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# hi-fi

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THE BEST KRELL YET?

Full review and test

## B&W's WINNING 685 S2 SPEAKERS



EXCLUSIVE AUDITION

*Gryphon  
Pendragon System*



**Krell S-550i**  
Amplifier

**Allnic H-1201**  
Phono EQ Amp

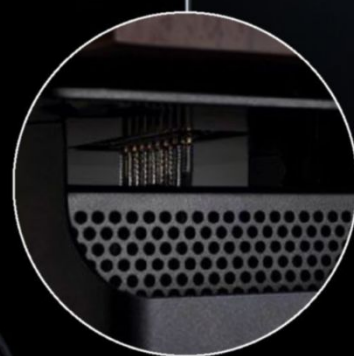
**Denon DCD-1520AE**  
SACD Player

**Krix Neuphonix AE40**  
Loudspeakers

**Focal Spirit Pro**  
Headphones



LINN



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## EDITOR'S LEAD IN

### When is 'Hi-Res' not 'Hi-Res'?

I hate to break it to you fans, but Johnny Ray is dead, and most so-called 'hi-res' tracks are not 'hi-res' at all, but rather a complete waste of your money and Internet bandwidth. First you have to define 'hi-res' and the problem is that none of the definitions I've seen is up to the job. They all fail to recognise that in order to be classified as a 'high-res' file the music performed by the musicians that is contained in that file **MUST** have been originally recorded digitally with a machine generating a 24-bit word every 48-thousandth of a second. That rules out every analogue recording ever made, and every multi-track digital recording made before 1996. So if the supposedly 'hi-res' music track you're listening to was recorded prior to 1996 (and was recorded multi-track) it's not hi-res. End of story. (Pat Metheny's 1996 album 'Quartet' was the world's first 24-bit multi-track digital recording, using the first Neve Capricorn desk ever to be fitted with 24-bit DACs. Earlier multi-track recordings are all 16-bit recordings, made with either 3M's Digital Audio 32-track deck—16-bit/50kHz!—where the 16-bits was provided by using separate 12-bit and 8-bit converters, since true 16-bit converters weren't available when the machine was designed, or with a digital recorders made by Soundstream, Denon, Sony *et al*, all of which used standard 16-bit DACs.) If you're talking about two-track digital recordings I am prepared to stretch the 24-bit date back a little, but certainly no further than 1988, since commercial 24-bit DACs didn't exist before this (some manufacturers, such as Ultra Analog, did cobble together 16-bit and 18-bit converters and called them '24-bit'). So, if you're listening to ANY recording made prior to 1988, it is not hi-res. What confuses many people is that after they purchase a download that claims to be 24/96 (or whatever) and play it back, the read-out on their player shows it to be whatever specification that is claimed. However, while it's true the track is 'technically' a 24-bit/96kHz file: the music it contains was most likely not originally recorded at that word-length/sampling rate and has been upsampled from its original format (whatever it was) to the higher word-length/sampling-rate. The problem with this process is that upsampling **never** improves the fidelity of the original recording. One analogy of why upsampling is a complete waste of money involves food. Imagine you have just been served a large steak on a rather small plate. If you slide that steak onto a larger plate in order to make it easier to eat, do you really think it's going to taste any different? But that's exactly what upsampling does. It takes a piece of music and slides it onto a larger plate. And for those readers thinking they're safe because they only buy 'hi-res' tracks that were digitally recorded after 1996, there's still around a 98 per cent chance you're listening to upsampled versions of music that was originally recorded at either 44.1 or 48kHz and coded using 16-bit words. So you, too, have just paid your waiter more than the cost of your meal to slide your steak onto a larger plate. You're also likely listening to music that's so compressed it uses only 8-bits of what's available, but that's yet another story.  greg borrowman [hifi@nextmedia.com.au]



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## 8 AUDIO NEWS

Yamaha RX-A2040 & RX-A3040, Goldmund Apologue Anniversary, Record Doctor V, Signal Projects, Rega Elex-R, Archfix, Knosti, Heos by Denon, Quad Elite CDX, Sony HAP-ZIES, Linn Exakt Akudorik, B&W CM Series 2 Jandl, DS Audio, Sonus faber Lillium, HFX RipNAS, Bryston BDP-1USB, Myrrad Z Series, Alpha Design Labs.

## 86 EXCLUSIVE AUDITION

Edgar Kramer experiences Gryphon's new range-topping Pendragon Loudspeaker System and comes away scarred... very possibly for life...

## 95 BOOK REVIEW

KEF: 50 Years of Innovation in Sound, by Ken Kessler and Dr Andrew Watson. A must-read for any audiophile or speaker designer!

## 03 EDITOR'S LEAD-IN

Fresh from paying out on MP3 enhancers, editor Greg Borrowman is now taking the whip to hi-res downloads.

## 96 ROCK ON

Leonard Cohen has problems, but his new album, Popular Problems, won't be one of them. Unfortunately, the same can't be said of Daniel Lanois' latest album!

