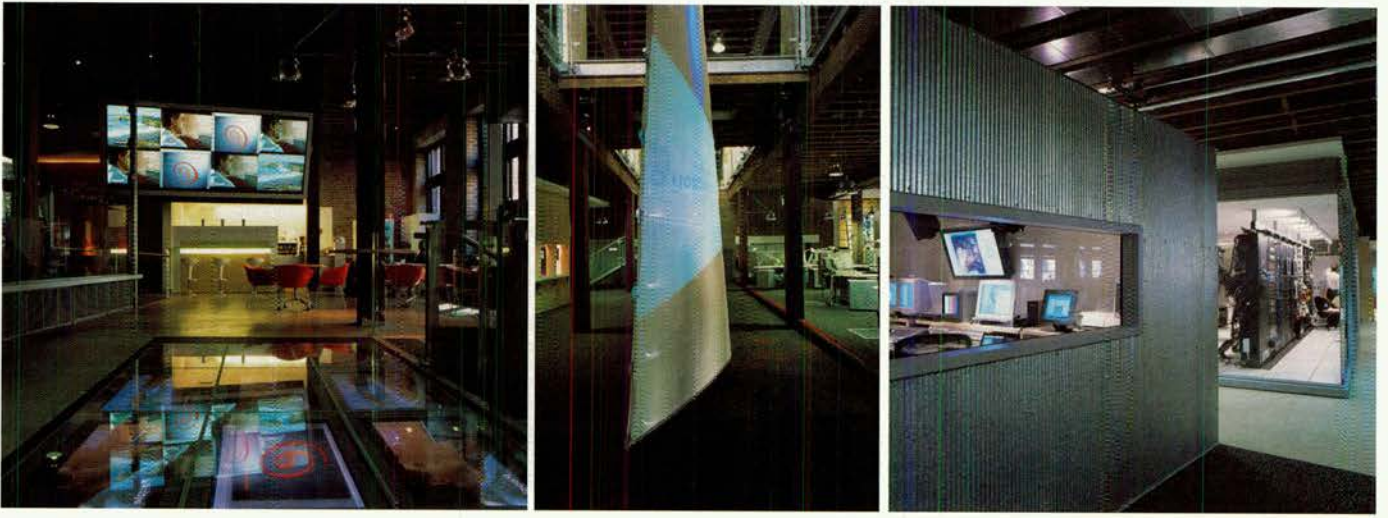
"To chase all these sources with delays would be almost impossible" he commented. "Placing them at zero produces the best result". Zero time was ascertained as being around the edge of the arena floor.

The Corrs chose to re-define the speaker systems with their time zero at the front of their stage so each cluster was progressively delayed the further each was away from the stage. This could be done with ease using XTA AudioCore software, controlling each rack of amps up in the gantry.

THE MIX

Finally Moffatt had a bewildering array of sources to mix, including some 24 track material from a Mackie HDR 24 hard disk recorder, CD effects and sources, and the microphones.

He used a Series Five console for all main vocals, rhythm section, and feeds from the other consoles in his domain. These included the Spirit Digital consoles, one for the Mackie HDR-24 hard disk recorder, and one for backup. The Innovason digital console handled the orchestra, with many channels split so there were two microphones on each. You can do this with string sections and some percussion – just make a 'Y' lead, or more elegantly, a box in Northwest's case. Everyone splits orchestra mic's, it's The Done Thing.



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Goodwill Games

LIGHTING THE GAMES (cont)

was provided by Chameleon in the form of six specially made truss floor stands. Under slung from each floor truss were two Mac 600's, with the side trusses carrying an additional two Mac 500's on each one. The trussing raised the centre of the beam to above the floor height of the trucks, without being too obtrusive. In fact, the truss looked to be part of the intended overall design, with similar truss rigged throughout the area above the stage.

The system was controlled by two Whole Hog II's, with a Jands Event looking after the few conventional lamps that were used. Leiter himself will be behind the controls of the Event, while **Ian Anderson** and **Jason Waide** drove the Hogs.

Within the main lighting rig, a separate installation was required for Killing Heidi and The Corrs performances on the main stage. In charge of seeing over this part of the show was **Hugh Hamilton**. His rig sat on a few stage trusses, installed especially for this purpose. It consisted of an additional 63 moving lights and other conventional fixtures, and was driven by its own Hog with an additional Whole Hog Wing Board.

Lighting Equipment Used

Moving Lights

Clay Paky Stagescan	20
Martin Mac 2000	18
Martin Mac 600	84
Martin Mac 500	72
Martin Mac 250	16
City Colour	25
Martin Pal 1200	15
Genie DMX Strobes	8

Conventional Lights

2kW Castor Fresnels	16
5kW Strand Fresnels	22
Par56 Chrome Stubbies	42
Molefay DWE Duet	18
Molefay DWE 6-lite	6
Molefay DWE 8-lite	10
Shakespeare Profiles	22
Altman 705 UV Flood	3
Altman 703 UV Fresnel	9
Wildfire UV 400w Fresnels	2
Par64 NSP	22

Effects

Flame Lights	20
4k Griven Imperial	6

The other Series Five console in Moffatt's mixing world handled various Choir microphones, and the Souncraft K3 took submixes, CD's and effects.

Some stray and interesting sources: the digerido's were mic'ed with tiny little Shure WL 93's. One dig was an interesting adaptation of the traditional hollow log instrument, dubbed a Trom-doo, essentially two sliding pieces of PVC pipe, so the performer - Adrian Ross - could change the key.

Another interesting thing, this time conceptualized by The Doc. These are shotgun wireless booms, essentially an EV N-Dym shotgun, on a stick, with a wireless pack stuck to it. Used as portable effects mic's where there are marching bands or suchlike. Just send a crew member out there to chase some sources!

So, another audio milestone is established, and we wonder when it will be when this one is bettered. Well done to all concerned!

- By **Julius Grafton**

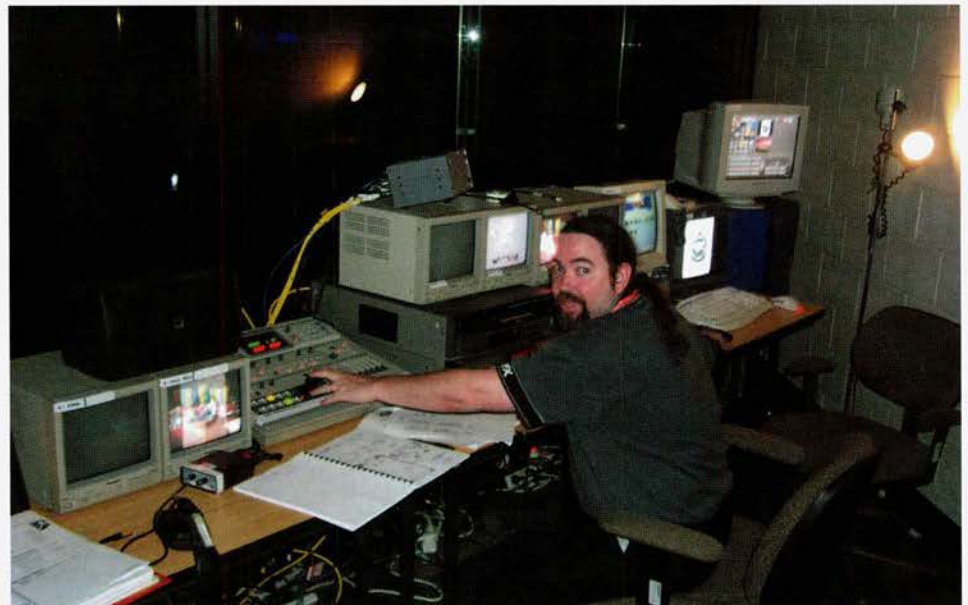
AVFX at Goodwill Games

Performance AV for the event was supplied by new Brisbane company, AVFX. This mainly featured the three screens over the main stage, providing some images for the live audience, visual backdrops for the stage and some logo and special tape rolls for the performance.

A special highlight of the show was the hexagonal screen that lowered in for a special 90sec presentation. Each of the six sides were covered by two Sony PX31's, projecting the centre third of the image onto the wrap around screen.

Other equipment used by AVFX were 2x Sony FX50 mixers, 2x Sony DVW-A500P Digital Betacam playback machines, a Casablanca Digital Hard Drive playback device and the Trinity Visual Effects system.

Channel Nine provided the live broadcast personnel and equipment, with the show being broadcast from there throughout the world - except Australia! (*John Grimshaw*)



Greg McBlaine - Senior Technician at AVFX - in the control room for the live AV effects

The Broadcast That Never Was

It was interesting that Channel Nine chose not to broadcast the Opening Gala nationwide, instead opting to only show it in Brisbane.

Perhaps the reason for doing this was probably as simple as they did not want to disturb the ratings of the successful 7:30pm lifestyle programs, CSI, Stingers and West Wing.

Sources in Brisbane (well, it was my brother), say that the broadcast was not the most captivating television in history. Still, the choice not to show the event surely meant that the ratings of the following competition days may not have been as good as they could have been.

(*John Grimshaw*)

(below) The Clipsal Vision screens being delivered to the Brisbane Entertainment Centre on the day before the opening.



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High End X-Spot

by Mandy Jones

High End Systems' Xspot was launched onto the Australian market by Universal Lighting and Audio recently. Launches were held in Queensland at ULA's new premises, and at the Crown Casino Palladium in Melbourne. Connections went along to take a look...

Around 100 members of the industry attended the two Melbourne sessions, and according to company director Con Biviano the response couldn't have been better.

"The launch has been unbelievably successful. The people who have come along have actually wanted to see the Xspot and are High End advocates and supporters. It reaffirms that Melbourne is the strong-hold for High End Systems in this country. Between companies like Clearlight Shows, Bytecraft and Lighting Lab we do a lot of business here," said Con.

Leanne Aitken from High End Systems in Austin, Texas was pleased to be a part of the Melbourne launch. Looking around the male dominated gathering she commented how much she loves this industry.

The Palladium was chosen for its appropriateness - with well over 200 High End fixtures in the Crown foyer it was certainly an ideal location to launch the newest member to the High End range.

"The Palladium is an impressive room plus it was perfect size-wise with a long throwing distance to show a fixture that on paper has 45° zoom but in reality goes out to 49° zoom. You need the distance and with the 28 metres between the unit and the stage it was very impressive," explained Con.

Con said one of the biggest advantages of the Xspot is its modular design allowing for updates in technology to be incorporated into the fixture for years to come.

"People are quite impressed that they can purchase a product that's going to take them into the next seven to ten years before it's going to be phased out by anything else because it's



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modular. And that's a huge advantage. A lot of people that I've now spoken to still own Trackspots and Intellabeams that they've had for ten years and they still swear by them."

Sometime soon, ULA and High End will be running technical training sessions.

"Lighting technicians will be trained in the Xspot as well as having a refresher on the whole High End range. Our aim is to have High End support in every state, which we have with the rest of our product range, so if things go wrong the night before a gig, operators can get support locally. And we're offering a level of technical training to the operators as well."

ULA have High End Xspots in stock and are shipping now. Already Phil Stafford at ELS on the Gold Coast has snapped up the Xspots used on the Goodwill Games.

Product Overview:

The Xspot's standout features are its continuous zoom range, modular construction, and colour and effects wheels.

With an f2.0 (4:1) 11-element zoom lens, the Xspot has a range of 11° - 45° (actually 49°), and its precision optics and focus tracking mean that images remain in focus throughout the zoom range.

The standard Xspot features 2 gobo wheels with 14 rotating and fully indexable LithoPatterns, and an effects wheel with seven rotating fully indexable effects. Triple morphing can be created by moving focus through each of the three wheels, seamlessly merging from the first image to the second and then to the third, resulting in amazing effects.

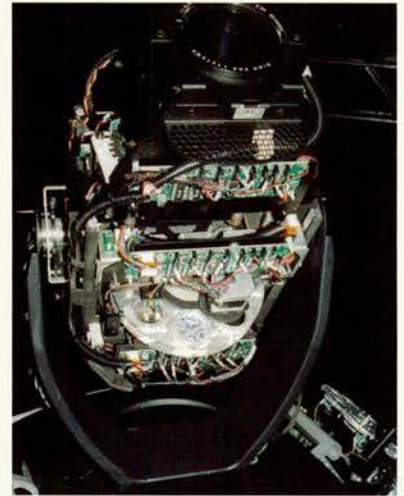
The colour mix module features five separate

colour wheels - cyan, magenta, yellow for CMY colour mixing, plus CTO and CTB filter wheels allowing colour temperature corrections covering the full range from 3000K to 7500K. The Xspot also features a 5-position dichroic colour wheel, plus open white, with replaceable colours.

Other features include smooth linear dimming, mechanical and electronic strobe, and variable frost and iris. With 630° pan, 240° tilt and self-adjusting variable speed fans for quiet operation the Xspot is suitable for all applications from concert to theatre.

Dimensions: 825mm x 523mm x 521mm.

Weight: 32kg

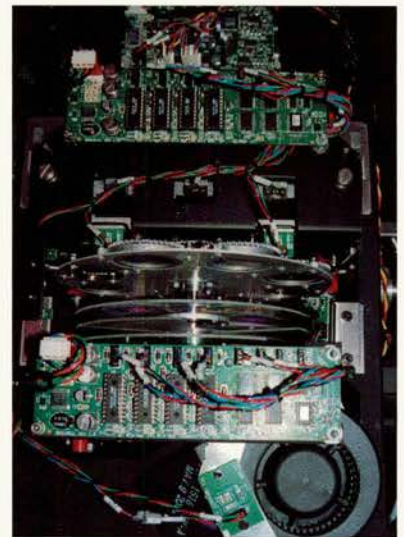


X-Spot Launch:


Back - Luke Hall, Con Biviano, Leanne Aitken (from High End) and Dave Jackson. Front - Alex Saad and Justin Knox



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SIGNAL PROCESSORS AND DSP SYSTEMS

This month we list what is currently available in the Australian signal processor market – neat devices essential for organising audio signal and keeping it from becoming pesky, allowing sound engineers to concentrate on other more pressing matters... Where possible we have attempted accuracy in specification and pricing. All prices quoted are inclusive of GST.



Bellari LA 120



Behringer Composer MDX2200

Compressor/Limiters

Aphex AX320A Compellor

Delivers intelligent compressor action, levelling and peak limiting simultaneously, can be used to solve audio level problems and improve audio signals in the broadcast studio, recording studio, film dubbing studio, duplication work and live sound. Virtually undetectable operation regardless of the dynamics of the program. Dual mono or stereo operation

- \$4032

Aphex AX720/722 Dominator 11

Precision multi-band peak limiter. Transparent brick wall limiting using multi-band techniques and patented automatic limit threshold which allows for higher output level (loudness) without distortion or

hole punching. Gets the most bits into digital, the user has the flexibility to shape the sound while quickly and easily achieving the goal of consistent effective limiting. This product is something of an icon in the recording, sound contracting and broadcast industry built entirely in the USA from ultra high grade components, the dominator continues to fit a wide range of applications in the digital age.

- \$4,000

ART PRO VLA Tube Compressor

The PRO VLA (Vactrol-based Levelling Amplifier) is a multi-purpose tool for audio engineering and recording. Enclosed in a 2U (3.5" high) rack-mountable chassis are two independent channels of analogue levelling/compression designed to work seamlessly with any recording, sound-reinforcement, or electronic instrument set-up. ART's PRO VLA circuitry is a hybrid design utilizing the latest and most advanced analogue and tube technology. Using a transformerless design throughout, the PRO VLA maintains exceptional signal integrity and extremely low noise. Its VCA-less design utilizes optical electronics (Vactrol) coupled with a 12AX7 vacuum tube gain stage for superior musical performance.

- \$1,999

ARX Afterburner

A Dual channel 'enhanced' comp/limiter switchable to single channel Low/High compressor. Balanced XLR and Jack ins and outs, 'Enhance' circuit, wide scale metering, all in a neat 1RU package. Great for Live or Mastering. ARX products are made in Australia and are one of the only Pro Audio product lines to actually reduce in price since GST came in Check out the LIVE SOUND MIXING homepage: www.dunkworld.com

- \$876

Behringer Composer MDX2200

Reference-class interactive 2-channel expander/gate/compressor/limiter, fully automatic or manually adjustable attack and release, selectable dual mono or stereo, precise 12-segment displays for input/output levels and gain reduction, Switchable side chain input with side chain monitor function, Selectable operating level (+4 dBu or -10 dBV), Servo-balanced In/Outs, XLR and 1/4" TRS connectors.

- \$599

Bellari LA 120

The new LA 120 is a single channel tube compressor/limiter with a variety of important features and options. The unit has a Threshold control and a Comp/Limiter switch for setting the compression and an output level control to adjust the output volume. The

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Art	Network Entertainment Technology	+ 61 1800 645 081	www.guet.com.au
ARX	ARX Systems	+ 61 3 9555 7859	www.arx.com.au
Ashly	Corporate Audio Services	+ 61 3 9474 1066	www.corporateaudio.com.au
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Behringer	MusicLink	+ 61 3 97656530	www.musiclink.com.au
Bellari	Network Entertainment Technology	+ 61 1800 645 081	www.guet.com.au
Celestion	Network Entertainment Technology	+ 61 1800 645 081	www.guet.com.au
Crown	Jands	+ 61 2 9582 0909	www.jands.com.au
Dbx	Jands	+ 61 2 9582 0909	www.jands.com.au
Electro Voice	EVI Audio	+ 61 2 9648 3455	www.evi.com.au
Etek	Central Musical Instruments	+ 61 3 9315 2244	www.cmi.com.au
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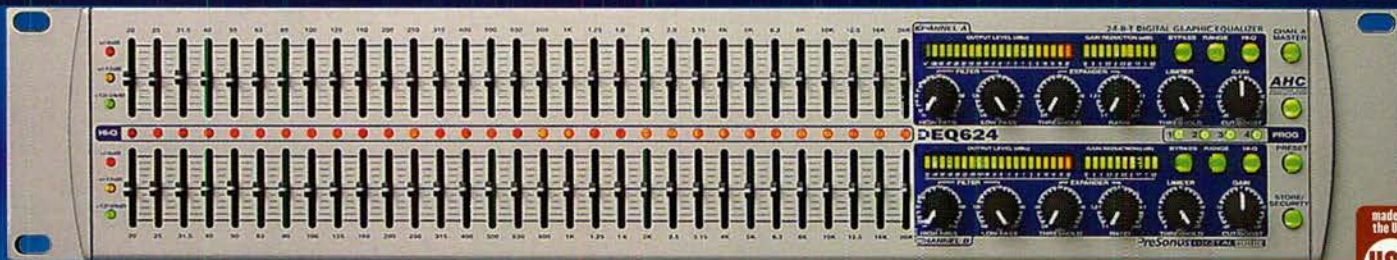


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In addition, the DEQ624 features a brick wall limiter with variable threshold as well as a downward expander featuring variable ratio and threshold. A unique feature on the DEQ624 is AHC (Adaptive Hum Cancellation). When engaged, this algorithm identifies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

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



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Signal Processors and DSP Systems

vintage looking Gain Reduction meter accurately indicates the amount of compression. The LA 120 also features all-tube gain circuitry with proper high-voltage plate voltages; Automatic (program sensing) attack & release and Optical Gain Reduction and 1/4" and XLR In/Outs. The LA120 adapts to any audio application be it live or the recording studio.