## 98 SUPER FIDELITY

Some audiophiles can't hear binaural recordings, so for some, buying Dr Chesky's Simply Amazing Binaural Sound Show download might be an exercise in faith.

## 100 JAZZ TRACK

Yo! Says Robert Fonseca, as he unleashes a tumult of African and Cuban percussion on an album that's more hip hop than jazz.

## 102 BLU-RAY REVIEWS

Love him or hate him, Alice Cooper wrote some great tunes, and they're all now in hi-res. Also in hi-res is some old Marvin Gaye... and the sound's so impressive we wondered what's going on?

## 20 KRELL S-550I INTEGRATED AMPLIFIER

Krell sound, Krell quality, Krell power, and Krell remote, but a distinctly un-Krell-like price.

## 30 B&W 685 S2 LOUDSPEAKERS

Why did these speakers win a 'Best Loudspeaker' award from Sound & Image Magazine for 2014-15?

## 36 ALLNIC AUDIO H-1201 PHONO EQ AMPLIFIER

High-end components designed and built by a single person can be quirky, and in the H-1201 you'll find proof of that!

## 40 DENON DCD-1520AE SACD PLAYER

CD player makers are so worried about streamers that they're loading extra value into their players, making this Denon a real bargain!

## 80 KRIX NEUPHONIX AE40 LOUDSPEAKERS

Krix celebrated its 40<sup>th</sup> anniversary earlier this year, so they decided to release a new model to celebrate. We listened, we liked...

## 91 FOCAL SPIRIT PRO HEADPHONES

When you label your headphones as being suitable for professional use in studios, you'd better make sure they deliver exactly what professional sound engineers want...



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Australian Hi-Fi Magazine is published by nextmedia Pty Ltd ABN: 84 128 805 970, Level 6, Building A, 207 Pacific Highway, St Leonards NSW 2065. All rights reserved. No part of this magazine may be reproduced, in whole or in part, without the prior permission of the publisher. Printed by Webstar Sydney, distributed by Network Services. Information contained in this magazine, whether in editorial matter or in feature articles or in advertisements or otherwise, including in particular, but not limited to, technical information, is published on the basis that neither the publisher nor distributors assume or accept any responsibility or liability in respect of its correctness. Neither the Proprietor nor the Editor nor any member of the staff of this magazine or its distribution agents accepts or assumes liability or responsibility for any loss or damage resulting from the incorrectness of such information. The submission of product or material for editorial inclusion in this publication signifies acceptance of the abovementioned conditions.

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# CONTENTS

ESOTERICA

## 76 SOUND TRAVELS

Tom Waters visits an audiophile who has left his loud music and the resultant public disturbances behind him, and now seeks relaxation at the end of his busy day.

## 80 KRIX NEUPHONIX 40<sup>TH</sup> ANNIVERSARY EDITION LIMITED

Only forty pairs of these speakers will ever be built, so there are several types of people who will buy them. 'Which type are you?' wonders reviewer Greg Borrowman.



## 86 GRYPHON PENDRAGON LOUDSPEAKER SYSTEM

Danish manufacturer Gryphon designs, under the leadership of Flemming E. Rasmussen, go from strength to strength. The enormous Pendragon is Gryphon's strongest statement yet.



# DEPARTMENTS

Audio News	8	JazzTrack	100
Audiophile Recordings	98	Hi-Fi Marketplace	105
Blu-Ray Reviews	102	High End	86
Book Review	95	Rock On	96
Dealer Directory	104	Personal Audio	91
DVD Reviews	102	Sound Travels	76
Editor's Lead-In	3	Subscriptions	90
Esoterica	75	Super Fidelity	98



**OUR FRONT COVER:**  
B&W's all-new 685 Series 2 stand-mount has already won a Sound & Image Award, and is bound to win more. Turn to page 30 for a full review and laboratory test

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The Briton II pays homage to other great large driver two-way loudspeakers of the past ... from airy strings to incredibly detailed vocals, along with bass-slam to bring down the house. dc10audio's innovations such as the port-loaded tweeter mounted in a solid wood horn, and internal/external resonators make it one of the most unique loudspeakers available.

Go to [www.audioheaven.com.au/briton](http://www.audioheaven.com.au/briton) for more info.



## AUDIOBYTE BLACK DRAGON

Audiobyte's DSD Digital preamplifier with discrete headphone amplifier

"...the Black Dragon earns my sincere recommendation, as overall it was the best dac/headphone amp/pre-amp combo I have ever heard until now. Besides that, it has an excellent DAC that can be used with pride in any high end system..."