• \$549

Bellari RP-583

The Bellari RP583 is a Tube compressor/limiter that combines solid state and tube technologies for a smooth and lively tube sound. Like many of today's compressors, the RP583 utilises a true threshold circuit yet is able to produce a warmer more natural sounding compression. Its compression range is versatile, from subtle compression for program material or vocals to hard compression for instruments. With Solid State In/Out buffering, Calibrated meters, Side Chain for direct access to detector circuits and 1/4" and XLRs ins and outs, the Bellari RP583 is a valuable addition to any audio environment.

• \$2199

Dbx 1066

Compressor/Limiter & Expander/Gate: 2 channel with Peak Stop Plus, switchable OverEasy® or Hard Knee, hardwire bypass, Input/Output meter, & gain reduction meters, dbx V2 VCA, balanced XLR Inputs & Outputs, 1RU.

• \$1,645

Dbx 566

Dual Vacuum Tube Compressor: Program dependent and manual attack and release, over-easy or hard knee operation, independent Peak Stop limiter. Servo-balanced XLR & 6.5mm TRS In/Outs, 2 RU.

• \$3,195

Inter-M CN-9101

A high quality and versatile dual Channel Compressor/Limiter with Noise Gate. The CN-9102 offers the capacity to customize compression between hard and soft knee compression. As an independent dual-channel compressor, the CN-9102 offers separate control for two different sources. The unit also features fully independent gates (with threshold and rate control) and precise signal metering; Side Chain for keying or ducking effects and stereo limiter operation. XLR balanced In/Outs (side chain unbalanced 1/4"). A powerful and flexible unit for all audio applications.

• \$600

Klark Teknik DN504 Quad Compressor/Limiter

The DN504 provides the user with a uniquely powerful compressor/limiter package, with 4ch of full function high quality compression in 1RU. The inclusion of hard and soft knee plus auto and manual modes gives the DN504 the versatility to tackle a wide range of applications in live sound, recording, broad-

cast & post production studios. Advanced VCA circuit design offers extremely low noise and distortion performance to the DN504 user.

• \$ 4,945

L.A.Audio GCX20

2 Channel Auto Compressor with Variable Threshold/Ratio and Dual Mode Auto Attack/Release, Gain Make-up & Gain Reduction Metering. Expander/Gate with Variable Threshold/Release. Stereo Link. XLR & TRS In/Out. 1RU

• \$995

Symetrix 301

The 301 is a mono Low Distortion Compressor Limiter that delivers extremely clean compression for installed sound and broadcast applications. The unique circuitry eliminates secondary causes of distortion during compression, allowing use of shorter release times. The 301 features automatic attack/release button for quick preset setup, ultra low THD + noise of less than .008% at any gain reduction level and is a cut above the rest.

• \$947

Symetrix 562E

The 562E Window Expander/Gate utilizes Symetrix's latest technology for enhanced gating & expander control. The 562E has a "Window advance" feature which recognises the signal to be gated and opens the gate just ahead of the audio signal. This "Auto Windowing" eliminates clicks from manual operation. Expansion is by means of a downward expander with very smooth below threshold control. The 562E also include a high and low cut filter per channel for frequency conscious gating as well as a key input for external gate triggering or frequency specific gating.

• \$2149

Yamaha GC2020C

Dual channel compressor/limiter capable of operating in dual mono or stereo linked modes. Control over all compression and limiting functions, plus an independent expander gate allows for precise control over signal dynamics and noise. Side Chain in/out connections allow for external triggering. 1RU

• \$845

Crossovers

ART 310 Crossover

The ART 310 Precision Stereo 2-Way/ Mono 3-Way Crossover has all the features and performance needed for any audio application requiring a crossover. Each channel features input level, high and low output level and crossover frequency rotary controls. A frequency "x10" switch is provided for varying the crossover frequency from the standard 80Hz - 920Hz to 800Hz - 9200Hz. Front-panel output mute switches are provided for each individual output to ease system setup. The rear panel features XLR and active balanced 1/4" TRS



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In/Out connectors as well as a 2-Way/ 3-Way mode selector switch. Power for the 310 is internal.

- \$749

Behringer Super-X CX3400

Switchable stereo 2-Way/3-Way or mono 4-Way operation, 24 dB/octave, state-variable Linkwitz-Riley filters for precise frequency separation, MUTE button, phase reverse switch and adjustable output level per band for easy system adaptation, Crossover frequencies adjustable between 44 - 930 Hz and 440 Hz - 9.3 kHz (x 10), Switchable 25 Hz subsonic filter per input (12 dB/octave)

- \$699

EV AC One Audio Controller

This unit includes a newly designed crossover function that improves SPL around the crossover frequency. This makes it the ideal solution for systems with relatively small full-range speakers plus subwoofers. The AC One was designed for use in high-performance installations that employ active 2-Way systems plus subwoofers. Extremely easy to use, all controls for matching the sound to different acoustic conditions and loudspeakers are located on the front panel. The AC One's excellent dynamic range of more than 117dB, its extremely low noise level, and its outstanding price/performance ratio make it an excellent alternative to conventional crossover & controller solutions, even in the critical field of permanent installation.

- \$1,299

Inter-M DIV-9123

Stereo crossover that can be configured as either 2-Way Stereo or 3-Way Mono. Cut off slope at 24dB/Oct. Also features: Crossover level and freq. control (80Hz to 8Hz sweepable); Input level control; Range and mute switch; Subwoofer level and frequency control (60Hz to 250Hz) with 30Hz high-pass filter and Ground selector switch: ground Lift. XLR bal I/O.

- \$393

Rane SAC22

Active Crossover 2 channel, 2-Way Stereo; Variable Mono Sub output, Balanced XLR In & Out 1RU

- \$995

Rane SAC23

Mono Active Crossover 2 channel, 3-Way Stereo; Variable; Mono Sub output, Balanced XLR In & Out 1RU

- \$1,335

Rolls SX21 Tiny Two-Way Crossover

The SX21 is a unique frequency dividing device for small sound reinforcement applications. The unit features a 24dB/Octave roll-off rate, a frequency dividing range of 100Hz to 5kHz, an external power supply for noise reduction, and a power supply Loop-through for powering additional units. All this in a compact package with a compact price.

- \$279

SoundTech X234 & X345

The SoundTech X234 is a stereo 2-Way, or mono 3-Way or 4-Way crossover, whilst the SoundTech X345 is a stereo 3-Way, or mono 4-Way or 5-Way crossover. Both units feature band-pass mutes, overlapping frequency selection plus a dedicated mono-summed subwoofer output so you can accurately dial in more bass as needed. XLR connectors and an internal power supply are standard on both units. Excellent value.

- \$549 (for the X234)

STK VC-34

Part of the VC Series Crossover and Signal Processor

family, the VC-34 is 1U rack space Active 24dB Crossover. The unit can be configured in 2/3-Way stereo, or 4/ 5-Way mono modes, with independent control for A and B channels. The VC-34 also includes a Mono subwoofer section with high pass filter, frequency and level controls; Mute switches; Frequency range selector switch; XLR balanced In/Outs; LEDs for peak, frequency range, mono mode and power, and an internal power supply. A reliable and versatile addition to any audio system. Great value.

- \$599

Yamaha PN-90

Dual channel 90 Hz crossover. Dual line level bal. TRS jack inputs, w/ dual High Pass and dual Low Pass outs.

- \$295

Dynamics Filters, Pre's and Exitters

Aphex AX1100

Discrete class A two channel tube mic-pre amp, 24 Bit 96 kHz A/D New from Aphex Thermionics, a new breed of mic-pre amp, two proprietary tube stages for superb audio quality. EIN of -135dB. Mic Lim, on the mic itself for up to 20dB of additional dynamic range, also makes the 1100 virtually crash proof Drift stabilized 24/96 A/D circuitry eliminates hi-pass filtering. Record hotter with the highest possible digital resolution. May well be the worlds best mic-pre.

- \$5,500

Aphex AX204 Aural Exciter

Newly released revitalized model, features optical Big Bottom, for enhanced low-end response, plus revamped front panel design layout, and internal PSU, will dramatically improve live, recorded, and broadcast sound. The new Aural Exciter with tuneable harmonics enhances the detail, clarity and presence of any instrument, voice or even the entire mix. The new Big Bottom with adjustable tone control provides deeper, more powerful bass performance, and users can enjoy all of these benefits without adding more power amplifiers and speakers

- \$980

ARX AFW-1

The Anti Feedback Workstation is an 'all-in-one' audio solution. A classic 30-band EQ, a smooth sounding program limiter and a genuine Sabine FBX Feedback Exterminator in a neat 2RU package. "Anything with a microphone and a speaker should have one"

- \$2,145

Behringer Ultra-Voice VX200

High-performance mic/line preamplifier and voice processor, Opto-de-esser for removal of excessive sibilance from your vocal track, Soft mute +48 V phantom power to avoid switch-on thumps, Accurate LED metering for crystal-clear display, Tube emulation circuitry for typical tube and tape saturation, Insert loop for connection of external devices, Ultra-low noise 4580 audio operational amplifiers.

- \$499

Bellari RP-533

This unit is a Tube Multi-Processor which is ideal for vocals, instruments or any application where signal pre-amplification and dynamics processing is required. The RP533 uses the same powerful circuitry as found in the RP533 packed into a single channel unit. Except for the pre-amp, each process can be individually bypassed increasing the units flexibility. Other features include: Tube pre-amplification; Sonic Exciter, frequency enhancement; All tube gain circuitry with proper high voltage plate voltages, Transformer bal

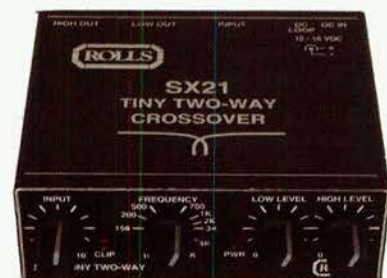


Bellari RP-583



Klark Teknik DN504

Quad Compressor/Limiter



Rolls SX21 Tiny Two-Way Crossover



SoundTech X234 & X345



Aphex AX204 Aural Exciter

Signal Processors and DSP Systems



anced input and 1/4" and XLRs In/Outs.
 • \$2399

L.A.Audio Model: MPX10

Mono Multi Processor. Low Noise Mic/Line Preamp with a FET DI Input, Noise Reduction, Variable Threshold/Ratio Auto Compressor/De-Esser, 4-Band EQ with Sweepable Hi & Lo Shelving EQ & Fully Parametric Mids. Bal XLR and Unbal. TRS In/Out. 1RU
 • \$1,195

Equalisers - 15 Band

ART 341 Dual Channel 15-Band EQ

Designed for pro use the 341 is a 2/3 octave graphic EQ that features constant Q circuitry with a 3% centre frequency accuracy, 20mm centre detent sliders, selectable boost/cut range of 6dB or 12dB, active balanced and unbalanced In/Out connections, variable input level control, clip level indicators, ground lift switch, internal power supply and selectable line voltage switch. A range-control switch is provided allowing you to set the maximum boost or cut for each band of equalization to either 6dB or 12dB. Each channel has its own bypass switch with LED indicator. The rugged, all-steel constructed chassis occupies 1U rack space and is intended for installation in standard 19" equipment racks.
 • \$599

Inter-M EQ-9152

2 Channel 15-band stereo EQ 2/3 Octave 20Hz-20KHz 12 dB, 40Hz HPF 12dB/Octave, Low-cut filter 12dB. Signal-to-noise ratio better than 85dB. A switchable 40Hz Low Cut filter eliminates subsonic rumble and dangerous low frequencies. This unit also utilizes an electronic balanced circuit In/Out and is designed to use XLRs and 1/4" connectors simultaneously.
 • \$530

Rolls EQ 101

The EQ101 10-band EQ is an effective problem solver where a small mono graphic EQ is required. Each of the ten frequency controls, on standard ISO centres, offers 12 dB of boost/cut. The overall Level control also boosts or cuts the signal 12 dB, and the Bypass switch is a "hard-wire" bypass which means in the event of power loss, the unit need not be disconnected to pass the signal. In/Out jacks are RCA and 1/4". The 12 VDC power adapter is shipped with the unit.
 • \$269

SoundTech Q150

The SoundTech Q150 is a Stereo 15-Band Graphic EQ in a space saving 1RU package. The unit features XLR connectors and 6.35mm jacks, input level controls, EQ bypass and peak indicators. The Q150 offers sensational value for money
 • \$519

STK HVQ-215

The HVQ-215 is a dual 15-Band GEQ with a built-in limiter in a 2U frame. Like the HVQ-131, a 1/3 octave mono 31-band graphic, the HVQ-215 features a variable threshold control on each channel, a low cut filter (18dB/40Hz) and 4 segment LED indicators for level and gain reduction and LEDs for bypass, clip, low cut filter and noise reduction. XLR balanced and 1/4" unbalanced In/Outs are provided as standard.
 • \$799

STK VQ-15

A 2/3 octave dual 15-band Graphic EQ in a 1U package. Like its cousin the VQ-31 1/3 octave mono 31-band Graphic, the VQ-15 features Switchable In/Out

levels (+/-20dB); EQ bypass switch, LED indicators for peak, bypass; XLR balanced and 1/4" unbalanced In/Outs; and an Internal power supply. A neat, compact and high quality performer.
 • \$399

Equalisers - 31 Band

ART 352 31-Band EQ

The Model 352 Single Channel 31-Band EQ is ideal for Live Sound Systems/PA, Permanent or Fixed Installations or Home and Project Recording Systems and Monitor Systems. Features include: Single Channel 31-Band Graphic EQ; VU Meter for Output Level Metering; Constant-Q Filtering; Balanced XLR In/Outs Balanced XLR & 1/4" In/Outs; Unbalanced RCA In/Outs; +/- 6 dB or +/- 12 dB Level Adjustments; 60mm Center-Detented Frequency Band Sliders; Independent Level and Bypass Controls per channel; All-Steel Construction - Durable and Reliable. The rugged, all-steel chassis occupies 2U rack spaces and is intended for installation into standard 19" racks.
 • \$799

ARX EQ60

Dual Channel Constant Q 30-band Graphic EQ. 3RU, Balanced XLR and jack Ins and Outs. Steel chassis, rigid extruded front panel, ultra low noise and superb sound. "The best EQ ever to come out of Hightett"
 • \$2,005

Audient ASP-231

The ASP-231 series is available as either a dual or single 31-band EQ suitable for most audio applications. Its key features include: Long throw fluid damped 45mm centre detented precision faders; Dual mode operation - conventional reciprocal boost and cut or conventional boost with high Q "notch" cut; +/- 10dB system gain adjustment. Other features which enhance the ASP-231 overall operation include: Automatic power fail bypass; Continuously variable Hi-Pass filter; Back-lit system status, centre frequency & overload indication; MFBP (Multiple Feedback Bandpass) filter topology for enhanced sonic performance; Advanced High CMRR balanced input and High current output topology. XLR and Klippon/Phoenix I/O terminations are standard. Transformer balancing optional. A 3 year warranty is inclusive. The ASP-231 series EQs feature "Tilt" control for rapid overall system response adjustment that compensates for changing room conditions, for instance, due to humidity or audience.
 • ASP-231 Single 31 - \$2,099
 • ASP-231 Dual 31 - \$3,199

• ASP-231 Single 31 - \$2,099
 • ASP-231 Dual 31 - \$3,199

Behringer Ultra-Graph GEQ3102

31-band stereo graphic EQ for live and studio applications, Sweepable high-pass and low-pass filters remove unwanted signal portions, Servo-balanced I/Os with gold-plated XLR and 1/4" TRS connectors, 12-seg LED display for input or output level, Illuminated high-precision Alps faders, Relay-controlled hard bypass switch with auto bypass function (safety relay). The GEQ3102 enables you to directly access all functions, allowing lightning-fast adjustments and precise setting. Two 12-segment LED displays can be set to monitor input/output level. The sweepable high-pass/low-pass filters allow "pre-graphic" trimming of the frequency range. Processing between 20 Hz and 20 kHz.
 • \$699

Dbx 1231

A 1/3 octave 31-band EQ: 2 channels, 6 or 15dB switchable boost/cut, hardwire bypass, balanced bar



Audient ASP-231



Behringer Ultra-Graph GEQ3102



Dbx 1231

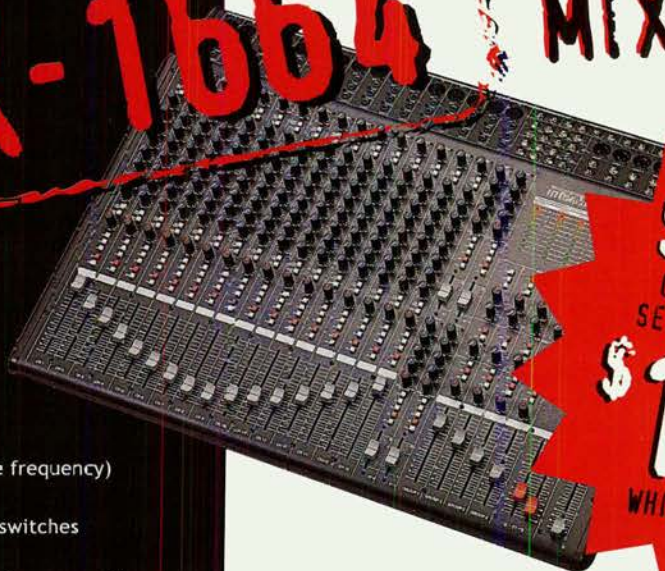
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Signal Processors and DSP Systems



Inter-M EQ-9231

rier, XLR & TRS Inputs & Outputs, 3 RU.

• \$1,495.

Dbx 2231

A 1/3 octave 31-band EQ with Built in Limiters, Built in noise reduction, 6 or 15dB switchable boost/cut, hardware bypass, balanced barrier, XLR & TRS Inputs & Outputs, 3 RU.

• \$2,395

EV EQ231

Boost and cut 1/3 octave graphic EQ. 2 RU height, Variable-Q active filter sets allow effective equalization. Each of the 31 1/3-octave filters provides 6dB or 12 dB boost or cut at ISO frequencies 20 – 20,000 Hz. Excellent signal-to-noise ratio. Integral fuse holder doubles as the voltage selector for use anywhere.

• \$1,726

Inter-M EQ-9231

The EQ-9231 is 2 channel 31-band EQ with EQ Level Control 1/3 Octave 20Hz- 20KHz 12dB, 40Hz HPF 12dB/Octave, Low cut filter -12dB. Signal-to-noise ratio better than 85dB. A switchable 40Hz Low Cut filter eliminates subsonic rumble and dangerous low frequencies. This unit also utilizes an electronic balanced circuit In/Out and it is designed to use XLRs and 1/4" connectors simultaneously.

• \$800

Klark Teknik DN360 Graphic EQ

The DN360 is a dual channel 1/3 octave graphic EQ, occupying 3U of rack space. The DN360 features 30mm oil damped precision slide controls, which are graphically positioned in two identical rows of thirty ISO frequencies between 25Hz, and 20kHz. The active filter sections of this EQ are thick film engineered propriety circuits, offering very low noise performance, minimal distortion and high reliability, consistent with the highest specification standards in the industry. The unit has XLR terminated electronically balanced inputs and unbalanced outputs, with optional transformer balancing and security covers available to order. It is the industry standard

• \$3954



Klark Teknik DN360 Graphic EQ

L.A.Audio EQ231-GSP

Dual Channel 31-Band Graphic EQ with Dynamics: EQ as EQ231 (Above) Plus Dual Variable Freq Shelving EQ, Variable Low & High Pass Filters, Limiter Gate using RMS Dector and Soft-Knee Action, Bypass Switches, Phase Reversal. 3RU.

• \$3,695

Rane SEQ30L

Mono Graphic EQ 2ch 1/3 Octave, Stereo 45mm Faders; Constant Q, Balanced XLR & Jack In/Out 2RU

• \$1,995

Rane SEQ30S

Mono Graphic EQ 2ch 1/3 Octave, Stereo 20mm Faders; Constant Q, Balanced XLR & Jack In/Out 1RU

• \$1395

Rolls REQ 232

The REQ 232 Stereo 31 EQ is an extremely useful signal processing tool where precise frequency control is needed across the audio spectrum. The frequency band centres are ISO standard, so it is compatible with most real time analysers. Other features include: Adjustable Hi/Low Shelving Filters; XLR, 1/4" and RCA In/Outs and +/-12 dB boost/cut facility. Recording and broadcasting studios, sound contractors and musicians will appreciate the low noise, straightforward design, and versatile signal control of the REQ 232. Rolls Professional Signal Processors are designed and built for lasting quality - and all at an affordable price. Each unit is housed in a steel chassis, use sturdy glass-epoxy circuit boards and contain carefully selected components. Finally, its low cost is passed on to the user because of high productivity manufacturing.

• \$1,499

SoundTech Q310 31-Band Graphic EQ

The SoundTech Q310 offers an amazing number of features for a very low price. This unit features XLR connectors (6.35mm unbalanced are also provided), input level controls, EQ bypass, High Pass Filter and peak indicators.

• \$519

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STK HVQ-231

The HVQ 231 is a Dual 31-Band Graphic EQ/Limiter that offers dual 31-graphic EQ 1/3 octave filters (featuring high end constant "Q" devices), built-in switchable noise reduction and built-in limiting with variable threshold control on each channel. Other features: Low cut filter (18dB/40Hz); XLR and terminal strip balanced and 1/4" unbalanced In/Outs; 4 seg LEDs for level and gain reduction and LED indicators for bypass, clip, low cut filter and noise reduction. Chassis ground lift strap. With these features the HVQ.231 has the capacity to increase signal-to-noise specifications of almost any sound system. STK Professional Audio is a Korean company that manufacture a wide range of professional audio equipment including speakers, box type powered mixers, signal processors, console type powered mixers, amps and mixers.

• \$1499

Symetrix 531E

A Single Channel 31-band Graphic EQ, the Symetrix 531E features long throw 60 mm sliders, low-cut and high-cut filters making it suitable both for concert and installed sound. The unique Symetrix advanced filter design delivers ultra low noise and distortion, minimum ringing and phase shift. Finished with gold plated XLRs + 1/4" Jacks.

• \$2149

XTA GQ600 Dual Channel Graphic EQ

The GQ600 combines innovative features with impressive spec, to produce a new level of performance in professional equalisation. The GQ600 features 2 x 30 bands of equalisation with long throw sliders providing greatly improved resolution over conventional devices. The GQ600 also benefits from sweepable High-Pass filters and flexible H.F Trim section. This feature allows fast adjustments to be made to overall H.F response obviating the need for system re-voicing when, for example, changes in humidity or audience size occur. In/Outs are fully electronically balanced as standard and a fixed frequency 18dB/octave low-pass filter is provided for increased H.F driver protection

• \$4,775

Yamaha GQ1031C

Monaural 1/3rd Octave 31-band graphic EQ. Switchable +/- 6dB or +/- 12dB for precise or wide ranging control applications. Additional switchable 80 Hz low cu: filter for further audio tailoring. Balanced In/Out are available on both XLR and TRS jacks, 1RU

• \$595

Yamaha Q2031B

Dual Channel 1/3rd Octave 31-band graphic EQ with independent A/B controls. Switchable +/- 6dB or +/- 12dB for precise or wide ranging control applications. Continuously variable high pass filters from 20 Hz to 200 Hz with 12 dB/Octave roll-off for further audio tailoring. Balanced In/Out are available on both XLR and TRS jacks. 2RU size.

• \$1195

Equalisers - Parametric

ARX Multi Q

An innovative user-friendly parametric EQ. Set it up as Six independent EQs or One six-Way EQ, or all points in between. Balanced ins and outs. A truly unique problem solver in 1 RU. Ultra low noise and enormous control at your fingertips.

• \$1,173

L.A.Audio EQX20

Dual 3-Band/Mono 6-Band Parametric: 2 Ch Overlapping 3-Band EQ or 1 Ch 6-Band EQ. All Bands are Fully Parametric with a 75Hz HP Filter for each Channel. Bal XLR and Unbal. TRS In/Out. 1RU

• \$995

Rolls RPQ 160

The RPQ160 is a 1U 4-band parametric EQ designed for the professional audio installation and music market. Each frequency band has a variable frequency select control, a Width (Q) control which varies the shape of the equalization curve, and a +/- 15 dB Level control. RCA, 1/4" and XLR on In/Outs. The RPQ160 utilizes "T" filters to avoid the complexity and distortion inherent in state-variable filters and to increase accurate and transparent equalization.

• \$999



STK HVQ-231



Symetrix 531E



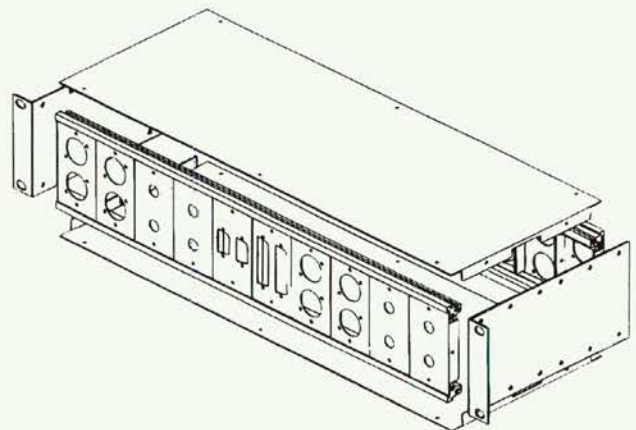
Rolls RPQ 160

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Signal Processors and DSP Systems



Behringer Feedback Destroyer DSP1100P



Dbx DriveRack 480R



Ashly 4.24C



Behringer Virtualizer DSP1024

Symetrix 552E

The Symetrix 552E stereo 5-band parametric EQ is suitable for concert or installed sound, recording, or broadcast. Rock-solid construction and easy to use for creative or corrective EQ, the 552E can Sweeten vocal tracks, tune out feedback or get that HUGE drum sound. With five identical, full range overlapping bandwidth high and low cut filters, gold plated XLRs + 1/4" Jacks and bypass relay, the Symetrix 552E is excellent value.

- \$2699

Digital Signal Processors

Allen & Heath DR128

Digital Audio Mix Processor, 2RU, 12 x 8 Matrix Mixer, 8 Mic/4 Line Ins, 8 Balanced Outs. Processing options (each channel): 31, 15, 7-Band Graphic EQ, 4 or 2-Band Parametric EQ, Gate, Delay, Crossover, Compressor, Limiter.

- \$7,295

Allen & Heath DR66

Digital Audio Mix Processor, 1RU, 6 x 6 Matrix Mixer, 2 Mic/4 Line Ins, 6 Balanced Outs. Processing options (each channel): 31, 15, 7-Band Graphic EQ, 4 or 2-Band Parametric EQ, Gate, Delay, Crossover, Compressor, Limiter.

- \$4,295

Ashly 4.24C

A digital crossover/system processor in a 1U space with four inputs and eight outputs which are assignable to any input. Crossover, EQ, Delay and Limiter functions feature Linkwitz-Riley, Bessel and Butterworth filters. EQs include 12, 18 and 24dB/Octave slopes and the Parametric EQ is full bandwidth, in the 1/64th to 4 octave range. Other features include: In/Out delay; Limiter on each output; Intuitive user interface; Programmable by front panel (PC or MIDI); Individual In/Out metering; Balanced In/Outs and Three levels of security. XLR audio connections standard and the unit ships with a five year warranty.

- \$6,199

Behringer Feedback Destroyer DSP1100P

Digital 2-channel feedback suppressor/ parametric EQ based on a high-power 24-bit DSP, 20-bit A/D and D/A converters with 64/128 times oversampling, Automatically searches and suppresses feedback frequencies, 24 programmable, fully parametric filters, Single-Shot, Auto/ Manual mode selectable for each filter, Free software at this website, 24-bit internal processing, 46-kHz sampling rate, Extensive MIDI implementation, 8-segment LED level meters.

- \$599

Behringer Modulizer DSP1200P

20-bit A/D and D/A converters with 64/128-times oversampling, True stereo processing allows separation of L&R channels in the stereo image in most presets, 100 user program locations for direct storage of personal edits, Phaser, Auto Filter, Ambience, Compressor, Super Bass, Vintager, 3D-Processor, Super-precise 8-segment LED level meters, Internal 24-bit processing, professional 46-kHz sampling rate.

- \$499

Behringer Shark DSP110

Automatic feedback suppressor with learn function, Delay line with up to 2.5 seconds of delay, Automatic noise gate with learn mode, Super-musical compressor with variable density, Microphone preamp, gain

control and +48 V phantom power, Subsonic filter with adjustable cut-off frequency, Status LED's for all 12 filters, 4-digit multi-functional display.

- \$399

Behringer Virtualizer DSP1024

Wave Adaptive Virtual Room reverb algorithms, 32 high-performance algorithms for chorus, flanger, delay, etc, Over 700 effect variations, 24-bit A/D and D/A converters with 64/128-times oversampling, Internal 24-bit processing, 100 effect variations storable, Super-precise 8-segment LED level meters. The use of a high-power 24-bit DSP with two separate "engines" enables you to process entirely different effects for the left and right channels. Virtualizer comes with 32 phenomenal algorithms. A fantastic assortment of chorus, flanger and classic vocoder algorithms. State-of-the-art 20-bit A/D and D/A converters and the 46-kHz sampling rate.

- \$499

Celestion DMS2065

The Celestion DMS2065 is a fully featured DSP loudspeaker management system suitable for use with Celestion loudspeakers. The DMS2065 has two input channels and six outputs and is fully configurable as both a stereo or mono crossover making it suitable for complex system control in a variety of applications. The DMS2065 offers high pass and low pass crossover filters and five bands of programmable EQ on each output channel, combined with high performance limiters, and delay settings for perfect system time alignment. Other features include: 80 non-volatile preset memories; High performance limiters on each output; Full and individual parameter locking; Precise delay increment for perfect driver time alignment and a Delay linking option which allows speaker box alignment while keeping driver alignment. An RS232 interface allows connection to PC enabling quick and easy updates of software and presets.

- \$5,999

Crown USM810

A 2U rack space 8x10 digital mixer/matrixer with unique dual input processing paths, In/Out digital signal processing and Multi-Function Control Port with analogue and digital I/O for control and monitor by external circuits. DSP includes Auto mixing, Priority gating, EQ; X-over; Comp/Limit; Delay.

- 10,745

Crown USP2

IQ2 PIP Amplifier Interface card for Crown MacroTech and ComTech amplifiers, Digital Signal Processor including EQ, X-over, Comp/Limit and Delay. Realtime loudspeaker load monitoring and 10 presets inbuilt.

- \$1,835

Crown USP2-CN

IQ2 PIP Amplifier Interface card with CobraNet inputs for Crown MacroTech and ComTech amplifiers, Digital Signal Processor including EQ, X-over, Comp/Limit and Delay. Realtime loudspeaker load monitoring and 10 presets inbuilt.

- \$3495

Dbx DriveRack 240

Loudspeaker Management System. 2 inputs 4 outputs, input processing includes parametric or graphic EQ, notch filters and delays, output processing includes 4-band parametric EQ, delay compression and limiting.

- \$3,995

Dbx DriveRack 480R

Networkable Loudspeaker Management System. 4

inputs 8 outputs, input processing includes parametric or graphic EQ, notch filters and delays, output processing includes 4-band parametric EQ, delay compression and limiting.

- \$10,795

Dbx IEM

Dedicated In-Ear Monitor Processor: 4-band Digital Multi-band Compressor and Peak Stop Limiter, broadband limiter, 5-band para EQ, stereo adjustment and Lexicon Reverb.

- \$4,895

Dbx Quantum

24-bit, 96kHz Multi-band Signal Processing Toolbox: 4-bands of gating, compression, expansion & limiting; 5-band para EQ; stereo image adjust; de-essing; ambience; normalisation; real-time sample rate conversion. Balanced XLR & TRS; SPDIF; AES/EBU & wordclock

- \$5,295

Etek Dynamagic

A Two-Channel Audio Dynamics Compressor; each channel is dual band (and the crossover frequency between the two bands can be programmed by the user). Frequency can range from 100Hz to 8KHz. For each band it is possible to determine the intervention threshold of the compression ratio. Integration times of the compressor can be fast or slow. Each band has a LED-METER displaying input level and gain variation, and therefore the amount of compression.

- \$750

Etek Optima

Optima is a multi-band 24-bit Digital Module. Compression, Expansion, Limiter and De-Noise algorithms for the treatment of audio signals are included in the unit. The procedures are visualized on an alphanumeric LCD and the 20-bit signal conversion is achieved at a 48 kHz Sampling Rate. Two types of interface are used for the digital acquisition and transmission of the signal: included are an RS-232 Interface for connection to computers, MIDI In/Out/Thru for use with MIDI keyboards and Sound Modules as well as an Extension Port that can be configured as S/PDIF; AES/EBU, digital A.G.C. automatic gain control.

- \$899

Etek Xciter

The exciter is a two channel enhancer. Each channel has one enhancement system for low frequencies, and one for high frequencies, both working automatically. The user can program the frequency and the amount of intervention by the two channels by means of a potentiometer. Great for vocals & acoustic inst.

- \$599

EV Dx38

Its 2-in-4-out design makes the Dx38 ideal as a controller in any 2-, 3- or 4-Way loudspeaker application. The flexible routing allows assigning a single input or the summed input signals to the 4 outputs. Together with the extensive filtering capabilities that can be applied to the input signals as well, the Dx38 provides 'classical' loudspeaker system management (delay, level and EQ to compensate for the distance between speaker clusters). Whether in theatres or concert halls, employed in mobile or permanent installations, the Dx38 provides always the optimum solution.

- \$3,385

Inter-M MEQ-2000

NEW Inter-M's Multi-mode Dynamic Processor is a system oriented audio processor family designed for

all audio apps. The 6 units in the range replace tens of conventional separate units. The MEQ-2000 series incorporate 24bit/96kHz AD and DA converters and a sophisticated sample rate converter which allows the digital input to accept sampling frequencies to 100kHz. One of the six units in the MEQ-2000 range is the DSP Blue Multimode EQ, a 31-band graphic EQ and 8-band parametric supported by 6-band notch, low cut filters. Included: limiter/compressor: Peak limiter; Alignment Delay; Real Time Spectrum Analyser and room measurement and EQ functions for installs. Incredible versatility and performance.

- \$3900

Klark Teknik DN9824 Loudspeaker Processor

Two inputs & four outputs, all electronically balanced, in 1RU. 24-bit processing provide a dynamic range of 112dB. Flexible routing allows configuration for a most any system. Simple and intuitive front panel operation. Full PC control available via free proprietary software. Seven EQ filters per input, selectable between PEQ, hi/lo pass and hi/lo self. Full metering, rotary trim control and up to 900ms delay on both inputs. All outputs feature six bands of EQ, selectable as per input sections. Two full-time all pass filters on outputs for accurate phase correlation adjustment. All popular slopes & filter types available in crossover section. High quality compressor/limiter on all outputs.

- \$6,237

Klark Teknik DN9848 Active Crossover

The DN9848 is a highly configurable, 1RU digital electronic crossover/loudspeaker management system with everything including four balanced analogue input channels and eight balanced analogue output channels. Though the DN9848 utilises a fully digital processor, it maintains the operational paradigm as well as the sonic integrity, of a high quality analogue unit. All aspects of the unit may be programmed from the front panel or via remote control using the standard RS-232 and RS-485 coms ports. Parameters may be directly edited via rotary controls on the front panel with all values being displayed on a 24 character LCD window with back lighting.

- \$10,860

L.A.Audio DIGE-Q

Programmable Digital EQ/Dynamics Processor: 2-Ch, 31-Band, Parametric, Hi-Lo Filters Shelving EQ Comp/Limiter and Expander/Gate. Features Instant Access to all functions, Large back-lit LCD. Midi, RS232 and RS422 Control. 2RU.

- \$6,495

Martin Audio DX-1

Digital Loudspeaker Management System: 2 input, 6 output multi-mode controller configurable 2x2-Way, 2x3-Way, 4-Way, 5-Way and 6-Way, adjustable gain and delay on each input, high and low pass filter, 5-bands parametric EQ, limiter, delay, gain and polarity on each output. 80 factory presets covering all current Martin Audio speaker configurations, 19 user memories, multi level security, RS232 Interface. 1RU.

- \$6,995

Panasonic Ramsa WZ-DE45

The WZ-DE45 is a digital multi EQ with two inputs and two outputs, in one rack unit. Six basic functions: Graphic EQ, Parametric EQ, Delay, Notch Filter, Compressor/Limiter and Noise Gate. Apart from general analogue In/Outs, this multi EQ has a digital audio interface and conforms to the AES/EBU format. High quality 24-bit A/D and D/A converters are used. The Notch Filter can be automatically set to match the



Dbx Quantum



Etek Dynamagic



Etek Xciter



L.A.Audio DIGE-Q



Klark Teknik DN9824 Loudspeaker Processor

Signal Processors and DSP Systems

sound field, handling feedback peculiar to specific sound fields efficiently with the auto notch function. All settings can be saved in up to 16 patterns in the memory.

- \$4290.00

Panasonic Ramsa WZ-DM35

A Digital Multi Processor with two inputs and four outputs, in one rack unit. Six basic functions: Graphic EQ, Parametric EQ, Delay, Crossover, Compressor/Limiter, Noise Gate. Six basic modes: Three Crossover modes and Three Delay Modes. The combination of modes and I/O interfaces means it can be used in a variety of configurations: 1-in/4-out, 2 x 1-in/2-out, 1-in/3-out and 1-in/1-out, or 2-in/4-out. Apart from general analogue In/Outs, this multiprocessor has digital audio interface and conforms to the AEC/EBU format. High quality 24-bit A/D and D/A converters are used. All settings can be saved in up to 16 patterns in the memory.

- \$5280

Peavey Architectural Acoustics MediaMatrix X-Frame 88

A complete digital audio processing system providing the power of a full blown MediaMatrix on a smaller scale. The single rack unit includes 8 audio inputs and 8 audio outputs and can be expanded to 24 x 24 with the addition of two optional MM8802 Break-Out-Boxes. Optional four channel microphone level cards are available for both the X-Frame 88 and BoB. The system is set up and configured by a very easy to use software program. Hundreds of audio devices are available in the software menu which are simply "dragged and dropped" in place on a computer screen in any order you want.

- From \$10,800

QSC CM16a

For real time monitoring of extended systems QSC CM16a provides 16 channels of gain control, monitoring and amplifier management. Control and monitoring data is communicated, PC to CM16a, via an Ethernet network and CM16a to amplifier via amplifier DataPort.

- \$8,995

QSC DSP-3

Digital Audio Mix Processor for Data-Port equipped QSC Amps or with mounting plate to any brand of amplifier. Configures and locks, via password protection, amplifiers' signal processing settings for a tour or installation. Drag and Drop Icons for crossover, shelf and parametric filtering as well as signal delay, compression and peak limiting. 24-bit, 48kHz converters.

- \$1,495

QSC QSControl II

NEW QSControl II is a powerful and flexible system that provides remote management and diagnostics of QSC amplifiers and other audio devices over an Ethernet network. Hundreds of amplifiers can be monitored and controlled simultaneously along with a wide range of advanced functions, such as event logging and real-time monitoring of loudspeaker opens and shorts.

- From \$20,000

Rane NM48

CobraNet Network Interface, 4 Balanced Line Ins; 8 Balanced Line Outs, SNMP/Active X Control of gain for integration in to complete systems; 2RU

- \$9,895

Rane NM84

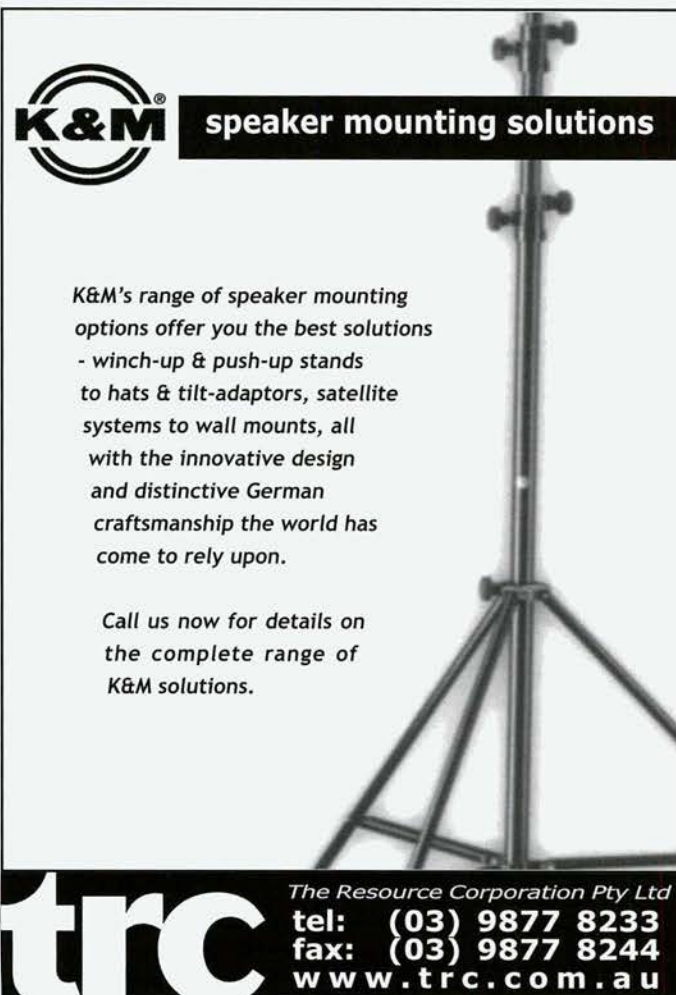
CobraNet Network Interface: 8 Studio Grade Remote Controlled Mic/Line Preamps with Phantom power, HPF / LPF filters and Limiters; 4 Balanced Line Outs, SNMP/Active X Control for integration into complete systems; 2RU

- \$13,195

Rane RPM26i

24 Bit Remote Programmable Multiprocessor: Processing DSP includes Crossover, Delay, EQ, Compressor, Limiter, Stereo AES/EBU Input, 6 Outputs, RW232 Windows software included, Euro-block In/Out, 32 & 48 bit precision DSP

- \$5495



K&M speaker mounting solutions

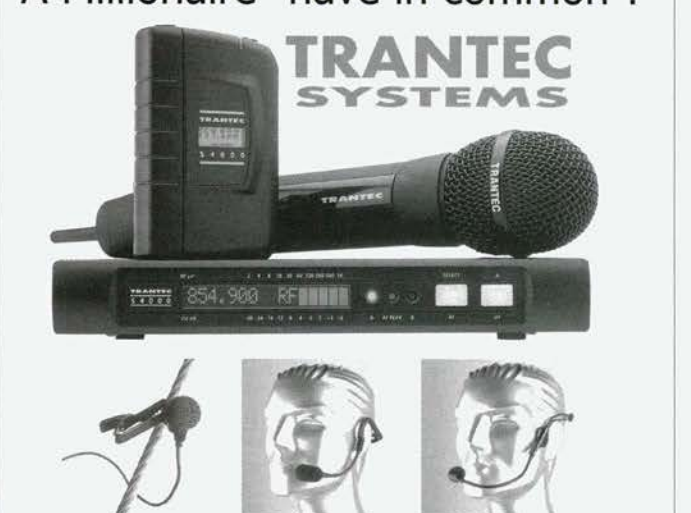
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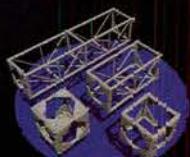
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Signal Processors and DSP Systems



Rane NM84



Shure Soundplex P4800



Sony SRPF300

XTA DP226 Speaker Management System



XTA DP324 Seriously Intelligent Digital Dynamics (SIDD)



Yamaha DME32

Rane RPM26v

24 Bit Remote Programmable Multiprocessor: Processing DSP includes Crossover, Delay, EQ, Compressor, Limiter, 2 Analogue Inputs, 6 Outputs, RW232 Windows software included, Euro-block In/Out, 32 & 48 bit precision DSP

- \$5495

Sabine DQX-206 Instant Delay, Parametric EQ, Limiter

Superior specifications and maximum flexibility make Sabine's DQX-206 the preferred choice for multi-channel speaker system processing. With the DQX, you can custom equalise each of 6 outputs, set precise delay times and set a limiter, all for less money than other products that do far less for your sound system. "ClipGuard" adaptive clip level control automatically adjusts the DQX's clip level to the input signal, allowing the unit to accept signals up to 26dBV without clipping and increases the effective dynamic range to >105dB. In addition, the Auto Setup Mode automatically calculates and sets the precise delay time for each channel in a few seconds.

- \$4480

Sabine Graphi Q GRQ310

The Graphi-Q 3100 Graphic EQ Series combines 4 audio products, EQ, FBX, Compressor, Delay into 1 very affordable, digital package. Each model includes an RS-232 port and Windows based setup software & allows for up to 69 presets to be recalled via rear panel contract closures. With the Graphi-Q you are never out of date. Simply download any upgrades from the Internet and your model is loaded with the latest and greatest from Sabine. With the touch of a fader you can shape your frequency response using the Graphi-Q's 31-band digital graphic EQ. Need more control? Use the parametric EQ to control your filter width, depth and frequency. Time align your speakers with the digital delay. Manage your system gain with the Graphic-Q digital compressor/limiter. Finally, add 3 to 9 dB extra gain and automatic feedback control with Sabine's patented FBX technology.

- GRQ3101S 1U\$2222

Sabine Power Q

The Power Q is the ultimate touring and installation processor. In a nutshell it is an automatic room EQ which will EQ to a flat or pre-saved response curve. POWER Q virtually replaces up to two racks of conventional equipment. A room can be equalised in less than 10 seconds per channel. Each channel includes all of the following functions: FBX Feedback Terminator, Parametric EQ, Graphic EQ, RTA, Compressor/Limiter, Gate & Delay.

- \$6743

Sabine SDA102 Instant Delay

The SDA-102 (1 input, 2 outputs) features powerful 20-bit digital processing, providing superior signal quality and dynamic range; 0.90 to 999.98 millisecond delay; 20 microsecond resolution; In/Out level controls; and front panel lockout - all in a rugged, 1/6 RU box. An optional rack tray (S-RACK) holds up to 6 units. You can adjust the SDA-102's In/Out levels with front panel screwdriver pots and choose delay time for each channel with convenient up/down selector switches. You can also bypass the unit with the front panel controls.

- \$1599

Shure DFR11EQ Version 5

Feedback Reducer: Standalone Suppressor, Program-

mable 1/3 Octave or Parametric EQ, Delay and Limiter, RS232 Computer Port and 3 presets inbuilt.

- \$2345

Shure DP11EQ

PC Controlled, digital dynamics processor with up to 9-bands of parametric EQ, high and low cut/shelving filters and up to 1.3 seconds of delay. RS232 Computer Port

- \$2545

Shure Soundplex P4800

The P4800 platform is designed around a 4x8 matrix mixer configuration that allows the delivery of superior audio reinforcement regardless of application specifics. Simply select from an extensive variety of processors (including EQ, automatic feedback reduction, limiters, and dynamics processors), then drag and drop processing blocks, in any order, to any input or output. Includes 4x8 matrix mixing, Drag and drop graphical user interface (GUI), Flexible signal path and real time system configuration, On-screen and hardware metering of available processing power, 128 preset on-board memory, Multiple control options (AMX, Crestron, etc.), Power supply capable of handling unexpected power anomalies.

- \$8295

Sony SRPF300

The SRP-F300 is a 2-in/6-output digital signal processor, containing Crossover, EQ, Compressor/limiter and Delay functions for a variety of speaker/amplifier configurations. Designed for use in sound-reinforcement and high-end studio monitor applications, The SRP-F300 is PC-controllable and offers system preset and security lockout functions.

- \$3,075

Symetrix 322

NEW The Symetrix 322 DSP Engine is a compact, all-in-one general-purpose signal processor. By matching a deep set of processing features with a breakthrough price, the 322 delivers the benefits of DSP to small installed sound systems. Designs that previously would have been cost prohibitive if using multiple analogue units or large multi I/O DSP platforms, are all possible with the 322. The 322 features two inputs, two outputs and a 24-bit multifunction DSP. It provides all the processing generally needed between a mixing console and a power amplifier in small sound systems such as parametric EQ, AGC, compressor/limiter, delay, crossover and more

- \$1939

XTA DP224 Speaker Management System

Aimed squarely at the live sound market, the DP224 is a compact and powerful DSP based audio-processing unit combines the functions of multiple products in a compact 1U high unit. The DP224 has 2 inputs and 4 outputs configurable in 3 basic modes, 2 x 2 Way, 1 x 3 -Way and 4 -Way crossover. Each input has gain, delay and 8 bands of parametric control, each output consists of a high and low-pass filter, 5-bands of parametric equalization, limiter, delay, gain and polarity controls. MIDI, RS232 and RS485 control and user memories are provided with optional XTA's AudioCore Windows™ control.

- \$ 6,295

XTA DP226 Speaker Management System

The DP226 is a compact and powerful DSP based audio-processing unit, ideally suited for live applications, where it combines the functions of multiple conven-

tional products in a compact 1U high unit. The DP226's: 2 inputs and 6 outputs can be configured in 5 modes and each input has gain, delay and 8-bands of parametric control. All outputs consists of a high and low-pass filter, 5-bands of parametric equalization, limiter, delay, gain and polarity controls. MIDI, RS232 and RS485 control and user memories are provided, and also a multi-level security 'lock-out' function for all controls. The unit can be controlled externally by XTA's AudioCore Windows™ control software.

• \$7,795

XTA DP324 Seriously Intelligent Digital Dynamics (SIDD)

SIDD is the new dual channel digital dynamics processor from XTA that continues the tradition of innovation, quality and reliability. In 1U of rack space this Dynamics/EQ/Delay processor is designed for insertion into individual channels, groups, or as a master and or finalizing tool. Gone is the need to stock separate compressors and gates and limiters and EQ - it's all in the one box Each channel includes: Input Gain plus input EQ; a four quadrant Dynamic EQ; Selectable Gate or Expander; Limiter, Delay line with separate ADT module; and Harmonic generators. SIDD also has PC control software updateable via the Web.

• \$5,995

Yamaha DME32

Now in Version 1.5 User programmable DSP system. Up to 32 I/O in any digital or analogue format (via option cards). Processing options include EQ (both GEQ and PEQ), Compression, Limiting, Compenders, HPF, LPF, BPF, Notch filtering, Delay, Crossover Processor (Speaker controller) and more DSP capabilities are equal to 14 x 1/3rd octave GEQ's or 32 x 6-Band STEREO PEQ's in one 3RU space Simply program the system components on the supplied PC software, upload to the DME32 for instant user defined processing. Front panel and interface controls allow for parameter adjustment or scene recalls.

• Systems begin at \$7,495

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"The list of artists and producers that have recorded using RADAR 24 is like a Who's Who" of the recording industry - MIX MAGAZINE

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OUTDOOR LIGHTING

This Market Report asked the distributors of lighting equipment to list their products that are designed to be used outside - or products to take indoor lighting outside. You will see some items designed specifically for outdoor use are slightly architecturally orientated, while others maintain a 'conventional theatrical' design.

As always, we asked the distributors to provide the information contained in this report, so there may be some subjective claims here that should be taken 'with a grain of salt'. Prices are list prices, in Australian dollars and include that countries GST (retail tax).

Compiled by John Grimshaw

CLAY PAKY CP Color 150

Colour mixing wash luminaire for production, installation and architectural applications. Universal burning position. A compact IP 20 rated colour mixing flood with true CMY secondary dichroic filter colour mixing. Beam angles of 22 to 81° via changeable frosts and lenses and using the long life 150w CDM-SA/T achieves 12,700 lumens with 6,000 hour lamp life. Rectangular 65 x 40° beam also achievable. In built mechanical dimmer. Barndoors, quick mount and rebalancing plate available. Control is via pre-programmed scenes, master/slave synchronization or external DMX control (4 channels)

- \$4,999 (includes lamp)

CLAY PAKY CP Color 150/E

Colour mixing wash luminaire for production, installation and architectural applications. Universal burning position. A compact IP 65 rated colour mixing flood with true CMY secondary dichroic filter colour mixing. Beam angles of 22 to 81° via changeable

frosts and lenses and using the long life 150w CDM-SA/T achieves 12,700 lumens with 6,000 hour lamp life. Rectangular 65 x 40° beam also achievable. In built mechanical dimmer. Barndoors, quick mount and rebalancing plate available. Control is via pre-programmed scenes, master/slave synchronization or external DMX control (4 ch)

- \$5,499 (inc lamp)

CLAY PAKY CP Color 250



Colour mixing wash luminaire for production, installation and architectural applications. Universal burning position. A compact IP 20 rated colour mixing flood with true CMY secondary dichroic filter colour mixing. Beam angles of 18 to 76° via changeable frosts and lenses and using the long life 250w MSD/HSD achieves 17,000 lumens with 2,000 hour lamp life. Rectangular 63 x 35° beam also achievable. In built mechanical dimmer. Barndoors, quick mount and rebalancing plate available. Control is via pre-programmed scenes, master/slave synchronization or external DMX control (4 channels).

- \$5,999 (includes lamp)

CLAY PAKY CP Color 400

High output colour mixing wash luminaire for production, installation and architectural applications. Universal burning position. A compact IP 20 rated colour mixing flood with true CMY secondary dichroic filter colour mixing. Beam angles of 22 to 81° via changeable frosts and lenses and using the long life

Brands/Distributor List

Clay Paky	Show Technology Australia +61 2 9748 1122
Coemar	Coemar DeSisti Australia Pty Ltd +61 3 9467 8666
ColourLED	Coemar DeSisti Australia Pty Ltd +61 3 9467 8666
ConDome	Coemar DeSisti Australia Pty Ltd +61 3 9467 8666
FAL	Coemar DeSisti Australia Pty Ltd +61 3 9467 8666
Futurelight	Coemar DeSisti Australia Pty Ltd +61 3 9467 8666
Griven	Universal Lighting and Audio +61 3 9310 4999
High End	Universal Lighting and Audio +61 3 9310 4999
Kupo	Show Technology Australia +61 2 9748 1122
Martin	Show Technology Australia +61 2 9748 1122
SGM	Universal Lighting and Audio +61 3 9310 4999
SkyLight	Coemar DeSisti Australia Pty Ltd +61 3 9467 8666
Space Cannon	Coemar DeSisti Australia Pty Ltd +61 3 9467 8666
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400w MSR/HSR achieves an astounding 33,000 lumens with 650 hour lamp life. Rectangular 63 x 35° beam also achievable. In built mechanical dimmer. Barndoors, quick mount and rebalancing plate available. Control is via pre-programmed scenes, master/slave synchronization or external DMX control (4 channels). Available Sept/Oct 2001

- \$6,999 (includes lamp).

CLAY PAKY VIP Projection Systems

Precision image projectors with rain cover to IP 23. Lamp options include 24v 250w halogen (9,000 lumens), 150w HQIT 6,000 hour (13,000 lumens), 300w HTI 750 hour (22,000 lumens) or HMD 3,000 hour. For creating logos, images and textures using single gobo, multiple gobos or multiple slides either stationary or rotating, with accessory animation mirrors, shutters and dimmers.

- Base projector from \$1,999 (150w HQIT) inc lens and rain shield.

Coemar Mini Panorama

(Architectural) IP55 rated colour changer with CMY colour mixing and mechanical dimmer. Low power consumption (3A) and manual Pan/Tilt adjustment. Compact dimensions make it ideal for indoor or outdoor use. Uses MSD/HSD250 discharge lamp. Incorporates Coemar's latest CMY colour mix system to give a broad range of colours. Full saturated reds, and blue thru to pale pinks and lavenders, all from one unit. A range of clip on lenses is available to give a wide range of beam dispersions. Lamp: MSD/HSD 250

- Under \$6,000

Coemar Panorama Beam

(Architectural) IP55 rated CMY colour mixing fresnel spotlight. The Panorama Beam uses a full CMY colour mix system, plus dimmer to give a narrow dispersion, long throw unit, for lighting up the sides of tall buildings from close range. The Panorama beam uses a conventional mechanical ballast and igniter to ensure years of reliable operation with little or no maintenance. The unit can be used from DMX control, or can run stand-alone from internal programmes. Up to 32 units can be linked in this mode to provide synchronised operation. Lamp: MSD/HSD1200

- \$11,680

Coemar Panorama Power

(Architectural) IP55 rated CMY colour mixing floodlight. Uses 2x575w, 3000 hour lamps, yet produces more output than 1800w units. Electronic flicker free ballasts with Power Factor Correction mean that the unit draws only 6.7A when running. The Panorama Power can be controlled via standard DMX512 or run in stand-alone Master/Slave mode, where up to 32 units can be synchronised. New design of colour changing floodlight with TLT (twin lamp technology). TLT uses 2 x axially mounted lamps in a specially designed reflector that enables one or both lamps to be used at any time for either double lamp life or double light output. An optional dispersion lens can be inserted into the front of the unit to give a large variety of beam angles. These include Soft (19x25 degrees), Medium (23x23), Vertical (49x23), Horizontal (23x46) and Wide (65x65) Lamp: 2 x MSD/HSD 575

- \$12,062

ColourLED Custom

(Architectural) ColourLED also custom manufacture LED modules in IP46 to IP67 rated versions, to suit specific client requirements. Units can be made from as small as 5cm diameter and include linear strip versions to replace Neon tubing. All ColourLED modules

require the use of external DMX power supplies to enable dimming and colour mix functions. Estimated lamp life is equivalent to 100,000hrs, making them ideal for installations where access for lamp replacement is limited.

- from \$485

ColourLED TF250

(Architectural) The TF250 is an IP66 rated fixture housed in a heavy duty in-ground housing. The housing is designed for installation into driveways or footpaths and can withstand up to 10 tonnes of weight. The light is produced by an RGB array of super bright LED's to give full colour mixing. It requires the use of the PowerPipe external dimmer/power supply which provides DMX control as well as stand-alone operation. The TF250 uses the latest in super bright LED's to give good light output with minimal power consumption. Estimated Lamp Life is 100,000 hours, which equates to over 11 years if the unit is run 24hours per day, 7 days a week, 365 day per year. Virtually no heat produced, allowing them to be used in confined spaces.

- \$3,517.64

ColourLED TF60

(Architectural) The TF60 is an IP66 rated fixture housed in a polished aluminium housing. The light is produced by an RGB array of super bright LED's to give full colour mixing. It requires the use of the PowerPipe external dimmer/power supply which provides DMX control as well as stand-alone operation. The TF60 uses the latest in super bright LED's to give good light output with minimal power consumption. Estimated Lamp Life is 100,000 hours, which equates to over 11 years if the unit is run 24hours per day, 7 days a week, 365 day per year. Virtually no heat produced, allowing them to be used in confined spaces.

- \$2,103.85

ConDome

The ConDome is a weatherproof inflatable cover designed to suit almost all brands of moving lights (mirror and yoke type). Any non weatherproof luminaire (including video projectors) can be setup inside the ConDome and then used outdoors with full protection. During operation the ConDome cover is inflated with high speed fans which also cool the fixture. They are available in various sizes from 50x50cm up to 90x160cm. It contains an interlock system to automatically power down the luminaire if the fans lose power, thus preventing any damage. Over 16 ConDomes were used to protect fixtures on Sydney Harbour, for the Opera House lighting scheme during the 2000 Olympics.

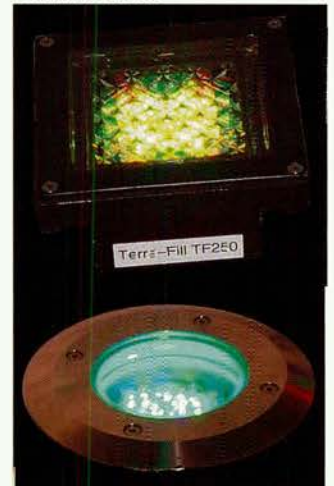
- from \$2,300

FAL Nightcolour

(Architectural) The FAL Nightcolour is an IP44 rated colour changing Gobo projector, the only one of its type available. It has two colour wheels and a single static gobo, combined with a 1200w discharge lamp to ensure good output. Control can be via DMX or standalone and the unit can be disassembled into smaller modules for ease of transport and installation. The unit is ideal for the projection of corporate gobos onto the outside of buildings, or at trade shows. An optional frost lens can be used for wash effects. Optional beam shaping shutters and iris can be used to mask the beam to the shape of the building. Very sturdy construction provides durability in the harsh outdoor life. Lamp: MSD/HSD 1200

- \$6,911

ColourLED TF250



ColourLED TF60



ConDome





Griven KolorClip



Griven Kolorstream

What the IP Rating means

First Number:

Protection against solid objects

- 1 - Objects larger than 50 mm cannot get in.
- 2 - Objects larger than 12 mm cannot get in.
- 3 - Objects larger than 2.5 mm cannot get in.
- 4 - Objects larger than 1 mm cannot get in.
- 5 - Protected against dust but small amounts of dust can get in (dust resistant).
- 6 - Totally dust proof.

Second number:

Protection from moisture

- 1 - Vertically falling drops of water cannot get in.
- 2 - Water sprayed from up to 15° from vertical cannot get in.
- 3 - Water sprayed from up to 60° from vertical cannot get in.
- 4 - Water sprayed from any direction cannot get in (limited ingress permitted).
- 5 - Low pressure water jets from any direction cannot get in (limited ingress permitted).
- 6 - High pressure water jets from any direction cannot get in (limited ingress permitted).
- 7 - Suitable for immersion in up to 1 m of water.
- 8 - Suitable for prolonged immersion under pressure.

Special thanks to Jonathon Ciddor at Show Technology for providing this table.

Futurelight Exterior 250

(Architectural) IP55 rated weatherproof colour changing wash/floodlight with adjustable 8-22 degree beam angle. DMX controlled CMY colour mix and dimmer. Manually adjustable Pan and Tilt angles, Frost, CTO/CTB, Horizontal and Vertical beam shapers, for precise light control. Internal programmes and time clock. 2A power consumption. Built in time clock with light sensor (optional) IR remote control. Pre-programmed CMY colour mix function. Built in demo sequences. LED menu with diagnostics. Fully convection cooled (no fans) for increased reliability and less cleaning/maintenance. Lamp: MSD/HSD 250

- \$5,500

Griven GoboClip

GOBOCLIP expands gobo projection into outdoor use, with a fully weatherproofed (IP55) ultra compact. Utilizing the CDM-SA/T 150 watt 9000-hour metal halide lamp, GOBOCLIP projects a bright and accurate rendition of any graphic design or logo. A zoom facility combines with two inbuilt projection angle options to provide maximum flexibility with projection distance and image size, an easy and quick gobo or dichroic filter change, with the rotating image speed settings, the focus and the zoom selection being similarly straightforward.

- \$2,280

Griven Imperial

Imperial utilises a Xenon 4000W lamp to produce a single narrow searchlight beam. The motorised reflector precisely sweeps the beam through the sky, with up to 50° of pan and tilt possible. The high reflectivity optics and precision focus setting, via the adjustable lamp tray, ensure a bright and perfect light beam, visible at distances of more than 20 km. Six stand alone pre-set sequences are inbuilt, with control of these and pan, tilt and speed on board or remotely via 0-10V, or full control of all functions can be achieved via DMX512. The unit is completely weatherproofed against even extreme conditions, able to withstand temperatures as low as -30° and as high as +50°. The steel body is zinc plated and finished in scratch resistant polyurethane paint. Remote blackout is also available as an option.

- \$27,000

Griven Kaliedo

Light entertainment comes to town with KALEIDO, the MSD575W lamped outdoor colour changer that combines a smart CYM colour mixing system with a wide angle optical system to give the smoothest colour change coupled with a class leading uniform and wide colour coverage Weatherproofed (IP44) and compact size are just some of the benefits. Supplied with both floor mounting bracket and flying bracket allowing the unit to be mounted in any position. Power factor correction with only 4 amps required per unit; remote lamp on/off control option; stand-by function on black-out for lamp life extension and built in power saving system (33% reduction); multi-unit synchronisation via master/slave option; linear 0 to 100% dimmer; strobe effect with adjustable speed; manual or programmed automatic operation as well as DMX512.

- \$5,780

Griven Kolorado1800/2500

Designed primarily for external architectural lighting, combining a wide angle high power flood light with the added benefits of a CYM colour changer, to highlight any building or structure to great effect. Ballast

unit can be detached and located remotely to the lamp head. Griven's patented optical system with grouped planar mirrors giving an even lighting coverage, makes the unit highly equally suitable for television and film sets, live performance, exhibitions etc. The unit can function in 'stand alone' mode via a series of inbuilt pre-programmed colour blend sequences and multiple units can be synchronised in this mode, DMX is also standard. The aluminium and galvanised steel body and the scratch resistant polyurethane paint is part of a housing design which is fully weatherproofed (IP44). Models available are MHD1800, HMI2500 or HMD2500.

- \$9,100

Griven KolorClip

Compact outdoor colour changer, IP55 certified, 8 colours plus, blacklight, white and blackout. Stand-a-lone, master/slave linkable or DMX remote control. Powerful coated elliptical reflector, 34deg angle aperture.

- \$2,110

Griven KolorJet

An immensely powerful outdoor colour changer with weatherproofing to a certified IP44 rating. This advanced unit uses a Xenon 4000W lamp for an extraordinary light output required for the most demanding applications in the architectural lighting field. The power of the lamp is enhanced by the performance of the nickel rhodium plated reflector and the CYM colour mixing system creates an almost unlimited variety of hues. An electronic zoom varies the beam size, from 1deg to 16deg. On board or remote DMX512 control gives instant access to all functions, including colour mixing, frost soft edge effect, black out, strobe and stand by (reducing power and lamp consumption). Pre-programmed automatic colour sequences are also selectable and KolorJet is able to master/slave multiple units.

- \$29,000

Griven Kolorstream

KolorStream is a unique outdoor fixture - more than a floodlight, KolorStream projects colour and light to where it is needed. Using an HMI 2500W lamp (G38 base) and a nickel rhodium plated high reflectivity optical system. Kolorstream has a remote controllable variable angle (12° to 33°) high brightness beam, with the ability to highlight buildings up to 150m high. CYM subtractive colour mixing gives many spectacular colour hues, and the remote ballast unit, separable by up to 20m, makes the projector lighter and simpler to install and transport. Inbuilt colour sequences can be selected and scene change duration set via on board control, for stand alone operation, and multiple units can be synchronised via the master/slave function. All functions can alternatively be controlled from stand-alone DMX 512. The aluminium and galvanized steel body is weatherproofed to a certified IP44 rating and coated with black epoxy paint.

- \$11,500

Griven SkyRose

Popular wide angle multi-beam high power sky projector, available in HMI 1200 or 2500 lamp version. Beam rotation speed, scanning speed and amplitude, strobe and black-out are controllable from on board control or remotely via 0-10V controller. As with all Griven sky-projectors, it is fully weatherproofed.

- \$8,400

Griven Tracer

High power multi-beam sky projector with twenty

degree beam, visible at up to 20 Km distance. On board or remote (0-10V) control of beam rotation speed, scanning amplitude and scanning speed as well as strobe and black-out. Polyurethane finish and completely weatherproof. The projector head and mount can be separated from the base unit. A lamp timer is incorporated, as its power factor correction.

- \$15,000

High End EC-1

Created specifically for outdoor architectural applications, the EC-1 architectural luminaire houses an automated wash light design in a weatherized, static package. In addition to a full CMY colour mixing system, the luminaire also features a six-position colour wheel with replaceable dichroic filters for the ultimate in colour selection and control. The fixture is rated to IP66 (a superior rating in tests against contamination by water and dust particles) and may be mounted in any orientation. EC-1's on-board memory also allows the light to be used without a controller for stand-alone operation.

- \$26,000

High End EC-2

Small, light, efficient and affordable, Environmental Color-2 is designed to meet the specific needs of the architectural lighting professional. EC-2 combines impressive light output with unlimited colour mixing in a fully weatherized IP66 static unit. Precision optics provide a smooth, even field. EC-2's stand-alone playback capabilities together with easy installation and maintenance access make it perfect for a variety of applications.

- \$11,000

High End ES-1

Utilising proprietary 'LithoPatterns' technology, the Environmental Spot-1 architectural luminaire offers sharp logo and image projection effects from a static luminaire in a weatherized housing. ES-1's on-board memory allows the light to be used without a controller for stand-alone operation. Other features include two colour wheels, two independent, rotating Litho/effect wheels, variable frost, dimming, independent iris, strobe function and remote focus. The convection-cooled fixture is rated to IP66 and may be mounted in any orientation.

- \$33,000

Kupo Outdoor Par Can

Die-cast outdoor Par CDM is a rugged, lightweight alternative to conventional the standard tungsten halogen Par 64 fixture. It uses the long life single ended 70w or 150w CDM-SA/T lamp achieving 6,000 hours. The highly polished anodized aluminium reflector creates a highly efficient light source. Internal ballast and control gear for simple installation. Available in black or white finish with 3 optional interchangeable lens.

- Price TBA.

Martin Exterior 200

Compact colour mixing wash luminaire for production, installation and architectural applications. Universal burning position. In naturally anodized aluminium extrusion it is rated IP 65 with true CMY secondary dichroic filter colour mixing. Beam angles via motorized zoom from 70 or 36° via interchangeable lenses or a rectangular 90 x 70° beam is also achievable. Uses the long life CDM-SA/T achieves 6,000 hour lamp. In built mechanical dimmer, and control via on board photo electric cell, real time clock and up loadable 16 scenes, master/slave synchronization or external

DMX control (6 channels) Colours and control fully compatible with EXT 600 & EXT 600 Compact.

- \$5,999 (includes lamp).

Martin Exterior 600

Extremely high output colour mixing wash luminaire for production, installation and architectural applications. Universal burning position. In naturally anodized aluminium extrusion it is rated IP 65 with true CMY secondary dichroic filter colour mixing. Beam angles via motorized zoom from 18 to 25°, 22 to 38° or 65° via interchangeable lenses. Frost and beam shaper lens with 90° rotation standard. Using the long life 575w MSR/HSR achieves 20,000 lumens with 650 hour lamp life. Extended lamp life using 575MSD/HSD 2,000 hours. In built mechanical dimmer, and control via on board photo electric cell, real time clock and up loadable 16 scenes, master/slave synchronization or external DMX control (9 channels)

- \$12,899 (lamp extra)

Martin Exterior 600 Compact

Extremely high output colour mixing wash luminaire for production, installation and architectural applications. Universal burning position. In naturally anodized aluminium extrusion it is rated IP 65 with true CMY secondary dichroic filter colour mixing. Beam angles of 30, 41 or 65° via interchangeable lenses. Using the long life 575w MSR/HSR achieves 20,000 lumens with 650 hour lamp life. Extended lamp life using 575MSD/HSD 2,000 hours. In built mechanical dimmer, and control via on board photo electric cell, real time clock and up loadable 16 scenes, master/slave synchronization or external DMX control (9 channels)

- \$9,499 (lamp extra)

Martin King Dome

Short term outdoor protection for your favoured Martin luminaire for production applications. A transparent inflatable IP44 rated cover fabricated from clear PVC film and an ABS base. Two lengths available normal 800mm or adequate 1600mm and both 800mm diameter.

- \$2,788 (800 x 800), or \$3,098 (1600 x 800).

Martin MAC Dome

Exterior housing for MAC 2000, 600, 500, 300, 250 luminaires. Modular system fabricated from durable steel with a hard plastic clear protective dome.

- \$3,999 (for MAC 600/500/300,250).

SGM LightDome

The Dome is in fully weatherproof, highly transparent heat-resistant polycarbonate with a built-in ventilation system and ABS body. Tamper-proof.

- \$5,400

SkyLight

(Balloonlights) Balloon lights utilise a helium filled white translucent balloon with an internally mounted lamp. They are ideal for lighting large areas outdoors, where a soft glow is preferred to the harshness of a conventional floodlight. They are available in sizes ranging from 1.2 to 3.4m and powers from 800w halogen to 4kW HMI discharge. Balloon lights are used extensively in Film, search and rescue, event and roadwork markets. Their soft light output leaves almost no shadows, unlike conventional floodlights. They are highly portable as they fold down to less than 30cmx10x10cm once deflated.

- from \$3,398

Space Cannon Easy 2000/4000

(Searchlight) IP55 rated outdoor portable Xenon

Martin Exterior 200



Martin Exterior 600

Martin King Dome



Martin MAC Dome

Outdoor Lighting



Space Cannon Easy 2000



Space Cannon Ireos at the Olympics



SpaceLight LightHose installation



Studio Due CityCo.or

searchlight. The Easy 2000 weighs only 30kg and draws only 8A @240v, due to the use of an electronic switch mode power supply built inside the head. 16 bit Pan and Tilt is standard, as well as an electronic dimmer and strobe (1-25Hz) function. Units can be run stand-alone or from DMX512. The Easy2000 (also available in 4000w version) uses the latest in ABS moulded plastics to ensure a lightweight unit. Its compact dimensions (1100mm x 450mm x 285mm), along with able being able to run on standard 10A single phase outlet, make it an ideal unit for rental companies. Lamp: Xenon 2000/4000

- from \$19,567

Space Cannon Ireos 4000/7000

(Searchlight) IP55 rated outdoor portable full feature Xenon searchlight. Includes DMX control of high speed (110degrees per second) 16 bit Pan/Tilt, dimmer, strobe, frost, CMY colour mix and Zoom. Electronic power supply ensures low power consumption on single phase or three phase supply. The Ireos 7000 fixtures were featured in the opening and closing ceremony of the Sydney 2000 Olympics. The Pan and Tilt are driven by specially designed brushless DC servo motors with industrial motor controllers, to give high speed movement with high accuracy (0.004degrees). Lamp: Xenon 4000/7000

- from \$66,948

Space Cannon NF4000

(Searchlight) IP55 rated outdoor installation static searchlight. The NF4000 (also available in 2000 & 7000w versions) is designed for permanent installation, where Pan and Tilt movement is not required. The NF series use conventional mechanical power supplies and contain no moving parts, to ensure years of trouble free operation in the harshest of installations. Lamp: Xenon 4000

- from \$23,489

SpaceLight Cat150

(Architectural) The Coloured Advanced Technology unit is an IP66 rated unit with no fans. It uses the latest in CDM lamp technology to give >6000 hours lamp life. Full CMY colour mixing is included to provide unlimited colour control. The unit emits no IR or UV output and operates on standard DMX or on stand alone with IR remote control. Also available in non colour mix version (Bat150). The 150w CDM short arc lamp provides a low cost lamp source with 6,000 or 12,000 hour rated lamp life. Varying beam output is possible via the use of clip-on lens, giving a range of 3.5 to 80 degrees. The incredibly compact dimensions (336x300x420mm) allow the unit to be used in applications not previously possible, due to size restrictions. Lamp: CDM/T SA150

- \$6,417

SpaceLight ColourArt 2000

(Architectural) The ColourArt is a Xenon powered architectural spotlight with variable beam angle. The use of a Xenon lamp provides a higher lumen output and longer lamp life than conventional discharge units. Pan and Tilt adjustment are set manually during installation, whilst CMY colour mix, dimmer and strobe are all controlled via DMX or stand alone mode. The ColourArt unit includes an internal time clock to enable the unit to be programmed to turn on and off at preset times. Up to 1,000 scenes can be recorded into the unit for stand alone operation. An optional photocell can be connected to allow override control due to ambient light level. The ColourArt is also available

in 1000, 4000 and 7000w versions. Lamp: Xenon 2000w

- from \$27,007

SpaceLight Focus

(Architectural) The Focus is a heavy duty IP55 rated CMY colour mix spotlight complete with full linear dimmer. It uses a patented tubular dichroic colour mix system for long life and high reliability. It also includes variable zoom and DMX control of all functions. It is available in 575, 700 and 1200w versions with either mechanical or electronic power supplies. The Focus includes 4 different lenses that provide beam size and shape control from 3 to 90 degrees, with variable zoom in between. The Focus is an extremely robust unit, making it ideal for harsher installation environments, or for hire companies. Control can be via DMX or stand alone with master/slave linking of up to 32 units. Lamp: HSD/MSD 575

- from \$11,738

SpaceLight LightHose

(Architectural) LightHose is a whit translucent tube that fits to the top of the Focus colour change fixture. It is available in 2m - 50m lengths and will glow an even brightness long the full length. Full colour mix is provided by the Focus fixture allowing the LightHose to change colours without limit. LightHose is a unique architectural aid, allowing vast columns of colour changing light to be installed in buildings, towers, etc to increase visual dynamics. It can be installed at any angle and can even go around corners, via the use of internal deflection mirrors.

- from \$495

Studio Due CityBeam

Narrow angle exterior colour mixing luminaire. The luminaires feature true CMY secondary dichroic filter colour mixing. In built mechanical dimmer. Beam angle is variable from 15 to 20° as standard and by removing the diffusion filter can be reduced to an even narrower 8 to 11° for long throw applications. Utilises 1200w MSD/HSD 2,000hours lamp. IP ratings IP 54 or IP 33. Control is via 26 pre-programmed scenes, master/slave synchronization or external DMX control (7 channels).

- \$7,999 (lamp extra).

Studio Due CityColor

The premier choice in high output wide-angle exterior colour mixing luminaires. City Colour sets the standard. Available in 1800w and 2500w metal halide, these units are the industry standard for major productions and installations. Lamp life is 2,500 or 2,000 hours. The luminaires feature true CMY secondary dichroic filter colour mixing. beam angle is 40 x 53°. In built mechanical dimmer. There are choices in weatherproofing ratings of IP54 and IP 33 according to application. Barndoors are also available. Control is via 26 pre-programmed scenes, master/slave synchronization or external DMX control (7 channels).

- \$7,999 - 8,999 (lamp extra)

Studio Due MiniCity

A compact narrow angle IP 55 rated colour mixing flood with true CMY secondary dichroic filter colour mixing. Beam angle of 15 or 28° via changeable reflector and using the long life CDM-SA/T achieves 6,000 hour lamp life. In built mechanical dimmer (from Sept 2001). Control is via pre-programmed scenes, master/slave synchronization or external DMX control (6 channels).

- \$2,999 (lamp extra)

Tracking Guide

NSW TRACKING GUIDE
PROUDLY PRESENTED BY
Sound On Stage
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Surry Hills, NSW, 2121
Ph +61 2 9281 0077
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New South Wales



Damien Gerard Sound Studio	Marshall Cullen & Di Dofel	+61 2 9555 1710	2" 24 tk Analog/Pro Tools Digital
Grindspoon	Phillip McKellar		Pre-production
Chris Turner	Pete Wells	Russell Pilling	EP
Sideshow		Russell Pilling	Album
The Posies	Nick Dalton	Russell Pilling	Mixing for Album
Fendahlene	Russell Pilling		Album

Rathouse	MarkMacedone	+61 2 6962 2307	24tk Analogue, 16 tk digital
Natalie Griffiths	Chris Campbell	Chris Campbell	Album Demos
Angie Rizzari	Chris Campbell	Chris Campbell	Single
Arancine Trimboli	Chris Cambell	Chris Campbell	Album
Marisa Mancini	Chris Campbell	Chris Campbell	Laughing Co
StarFM Radio Show	Chris Campbell	Chris Campbell	Gig Guide

Studios 301	Steve DeFina	+61 2 9698 5888	Recording studio for all genres incl orchestral scores
Jebediah	Magoo	Magoo	Album Mix
The Whitlams	Daniel Denholm	Paul Pilsneniks	Tracking
Opera Australia	Richard Lush	Richard Lush	15 piece orchestra recording
Midnight Oil	Warne Livesey	Warne Livesey	Mixing
Seanikin	Paul Gomersal	Paul Gomersal	Mixing

Studios 301 Mastering	Jacqui Espie	+61 2 9211 7301	Mastering Facility
Long Way to the Top	Clinton Walker	Don Bartley	Double Album /TV show
The Power & The Passion		Don Bartley	Midnight Oil Tribute Album
Rumanastone	Tim Whitten	Don Bartley	Forthcoming Album
George	David Nicholas	Oscar Gaono	Forthcoming Single

Boulder Bay	Rob Godwin	+61 2 4984 2008	16tk Hard Disk, Neumann Akg Rode, Shure Audio Technia Mikes
Garden Party	Rob Godwin	Rob Godwin	8tk for demo CD
Inhale	RobGodwin	Rob Godwin	Finishing 6tk EP CD

Nu-Town	Greg nutown@yahoo.com		Full recording & production
Nova	Sofie Loizav	Greg Hopping & Sofie Loizov	Single
Twice	Greg Hopping	Sofie Loizon	Single
Kelly Ophel	Greg Hooping	Greg Hopping	Album
Dom	Greg Hooping	Mark Worrall	Album

Sounds'r'Us	Jonathon Fowler	+61 0417 464 601	Location Recording 16tkdigital
Nicky Chiswell	Nicky Chiswell	Jonathan Fowler	Live Album
Greg Lake	Jonathan Fowler	Jonathan Fowler	Live Album

Rockinghorse	Anthony Lycenko	+61 2 6688 4005	48chan neve vselfies studer 24tk
Stringyansassy	Band	Anthony Lycenko	EP Mixing
Dr Didge	Artist	Michael Worthinton	Mastering
Able	Brendan Morley	B Morley & A Lycenko	EP Tracking
Big Brother	Bruce Redman	Jim Arnold	Voice Over
Lancaster	A Lycenko & Ben McCarthy	A Lycenko	EP Tracking

Floating Point	Martin Eckel	+61 9318 1550	Music & Audio Post Production
Mike Ross Body & Soul	Mike Ross & Martin Eckel	Martin Eckel	Single
Mike Ross Bass & Space	Mike Ross & Martin Eckel	Martin Eckel	Single
Mako	Mako	Mako	Tracking
Flame	Peter Mates	Peter Mates	Tracking

Feral Studios	Jon Robertson	+61 2 62993224	30 track recording
Space is dead	Jon Robertson	Jon Robertson	EP
Mark Smith	Jon/Mark/Phil	Jon	EP
The Rug	Jon	Jon	Demo's

Hindsong Studio	David & Lyn Hinds	+61 2 6582 7070	Digital Project
Balance	David & Lyn Hinds	David & Lyn Hinds	Album tracking
Great Lakes Tourism	David & Lyn Hinds	David & Lyn Hinds	TVC Soundtrack
Axis Image Works	David & Lyn Hinds	David & Lyn Hinds	V/O Production

Velvet Sound Recordings	Dave McCunn	+61 2 9267 2915	Pro Analogue & Digital recording, mixing & editing.
Lavaland D.C.	Paul McKercher		BMG Album
Dark Order Band	Adrian Grigorieff		Album Mixing
Dangerous Curves	Helen Rose	Adrian Grigorieff	Album Mixing

Floating Point Studios

(from page 28)

Details matter at Floating Point, like: The Coffee Machine. Now this thing really ROCKS!



Gareth Davies, Adient co-founder, talks about the console:

"Adient developed the ASP8024 because David Dearden and I, along with many of the musicians, producers and studio owners we talk to, are convinced that the 'honeymoon period' for the digital console has ended.

More and more users are realising that while the digital desk has its benefits in some environments a properly designed analogue console can still provide better performance as well as a more intuitive user-interface and will not be made obsolete by the next digital sample rate or word-length hike.

The challenge then, was to develop the right analogue console at the right price.

The ASP8024 was launched at the Frankfurt MusicMesse where we received a unanimous and overwhelming endorsement of our design strategy.

It's not just the sheer number of ASP8024s that are now in use around the world and the rave reviews in the press that are so satisfying, it's also the huge variety of facilities and users that have realised they'd found exactly what they were waiting for.

Our selection of users gives just a taste of the diverse market that we've been able to satisfy. From the private facilities of 'household name' performers through commercial and project studios and into broadcast and live location recording.

To extend its market even further we're continuing to add to the ASP8024's arsenal of capabilities:

Frame sizes to accommodate

Tracking Guide

from 24 up to 60 dual-path inputs.

Optional Script/Producers desk section. Optional ASP8024MF

Moving Fader system, developed in partnership with US automation specialists Uptown.

Optional Integral patch-bay systems featuring high quality Neutrik bantam jack sockets and a D-Sub based studio systems interface with 144 tie lines included as standard.

If you're thinking about a console you owe it to yourself to check out the ASP8024 - the tide really has turned!"

David Dearden on his mixing console design: "They just sound so good. Component selection is an important factor which extends far beyond just the choice of which op-amps to use. Seemingly innocent and innocuous passive components that many take for granted sometimes exhibit effects on system performance which are orders of magnitude greater than the active components. At Audient we have carried out a substantial amount of work in this area."

"Although much has been written and implied regarding capacitors it is mostly unsubstantiated. However it is not difficult to show that certain circuit configurations can cause profound and measurable non-linearities due to signal induced modulation of the capacitance, that it varies between types and manufacturers, some being much worse than others. It is even batch-dependent. Needless to say, we choose our supplier very carefully.

"Surface mount components are used extensively in pro-audio equipment these days but our investigations have shown that they can not be used everywhere. Rising high frequency distortion with increasing signal level is evident with certain types of ceramic capacitor and noise and distortion from surface mount resistors can be found in some circuit configurations. We use conventional metal film resistors and seemingly highly over-specified capacitors in these positions to achieve our excellent results.

"It comes down to what Audient is all about - "They listen" as the dictionary says."

ARTIST	PRODUCER	ENGINEER	SESSION
Mortegratis	Steve James	Tony Wall	Album Mixing
Lycanthia	Band	Adrian Grigorieff	Album Mixing
Gangstar Records Dave Dwyer +61 2 4739 0451 24+tk digital studio			
ESENSE (E. Napolitano/S. Charlwood)	D. Dwyer/Rebecca Dwyer	D. Dwyer/D. Lackey	Demo/Album
Krystle Keller	Dave Dwyer	Dave Dwyer	Album
Glister	Dave Dwyer	Dave Dwyer	Album
Bernie Segedin	Dave Dwyer	Dave Dwyer	Album
Aphek Studio Greg Dixon +61 2 9876 8170			
Shane Elsmore	Shane Elsmore	Greg Dixon	EP
New Horizons Baptist Church	Lee Colah	Greg Dixon	Album
Nichole Schleider	N. Schleider/Alan Dowthwaite	Greg Dixon/Rohan Mansley	Album
Bush Tracks Pty Ltd Ruth Miller +61 2 6689 1290 Professional Digital Recording Studio			
Solkin	Bodhi Seed	Dave Highet	Album mixdown
Kangaroo Club	Mereki/ T Tonkin/M Turner	Dave Highet	Album
Q Recording Michelle Barry +61 2 9212 4851 www.qrecording.com.au SSL G & Studer 24 track			
Able	David Nicholas	David Nicholas	Album tracking
Bich	Dave Leslie	Mick Seage	Album tracking
Vincent Serravalle	V. Serravalle/Michelle Barry	Michelle Barry	Demos
The Vault James Cadsky +61 2 9555 8298 cadsky@ozemail.com.au 4040 SSC E/G Protocols 48tr Analogue			
Clay	Alex Cobourne	Alex Cobourne	Album
Faxer	Faxer	James Freeman	EP
Sleeper	James Cadsky	James Cadsky	EP
Backsliders	James Cadsky	James Cadsky	Singles
Trentwood	Phil Ceberano	James Cadsky	Singles

Queensland

Tamborine Music Phil & Philippa philman_rid@bigpond.com Home Studio			
Phil Manning	Phil Manning	Phil Manning	Album
OPM Studios Daniel Seymour +61 7 3374 0066 ADATS with Logic Audio			
Montgomery Clifts	(Band)	Daniel Seymour	Album
Bludja	Daniel Seymour	Daniel Seymour	EP
Alchemy	Craig Tompson	Daniel Seymour	Album
Stitches	(Band)	Daniel Seymour	EP
Munkys Unkle	Daniel Seymour	Daniel Seymour	EP
Stargate Music Productions Dash Mclvor www.users.bigpond.com/dash.stargate			
Kaylene Newton	Dash Mclvor	Dash Mclvor	Single
Keetarah	DashMclvor	Dash Mclvor	Album
Hot Toddy	Mclvor/Canning	Dash Mclvor	Album
Masis	Dash Mclvor	Dash Mclvor	Single
Ian Muir	Mclvor/Muir	Dash Mclvor	Tracking
Taramalin Sound Allan Lahey +61 7 32089736 32tk Digital 16tk Anal. Pro Tools Option_Music/Mastering On			
Chimera	Chimera & A Lahey	A Lahey	Anthony Russell
Dave Richards	Dave Richards	Album	
Jennifer Cameron	A Lahey	A Lahey	EP
Alison Locke	A Lahey	A Lahey	EP
Lucy's Doll	Lucy's Doll	A Lahey	EP
Coral Sea Studios/ Select Sound Jan Sarchfield +61 7 4059 2888 Digital Recording Studio			
Seaman Dan	N. Pegrum & Karl Neuenfeldt	Nigel Pegrum	World Music Overdubs
A#Sharp Jeff Cripps +61 2 9153 9988 24tk Analogue/32tk digital			
Third Degree	Jeff Cripps	Jeff Cripps	CD
Vermicion	Jeff Cripps	Jeff Cripps	CD
The Backbeats	Jeff Cripps	Jeff Cripps	CD
Bald Face Public School	Jeff Cripps	Jeff Cripps	CD
Soundwarp			
Lonnie Lee	Meredith Brooks	+61 2 9905 7144	Mastering
The Dodgy World	Lonnie Lee	Meredith Brooks	Album
Craig McLachlan	Adam Buckland	Meredith Brooks	Album
The Beautiful Girls	Tony/Craig	Meredith Brooks	Tracks for film
Snowblind	Matt McHugh	Meredith Brooks	Album
	Jason Lea	Meredith Brooks	Album

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Currently in progress is a DVD soundtrack mix of Richard Clapton's recent live show taped at Fox Studios in Sydney, being produced by Steve James.

AMS-Neve 88R in Studio 1

Studios 301 Sydney will be one of the first music studios in the world to install the new AMS-Neve 88R multi format mixing console. The 88R has been widely acclaimed as the ultimate analogue desk.

Studio One at 301 in Sydney, which is purpose designed and built for large-scale orchestral recording and film scoring sessions, will install the new console during October. The 88R combines comprehensive bussing and monitoring facilities for all film, DVD and other developing audio formats utilising AMS-Neve's Encore automation system.

Studer D827 Multitrack

With the addition this month of a newly acquired Studer D827 recorder, Studios 301 is now the only music studio in Australia to have two 48 track DASH format recorders available, providing clients with up to 96 tracks of tape based digital recording, together with the capability to make 48 track copies.



(above) Steve Defina and Richard Lush with the new Studer D827

Dex Mastering	Adam Dempsey, Ken Shulman, Dean Collett	+61 3 9372 2266	audio mastering & restoration
Salmon Guts	Chris Corr		Album
Laugh Radio	Wes Jay		Promc CD
Combo Fiasco	Band		Album
La Chambre	Tanaya Burgess		Demo
John Haye	John Haye		3UZ vinyl restorat ons

Honeyface	Mark Hilton	+61 3 9507 2067	32tk digital with valve outboard
Tom Griss	King Bee		Solo Pop Album
Dom Jurcec	King Bee		Solo Pop Album

Backbeach Recording	Mark Rachelle	+61 3 5988 6948	Analogue class a + protocols
48 kours	Hess		Mixing
Human Nature/Madison Ave	Van/Coates		Mix
16th Element	Cam Denny		Mixing
Musk	Allan Dy / Mark Holden		Mixing
Trigger	Duane Morrison		Mixing

Studio 52	Paul Higgins	+61 3 9417 7707	Three main studios, ADAT, 2" Analogues, various HD formats
Youth Week Compilation CD			Mitch Kenny & Jared Scott
Kool Skools Mult.Media Project	Nat. Secondary Institutions		Mitch Kenny & Jared Scott
Airspace Interviews	Ed Nimmervol		Mitch Kenny & Jared Scott
Nancy Agostino	Trevor Carter		Trevor Carter
Gig Law & Leah Lotto			Mitch Kenny

True Form Recording	Neil Gray	+61 3 9391 0907	Mackie HDR 24/96, Soundtracs 36 ch.inline console
Greedo	Glenn Lewis		Glenn Lewis
Eddie Would Go	Neil Gray		Neil Gray
Darkroom	Neil Gray		Neil Gray
Texx	Neil Gray		Neil/Band

Edensound Mastering	Martin/Robbie	+61 3 9682 9066	
Ariel	Mike Rucd/Bill Putt		Martin Pullan
The Bluehouse Album	James Black		Martin Pullan
The Pigram Brothers	Kerryn Tolhurst		Martin Pullan
Minotaur	Band		Martin Pullan
Mint	Rob Frankiewicz		Martin Pullan

Wombat Rd Rec Studio	Barrie Clissold	+61 3 5145 4204	24tk digital & 16tk analogue
Jim Lock	Barrie Clissold		Barrie Clissold
Helen Stevens	Barrie Clissold		Barrie Clissold
Vicky & Anna	Anna Melville		Barrie Clissold
CGHS Building the Boardwalk Project	Barrie Clissold		Barrie Clissold
Maffra PS	R Woodhouse		Barrie Clissold

Crystal Mastering	Joe Carra	+61 3 9326 2318	Mastering Suite
Fez Perez	Matt Thomas		John Ruberto
Paul Coleman Trio	Phil Gaudion		John Ruberto
Matthew Pitt	Matthew Pitt		Joe Carra
James Ash	James Ash		Joe Carra
The Hired Guns	Band		John Ruberto

South Australia

Disk Edits Pty Ltd	Neville Clark/Catherine Linke	+61 8 8340 1377	Mastering & Post, Surround Edit Suite
In Too Deep	Village Roadshow		Travis Grace
Highlander	Universal Pictures		Travis Grace
Mad Max	Village Roadshow		Travis Grace
The Wedding Planner	Village Roadshow		Travis Grace
13 days	Village Roadshcw		Travis Grace
Encoding			5.1 Mastering & RTS

EarSight	Steve Fieldhouse I+	+61 0407 970425	ProTools 5.1 TDM based Environment
Found Objects	Steve Fieldhouse/Chris Lambert		Steve Fieldhouse
Aura Kevin (Aura)	Chris Lambert		Chris Lambert
Mournful Congregation	D. Goode/S. Fieldhouse		Steve Fieldhouse
HillTop Hoods	HillTop Hoods		Steve Fieldhouse
Ramshackle Jack	John Oldman/Steve Fieldhouse		Steve Fieldhouse

Western Australia

Revolver	Vic Manfrin	+61 8 9272 7505	32tr Digital and Analogue
Showbag	(Band) & Ben Glatzer		Ben Glatzer
Cartman	(Band) & Ben Glatzer		Ben Glatzer
Twang Thang	Greg Bird/Vic Manfrin		Vic Manfrin

Satellite Recording Studio	Darren Halifax	+61 8 9470 4003	Protocols, 64tr, Purpose built facility
Riverveil Church	Andrew Bolt		James Hewgil/Darren Halifax
Tim Winton	Lucky Oceans		James Hewgil
Gavin Maher	Gavin Maher		Darren Halifax
Floating Widget	Jayb Cole		Darren Halifax
Don King	Don King		Darren Halifax

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X-Array Front Straps \$ P.O.A.

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12 x dual 18" Subs RCF (as new) @ \$2000 each

12 x EV Deltamax 1152 @ \$1500 each

6 x db Audio Opera 15" self-powered as new @ \$900 each

Processors

6 x Meyer M3 Processors @ \$1200 each

4 x Meyer B2A Processors @ \$1200 each

1 x Meyer M1 Processor @ \$800 each

6 x Deltamax Processors @ \$800 each

Monitors

2 x Meyer UM1 Wedges @ \$1200 each

Consoles

Ramsa WR840 40/18 Monitor Console & Roadcase \$18000

Yamaha PM3000 40C Console & Roadcase \$15000

Soundcraft 800B 24/8 Console & Roadcase \$2500

Soundcraft 500B 40/8 Console & Roadcase \$4500

FX/Signal Modifiers

2 x dbx162 Stereo Compressors @ \$1600 each

1 x pair dbx163 compressors @ \$350

Amplifiers

8 x QSC MX3000 amps @ \$2500 each

12 x QSC PLX3002 amps @ \$2500 each

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4 x Yamaha PM2200 amps c/w bi-amp card @ \$600 each

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Creaking Doors, Horses' Hooves and Knife into Bamboo

Foley fun at NIDA
by Madeleine Murray



2nd year students of the technical production course

On Wednesday afternoon on August 1, fourteen NIDA students dressed in black, stood in a darkened room and did strange things with jelly, coconut husks, a branch, a piece of cloth, a door and rainsticks (beads inside a hollow wooden stick). The second year technical production students were making the entire sound track live for five film excerpts.

The brief had strict parameters; no electricity apart from mics and PA; no budget; make every single sound live; no recorded or digital effects. The exercise teaches students a lot about sound effects, sound components, and gives them the buzz of performing. The Foley exercise, first started by Paul Charlier, was run this afternoon by Max Lyandvert, NIDA's intense pony-tailed sound tutor.

The film selection was delightfully quirky, with interesting range. For Terminator II, the students did the sounds of scary footsteps, heavy breathing, a bobby pin picking a lock, and someone being bludgeoned to death. City of Lost Children featured the sounds of snoring, red snakes whipping through debris, and green smoke. For The Shining, we heard student

voiceovers for Jack Nicholson and Shelley Duvall, as well as the surreal whooshing sounds of couches swirling in a torrent of blood. Meet the Feebles had an animated lascivious blue walrus, an outraged wanted yellow kippo, and other odd creatures. The final excerpt was the Japanese Manga cartoon Ninja Scroll where students made sounds of galloping horses, and a sword fight through a bamboo grove. Extra effects were injected with some cello, flute, piano and snare drum.

NIDA students and teachers came to watch the show, and everyone was whooping and cheering afterwards.

The students managed all aspects of the production, from rehearsals to sound design to sourcing the individual sound effects. They chose and edited the films themselves.

"The sound system was supplied by SOS," said student Nigel Capenhurst. "Michael White lent it to us for free, so that was great. He was kind enough to lend us a PA because NIDA's are all on shows at the moment. And we got a nice Yamaha 01V digital desk from him. It was so greatly appreciated."

Minka Stevens - jelly is her friend



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DMX 512-A Update

I came across the article you did on the DMX512-A effort (June, 2001). I did want to let you know of other DMX related efforts going on within ESTA.

The "hooks" in the new DMX draft standard do allow for varying manufacturer specific Talkback protocols. These products do exist, and will exist so they can not be ignored. The draft standard has tried to formalize the marking of the products by how they communicate, so the user can identify what is happening on their data link.

As far as a common standardized Talkback protocol, this is in the works. There has been on-going discussions within the ESTA Committees about how best to do this over the last 6-9 months. At the July meeting, a new Task Group was formed with myself as the Chair to develop a public talkback standard. The working name for it is E1.20 Remote Device Management (RDM).... The group is made up of numerous manufacturers (including Martin and Varilite) and is currently working towards developing this public talkback protocol based on a more generic implementation using the High End Protocol as a foundation. So be shocked in that High End is sharing ideas with Martin and others. The intent of this protocol is to not just provide status information but also to allow remote configuration of products.

Scott Blair
High End Systems

Songs From The Hill

I read with interest the article in the August issue about the Hillsong convention. In particular the fact that Hillsong have their own team of technical people. I belong to a church group where we also have a team of technical people in both Sound and Lighting areas. Few of these have any official accreditation in these areas, most have learnt by the hard road of experience. Some having clocked up nearly 20 years of "on the job training". We subscribe to your magazine to try and keep abreast of changes in the industry and pick up a few pointers of how things should be done. Being a church group we operate on a limited budget and cannot afford a lot of the expensive new fangled gismo's. Can you please remember the little guy and include the lower priced options in your reviews etc. Keep up the good work.

David Catley
Adelaide Revival Fellowship

More Comments From the Hill

Just reading this month's mag that came today. Couldn't help but chuckle at the part in the Hillsong story where you express

surprise at "1000 teenagers unified in purpose without drugs or booze"

I just hope that in the middle of listening to the awesome line array, and counting MAC's, you thought about what was happening around you, and what could make all those people, from 37 countries, from all around Australia, travel all that way to hear.

I hope I, and hills have given you some stuff to think about.

Oh and by the way, there was some crowd surfing, and a girl broke her neck. Doctors confirmed that, and she was taken to hospital. However, now she is completely fine, nothing wrong with her. She is walking, jumping, everything and worshipping God.

There you are, some food for thought. Great mag. I enjoy reading it - keep up the good work.
Peace and low notes

David French
Bass Player

Info On Gearhouse Please

A few of us are a little surprised by the lack of coverage of Gearhouse going bust by Connections Magazine.

A LOT of smaller companies lost money all over Australia. We were owed around \$13,000 which we aren't going to see, another Canberra backyard operator lost \$11,000. I believe the total unsecured creditors bill may be as much as \$1.9 million. I think there is a set company on the Gold Coast that lost as much as \$100,000! and Gearhouse ex-staff only got paid out this week.

The receivers were appointed by the ANZ bank. They are basically working for the ANZ bank because they are a secured creditor and apparently, the receivers won't even realise what the ANZ are owed. Therefore all of the unsecured creditors won't see a cent and therefore no creditors meeting will be held.

I have written off the money that we are owed, but I thought I should ensure that you knew that the Gearhouse story is much bigger than you seem to be aware.
Kind Regards'

Simon Byrne
Audio Solutions

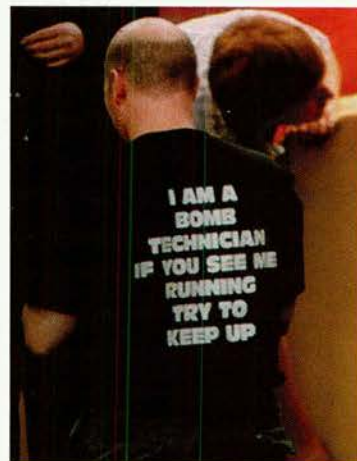
*Just checking that you saw our initial article on the collapse (April, 2001) and subsequent article on the breakup of the company (June, 2001). We are still collecting info about the after effects. When we have more to tell, be assured we will pass it on.
Ed*

Got a gripe or a comment? Send your email to mail@conpub.com.au

New Website for Connections

Connections has begun the process of overhauling our much neglected website. While the new site is still under construction, you are now able to browse stage one of the upgrade at www.conpub.com.au. We will eventually be making a large number of previously published articles available online, with the intention of creating a FREE searchable archive.

We welcome any comments or suggestions you might have to mail@conpub.com.au.



This is not a Connections T-shirt (but maybe it should be). We are going to push current stocks out the door to make way for new ones. If you want a t-shirt for \$8 plus \$6 shipping, go to the Connections Bookshop on the web.

While we do not usually run info from musical instrument companies, this email is worth passing on...

Stolen Gear

A large number of guitars were stolen from the Ibanez Centre, Adelaide on Thursday (23/08/01) morning at 4:00am. All guitars were new. We have no serial numbers. The guitars are not in guitar boxes or cases. Should you come across any of these please contact the Sturt Police Station on +61 8 88270 4700 and quote report no.02E36090.

For further information contact the Ibanez Centre on +61 8 8377 2272. For pictures and further specs go to www.australismusic.com.au select 'Ibanez' then browse.

MY GIG

by Mandy Jones

A Day In The Life Of Tiny Good - Rigger



Tiny Good was born into an entertainment industry family and began his involvement at age 5. At 15 he worked backstage at the Ringwood Cultural Centre with Alex Young and Liz Payne, and then moved on to the Victorian Arts Centre working for John Machetti. An A-Grade electrician by trade, Tiny initially worked in lighting until 1987 when the Bicentennial celebrations were being prepared. Noticing a glut of lighting companies and a lack of specialist rigging companies - only two in the country at this stage - he set about establishing his reputation as a rigger and was made head rigger for the entertainment division of the Bicentennial, based in Brisbane. Soon after that ShowTech was born and today boasts an enviable client list and safety record. Tiny's wife Robyn is the company's General Manager and they live in the Melbourne suburb of Cheltenham with their dog Packer.

Name:

Tim J (Tiny) Good

Age:

35

Occupation:

Rigger, Technician and Director

Company:

ShowTech Australia

Current Project/s:

- Sidney Myer Music Bowl installation of lighting and audio rigging systems for Rutledge Engineering and the VAC, plus lots of other projects.

Location:

Port Melbourne

7.45am Arrive at the ShowTech offices in Port Melbourne

I try to arrive either before 7.45am or after 9am because trying to get here during peak hour is just ridiculous and you end up spending too much time in the car. I can be here anytime - this morning it was 6.30am, Saturday morning it was 4.15am, some days I don't get here until four or five in the afternoon. It all depends on what hours I did the previous day and what jobs we're doing that day.

I'll spend the first half hour with Garry Raft our workshop manager and construction guy seeing where he's up to, then I'll finish off job reports so that Robyn and Celia can

write-up the invoices.

9.30am In the office

The office opens at 9.30am so when the admin staff arrive so I try to spend between 30 to 90 mins with each of them just seeing where we're up to, and catching up on things that were supposed to get done last week. Then we'll go through each of the jobs that are coming up for the week and making sure that the gear that has been specced is what's supposed to be going out on the job.

In a typical week I'll spend one day in the office keeping a handle on all the administration things, going to meetings, and writing proposals and risk and hazard assessments for jobs that we're doing. Going through specifications on quotes and making sure that what the client has asked us to quote on is capable of being done in the building is a big part of it. It's amazing how many times we have to ring a client back and say they can't actually do what they thought because the building is only 7 metres high and they've asked for a 12 metres scaffold, also a lot of the clients quite often have very unrealistic expectation of the average ballroom or exhibition space.

Lunch Break: I tend to be a lot tougher on my crews getting breaks than on making sure I get them myself. Usually I try to get about half an hour for lunch but that's usually when everyone thinks 'oh, Tiny won't be working at the moment, I'll ring him'. I think I'm about to lose my mobile phone - too many people have got my number. I'm very capable of ignoring my phone, partly because of where I work and partly because I think it's a bad look to the people I'm working for to be on the phone all the time. I've got an office, I've got four other people here who are capable of taking a message and sorting out 96% of the problems anyway. I don't book meetings. If people want me to go out to site meetings they ring the office because I don't have a computer in front of me with the schedule and I don't know what I'm doing the next week. And I don't quote people on site. I can give them a ballpark figure to the nearest \$5000 or do simple ones where it's just a four hour call but anything else the chance of me remembering what I've said when I'm standing 60 feet up in a boom lift above the music bowl is zero

I get breakfast about two days a week, I have lunch about four days out of seven, and have dinner every night. Some weeks it's great and I'll have breakfast, lunch and dinner every day, other weeks I get one meal a day.

What keeps me going? Coffee...tea...sheer bloody-mindedness! It's actually one of the

things I've been trying to crack down on - getting meals at more regular intervals and making sure all the guys do. It's a hard thing with the rigging industry in general because we're expected to work for pretty much everybody. Every time the lighting guys go to lunch that's when the sound guys will say 'while they're at lunch can we do this' and then the lighting guys come back and do the same and all of a sudden it's 4pm and you haven't had a break yet. It's just one of those things.

But it's really important that anyone driving any of the machinery doesn't do more than eight hours in the machines. Quite often they'll do 10 - 12 hour days but they won't spend more than eight hours actually driving, so they don't spend more than 2.5 hours at any one time driving one of the machines. Even if it means just coming down and having a cigarette for 10 minutes because there's a fair amount of stress driving one of those machines - I've spent six hours in a 60 foot boom lift today. Every one of them behave differently - some of them you can push the controllers as far as they'll go and you get nothing, and others you move 2mm and all of a sudden you've been thrown out of the bucket so it takes a lot of concentration. Especially when you're in a venue and you've got people walking around you that you have to be aware of. It's amazing how the OH&S policy of a lot of venues doesn't include instructing their waiting and banqueting staff about how these machines work and not to walk in front of a moving machine.

Afternoon: On the road

I'll have three or so site meetings lined up so I'll spend the whole afternoon on the road. Site visits could be anything from checking a theatre flying system, to talking to a group about OH&S or rigging because I do a fair bit of lecturing to schools and universities. It could just be going to venue to talk to a client about something they want rigged or built for a show.

I'm really enjoying the teaching thing - I've run quite a few riggers courses which don't give people a rigger's ticket but gives them a basic grounding in rigging. Everyone seems to have enjoyed them and I've enjoyed running them, it's just finding the time to do that with summer coming on and our production schedules getting full.

5.30pm: Back at the office

After site meetings I head back to the office to write up all the notes from the meetings which can take a while. When I'm finished I head home. I usually don't get away before 7pm and very rarely before 6pm.

Usually I'm pretty tired at the end of a day. Unless I'm going back out to a job I would say that I'm usually asleep about 9pm most nights. There's a couple of TV shows that I like to watch that I usually end up watching about half of before falling asleep in front of the TV.

It's a bit of a see-saw - the most physically draining work is usually not very mentally draining. Scaffolding and point rigging is fairly physical work but it's very routine so you can almost switch your mind off and just add piece after piece after piece. Given the option I'd much rather go home from a day of that rather than a day of sitting in the office trying to figure out how we're actually going to fit this rig into that space given the drawing we were given looks nothing like either of them.

I don't get much spare time. At the moment I'm averaging working about six and a half days a week. When I do get some time off I usually spend a fair bit of time at home or sailing. I've had a boat since Christmas and it's spent an entire 11 hours in the water so I'm hoping to increase that!

I don't think I'm unusual in working that much - anyone who runs their own business, in any industry, you'll find they're all doing about the same number of hours. But there have been quite a few times recently when I've thought it would be really good just to be a rigger on a building site where you work from 7am - 3.30pm and if it rains or gets too hot you go home.

But I'm very proud of the company. I've seen the industry change a lot over the last 20 years. It's become a lot more corporate and commercial. These days rigging is much bigger from the OH&S and insurance point of view but also from the film side of things - movies like Moulin Rouge and Queen of the Damned have huge rigging components. We've just finished doing five or six TVC's that have all been wire jobs. We tend to get a fairly even spread of corporate, circus and stunt work for films and television. But the corporate stuff is good money, usually not overly exciting, and the circus and stunt work is exciting but it's not always that well funded so it's a matter of balancing the two.

Every year we seem to get a little bit bigger and we get more jobs and hire more people. I can't see myself doing anything else. I must enjoy it because I'm qualified enough that I could go and get a job reasonably easily at an art centre or with a distributor and there are days when I'm very tempted, but most of the time I stand back and think I'm really glad I'm doing this.



This month's random idea dept is on the subject of better road case design. We saw this case at ACP in Brisbane. The idea is to arrest the forces that trash a case by introducing the wave cutout for the lid (top). Then, fit the catch to the INSIDE and you have a smooth, no snag case. It looks good and should last longer!

LOOK, NO HANDS!

Readers might be familiar with the terms BCE and CE meaning 'before common era' and 'common era' which are available to non-Christian religions in place of the more familiar BC and AD. I think they have another meaning - 'Before Computers Everywhere' and consequently 'Computers Everywhere'.

Whilst not wishing to appear unduly Luddite, this article is a plea to respect and keep manual skills active and available alongside the digital.

We work in a very itinerant profession and there can be no guarantee that the equipment in every location will include the latest high-tech gadgetry. Some years ago I lit a production in an old theatre which was to be crewed by students from a nearby arts training establishment. As the students explored their new workplace cries of dismay came from the flyfloor "they've only got ropes Ughhh!". They were accustomed to working in a theatre with powered and counterweight flying and had never seen 'hemp' manual systems. Of course it would be wonderful if everywhere could be well equipped but pulling up a heavy load by hand teaches respect for what is hanging over one's head. The techniques of manual flying also require an introduction to natural and synthetic ropes, essential for any rigger.

On another production, in case the memory in the lighting desk failed, I began working out the manual backup plot once we had reached the dress rehearsal. The operator followed my logic about the inevitable compromises but then admitted he'd never worked a manual desk, a whiz with the buttons but not with the faders.

It's not restricted to theatre, a mate at the BBC in London told me a story about he and his colleagues in the video editing suite debating how they could bring a grievance to the management's notice but without unduly disrupting the programmes. Eventually they settled on doing the editing manually not digitally - except they then remembered that no one knew how to do that. Yesterday in a local studio I saw a reel-to-reel tape machine alongside its diminutive digital successors, only one person in the room knew how to edit its audio tape manually.

Where is this taking us? If ultimately all signals are sent down optical cable will we then forget how to wire up a plug? If our young technicians come to us from school and college confident in their computing skills will it be the older skills and not the newer we'll have to teach?

The latest automated follow spots offer previously undreamt of opportunities and significantly mean that artists can be followed from angles where traditional lamps and people cannot fit. I grew up operating Stelmar Arcs at the London Palladium and was taught how to discretely fade on and off so that during the weekly television broadcasts the picture didn't suddenly become too bright. Whilst this

particular skill may no longer be required, manually operated follow spots will not disappear for many years, if at all, and so we do need to inculcate a respect for the craft which goes beyond simply pointing the thing in the right direction. Ostensibly it looks easy and whilst the mechanics can be quickly mastered the protocol of following isn't as obvious.

Some years ago, in fact during BCE time, people actually wrote books explaining what computers were, imagine that. This was when the phrase GIGO - 'garbage in, garbage out' was coined and people began to understand that computers did things faster so unless you organised your data well then all that happened was a faster mess (back to lighting again!).

Many manual operations prepare both people and data for their digital counterparts. This is equally true of plotting lighting and selling theatre tickets. I once had to introduce a group of elderly volunteers to their new box-office computer system and it went surprisingly well because of their manual experience, they were able to see the relevance and not just the hardware. I imagine they would have been deterred by the same hardware from volunteering for this task without the benefit of their earlier manual experience. (Incidentally the fastest growing group of personal computer users is now the seniors). I'm out of touch with Box-Office systems now but are staff trained in manual techniques if the system goes down?

Of course we need to explore ways of reducing the cost of producing theatre and labour is its largest budget item. So we do need to utilise modern technology - but this should surely be done to make the use of people more cost effective rather than simply reduce the numbers. A colleague in the UK made many sales of new memory lighting desks by calculating the time (and therefore money) they would save in plotting by comparison with that taken by the manual systems they were replacing. Of course one person can operate a remote lighting desk where previously several would have been needed for the larger grand-master systems. Such comparisons need to have some perspective, the production of 'The Corsican Brothers' in 1852, believed to be the first used of theatrical transformation gauze and also the debut of the Corsican Trap, needed over 100 people to make the effects work.

Theatre is a people industry, it involves stories, personal skill and creativity so the technology needs to be there to serve us, an old statement I know. But it should extend our faculties not diminish them.

Some years ago whilst queuing at the supermarket check-out my father, who had selected ten identical items, carefully counted out the correct money. Eventually he reached the till and deposited both the ten items and his payment, the till operator diligently entered the item ten times and then realised the coins were correct and no change was needed, as he left he heard her astonished cry, 'How did you do that?'

"...we do need to inculcate a respect for the craft which goes beyond simply pointing the thing in the right direction."



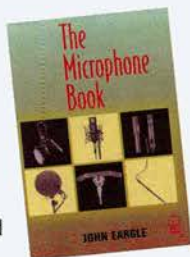
Jargon Busting:

Inculcate: to teach and impress by frequent repetitions or admonitions

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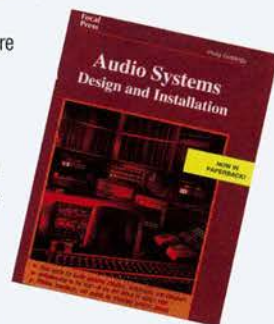
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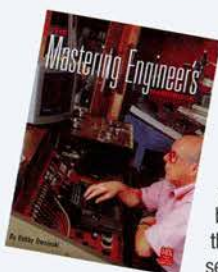
Audio Systems Design and Technology by Philip Giddings

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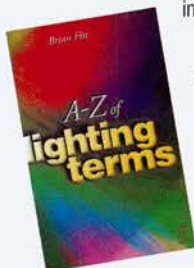


The Mastering Engineers Handbook by Bobby Owsinski \$54

Now, everything you always wanted to know about the art of music mastering is available in one book! Peek into a top-flight mastering house and see the tools of the trade, explore the secrets of making hot masters, and learn rules for frequency balancing and dither. Learn how CD's work and how they're made, and relive mastering history with a separate chapter about mastering for vinyl and how records are pressed. This book extensively covers stereo mastering



and also looks into the future with an expansive section on surround mastering and multi-channel delivery. Plus, the b5hird section feature interviews with such mastering giants as Bernie Grundman, Bob Ludwig, Glenn Meadows, Doug Sax, and more.



THE A-Z OF LIGHTING TERMS By Brian Fitt \$52

The A-Z of Lighting Terms will be of use to all those in the industry, particularly students, who have heard expressions or terms and wondered what they meant. Although most technical books have glossaries, this book has expanded on many of these terms using illustrations to clarify some of the more complicated principles, formulae and laws.

There is much common ground between American and European terms and practices and this book aims to give a transatlantic flavour. Training in the lighting industry is very much by experience and hopefully, this publication will be a good basis for the theoretical and practical side of lighting.

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by *Duncan Fry*

Stick It To Me

The art of the bumper sticker

If cars didn't have bumpers we'd have a bit of a problem. Not only would our cars be forever at the panel beaters, but more importantly - where could we put our bumper stickers?

You know the things, a short apposite phrase that sums up the driver's political, social or personal feelings; Japan has the haiku, Westerners have the bumper sticker.

Driving is a particularly common theme. 'Dim Dem Dam Lights', 'Not So Close, I Hardly Know You', and 'If You Can Read This, You're Too F***ing Close', are popular ones, although for humour I prefer 'If You Can Read This I've Just Lost My Caravan!' In fact, one of the fun things to do at a toll booth is to pull up in your car, point behind you with your thumb and ask "How much for the caravan?"

There are vocational ones, too. I call them the 'Do it' series. Like 'Electricians Do It Till The Sparks Fly', 'Fitters and Turners Do It With a Left Hand Thread', and for all of us in audio, 'Sound Engineers Do It Till It Hertz'

I suspect that bumper stickers originated in the USA. Certainly you can see a whole lot of them over there. Out on the roads, the trucks all have stickers on the back saying 'How's My Driving? Call 1-800-D-O-N-U-T-S' or whatever. That way if the driver of the Dunkin' Donuts (sadly no relation) cuts you off on the freeway, you can pull out your mobile phone instead of your .357 Magnum and vent your spleen ('Quit Honking, I've Reloaded' another sticker seen over there).

Anyway, back in '86 I saw the first of many serd-up stickers on this theme. A monster pick-up truck (ute to us) had a sticker on the back bumper that said 'How's My Driving? Call 1-800-E-A-T-S-H-I-T'. Well, I wouldn't rest till I found a shop that sold them. When I returned home I promptly stuck it on the back bumper of the Dodge, much to everyone's bemusement, and had to explain it to them at the traffic lights, since 1-800 numbers didn't come in here for several more years. The fact that we'd removed the letters on our phones in the 70's and didn't get them back till the 90's didn't help much, either.

So one day I'm driving down the road to work, and I stop at some traffic lights. A motorcycle cop pulls up behind me and stares at the sticker. Jeez I'm in for it now, I think, knowing full well that motorcycle cops are born without any sense of humour whatsoever. He slowly moves his motorbike up next to me, and I slide down in my seat and stare in the other direction, desperately urging the lights to change to green quickly. There's a tap on the window. Uh oh. I wind down the window and he speaks.

"That sticker on the back bumper," he begins

"Oh?" I croak, expecting a lecture on bumper bar profanity at the very least.

"Yeah - did you get that in the States? I love it - I've just come back from a holiday over there. Have a nice day." And he zoomed away as the lights finally changed. All I can say is it must have been his first day on the job!

At the Royal Show one year you could buy stickers for your favourite dog breed: 'Bull Terriers - Not Just a Pretty Face', 'I Love My German Shepherd' (with a heart shape for the 'love' and a picture of the dog with someone's leg in its mouth!), and so on. Her indoors bought me one that said 'I (heart) My Afghan', and stuck it next to the 'Old Age And Treachery Will Overcome Youth and Skill' sticker on the back of the jellybean, a Suzuki carry van I drove whenever the convertible was receiving some TLC.

The heart being printed in red, it soon faded away in the sun to nothing. Unbeknownst to me, a 'friend' drew a picture of a screw where the heart used to be, so now the sticker read 'I Screw My Afghan'. Not quite the same thing!

People didn't like this at all, and would yell abuse at me wherever I went, especially if the dog was in the car too, his big silly head lolling out the window.

It got so bad I eventually had to sell the car!

I also unknowingly drove around for several weeks with a 'We're Proud to be Gay' sticker on the back bumper, courtesy of Brad Coates from Melmusic who stuck them on all his client's cars one Friday. I was only alerted to its presence by multiple comments on sex and travel while driving through Geelong one afternoon around factory closing time.

At the height of the Gulf War, I saw a sticker in the States with a picture of an evilly grinning Saddam Hussein on it, and the words - 'The USA won't be Saddamized'. I bought one at the 99c store and put it on the wall of my office, but it got painted over in the last factory redecoration.

'Other car' stickers are popular, too. You know, the 'My Other Car is a Mercedes/ Roller/ Porsche/ Wankmobile' series. A variation on this is really ugly old women with 'My Other Car is a Broomstick' stickers, although a refreshing piece of honesty would be 'My Other Car is as Rooted as This One'. However, my favourite of this particular series is one I saw in the US - 'My Other Car is Jimmy Hoffa'*.

But my all-time favourite bumper sticker has to be one I saw in Silverado, California, when the late Algis Renkus ran the ARX office there. Silverado was an eclectic mix of hippies, good ol' boys and people we nicknamed the Silverado militia, who wandered around in camouflage gear muttering 'the end of civilisation's a-comin'' and other waffle.

On the back bumper of a pick-up truck was a sticker that said 'Jane Fonda - American Traitor Bitch', indicating that Hanoi Jane was unpopular long before she married Ted Turner.

As a postscript to this, I was chatting to an ex-Vietnam veteran friend of mine over there about this particular sticker. His eyes lit up and he said "Hey, where can I get one of those!"

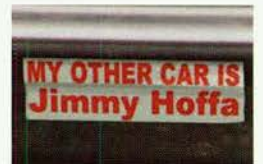
*For those too young to remember, Jimmy Hoffa was a car union boss who disappeared one day never to be seen again, rumoured to have been squashed alive in a car recycling crusher!

From DrG...

Toni Glynn of Sydney Theatre Company, who has a penchant for sending funny emails, sent me this little gem. These are for you, Dunk:

Women's Bumper Stickers:

- So many men, so few who can afford me
- Coffee, chocolate, men ... some things are just better rich
- Don't treat me any differently than you would the Queen
- Guys have feelings too, But ... who cares?
- And your point is?
- Next mood swing: 6 minutes
- If you want breakfast in bed, sleep in the kitchen



Seen any favourite bumper stickers? Email me at dunk@dunkworld.com and I'll post them on the dunkworld.com website



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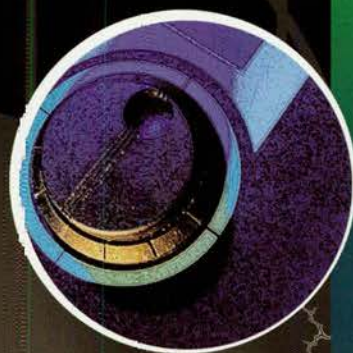
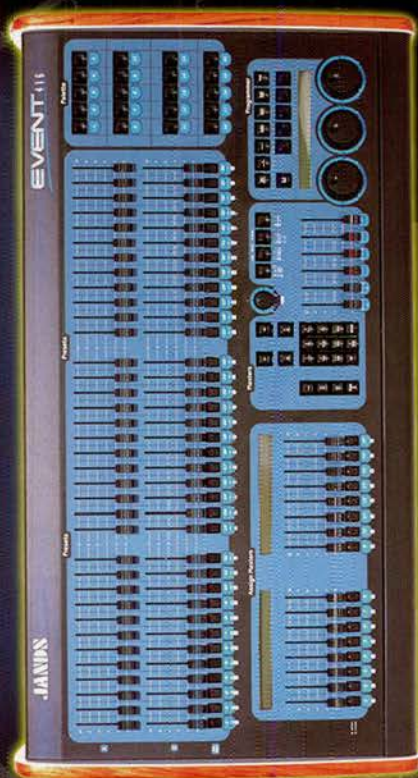
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Introducing the next stage in compact, affordable lighting control from Jands - the Event 4.

Like its predecessor, it has full-featured 2 preset manual control coupled with advanced memory and playback functions, but now includes all the necessary controls and options to select, manipulate and operate almost any automated lighting instrument.

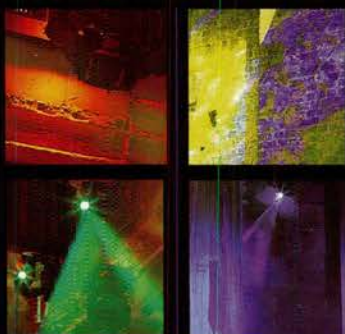
The Event 4 features an intuitive user interface, ease of operation and a long list of essential programming and playback tools including:



- **Multi-purpose Palette with 20 buttons to record and select fixtures, groups, positions, colours and beam parameters.**
- **An effects processor to generate circles, squares, spirals, balls and other position effects.**
- **Fan functions for intensity, position, colour and beam.**
- **A programming section including 3 rotary encoder wheels and contextual soft-buttons.**
- **Channel faders and flash buttons.**
- **Assign faders and flash buttons for playback of memories, chases and stacks.**
- **All-inclusive master faders and controls including snapshot and inhibit.**
- **MIDI and time code control options.**
- **Connections for a monitor, keyboard and desk lights.**

For more information please call Jands Electronics on +61 2 9582 0909 or please visit www.jands.com.au

evolution (e ve lōō' shən) 1. The gradual development of something into a more complex or better form 2. The theoretical process by which all species develop from earlier forms of life 3. The natural or artificially induced process by which new and different organisms develop as a result of changes in genetic material 4. The theoretical process by which all species develop from



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CP Color

Unlike traditional lighting systems used up to now for theatres and TV studios, the Clay Paky new Professional Color Changers guarantee a higher quality of light and color, total silence as well as low operating costs and timing.

Quiet please...
You are
about
to experience
Color

CP Color 150 - 250 - 400

Main features:

- Easy to install and use in any working position.
- Ideal for stage lighting, backdrops or as footlights, truss lights...
- Totally silent.
- Light and compact.
- Operation in "stand alone" mode (choice of automatic programs) or by the DMX-512 signal.
- Color mixing (CMY) obtained with selected dichroic filters.
- Linear and uniform mechanical dimmer from 0 to 100%.
- Special diffuser filters for varying the beam aperture from 10° to 80°.
- Ovalizer filter.
- Optional barndoors.
- Long-lasting metal iodide lamp.
for CP Color 150:
type CDM-SA/T 150W;
9,000 hours; 4,200 K.
for CP Color 250:
type HSD 250W;
2,000 hours; 6,000 K.
for CP Color 400:
type HSR 400W;
650 hours; 5,600 K.



SHOWtechnology

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PROFESSIONAL SHOW LIGHTING