*Headmania June 2014*

For more info, go to [www.audioheaven.com.au/audiobyte](http://www.audioheaven.com.au/audiobyte)



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## YAMAHA RX-A2040 & RX-A3040

Yamaha celebrated the fifth anniversary of its prestigious Aventure models by releasing two new ones, the RX-A2040 and RX-A3040. *'When conceptualising 'Aventure' more than five years ago, our engineers were given free rein to design a series that would transform entertainment in the home,' said Justin d'Offay, Product Manager for Yamaha Australia. 'The release of these two latest models from Series V demonstrates our commitment to this fundamental ambition and vividly portrays the future of home entertainment, thanks to the incorporation of Dolby Atmos [via imminent software upgrade]. With Dolby Atmos, an unprecedented sound stage is achieved with exceptional clarity, depth and detail. Localised overhead effects accentuate the home theatre experience, producing a sense of realism unmatched by any other system.'* Both new models support the latest HDMI version, along with 4K Ultra HD

50Hz/60 Hz formats and RGB, YCbCr 4:4:4 for next-generation video performance. Both also feature advanced HDMI Zone switching including Zone 4 to accommodate flexible multi-room applications. Both models each incorporate nine discrete amplifiers, which can be linked or unlinked to offer anything from immersive surround sound to flexible configuration options including bi-amping. The RX-A3040 is expandable to an 11.2 channel home theatre system with an external amplifier to power the front or presence speakers.

High audio performance is ensured through the use in the RX-A3040 of an ESS 192 kHz/32-bit ES9016 SABRE32 Ultra DAC for the 7 main channels, together with 32-bit Hyperstream DAC architecture and Time Domain Jitter Eliminator. The presence channels use a high-end ESS ES9006 SABRE Premier

Audio DAC. The RX-A2040 uses two ES9006 SABRE Premier Audio DACs, which support all high-definition audio sources including from Blu-ray players, along with 192kHz/24-bit FLAC or WAV files and 96kHz Apple Lossless. Wi-Fi is built into both models (and Bluetooth provided via an included adaptor) to enable seamless access to music streaming services such as Pandora and Spotify Connect and streaming from BT devices. Operability is enhanced by Yamaha's AV Controller app for iOS and Android devices, but there's also a Wireless Direct mode that facilitates a wireless connection between the receivers and wireless devices, enabling features such as AirPlay or app control without the need for a home Wi-Fi network.

The RX-A2040 and RX-A3040 AV Receivers are both covered by Yamaha's Aventure warranty, which extends for four years and

includes a 12 month replacement period.

The RX-A2040, which is rated at 140-watts per channel for each of its nine channels, retails for \$2,299 (RRP). The RX-A3040 (9x150-watts) retails for \$2,799.

For further information, please contact Yamaha Music Australia on 1300 739 411 or visit the local Australian Yamaha website at [au.yamaha.com](http://au.yamaha.com)



## GOLDMUND APOLOGUE ANNIVERSARY

Goldmund released the 25th anniversary model of its Apologue speaker system at the recently-concluded Hong Kong Audio Fair. The exterior design is identical to previous Apologues, but not the internal components. Whereas the original version of the Goldmund Apologue, released in 1987, was a three-way passive design, the new Apologue Anniversary has twice as many drivers and built-in amplification (claimed power output of the in-built amplifiers is 1,800-watts per speaker). Only 50 pairs of the original Apologue were ever produced, one of which was displayed in the New York Museum of Modern Art. Only 25 of the 25th Anniversary Goldmund Apologue will ever be made according to **Rodolphe Boulanger**, Goldmund's Sales Manager. As for the cost, he says it will be: *'Over half a million US dollars'*... not least because it includes the cost of Goldmund's technical team flying from Switzerland to your home to install them. Boulanger

told Australian Hi-Fi Magazine: *'while it would be technically correct to say the Apologue Anniversary is 100 per-cent amplitude and phase correct, providing for the first time a perfect response from a pair of speakers, we do not develop technologies or manufacture equipment just for the sake of it. Instead our ultimate objective and reward is to create emotions and we believe that the more perfect the sound reproduction, the more intense these emotions will be. So we focus on the results the technologies we develop can provide in this sense, which include incredible spaciousness, each instrument positioned at its correct place, complete stability of the image, perfect well-defined treble, extremely neat bass, ultra-high definition and precision in the voices, high playback levels without distortion and no fatigue to the listener, even at extremely high levels.'*

For further information, please contact Kedcorp on (02) 9561 0799 or visit the website at [www.kedcorp.com.au](http://www.kedcorp.com.au)





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Stereophile Magazine's 2012 **"Best-Sounding  
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**"Recommended Components"** Award

Stereophile Magazine's 2013  
**"Recommended Components"** Award

Hi-Fi Magazine's 2009  
**"Best Sound at Show"** Award

AV Showroom's 2011  
**"Gold Show Award"** RMAF/Apex Audio

The Absolute Sound Magazine's 2012  
**"Best Sound at Show"** RMAF/Apex Audio

AV Showroom's 2013  
**"Gold Show Award"** CES/Ayon

Super AV Magazine's 2011 & 2012  
**"Outstanding Overall Performance"** Award

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### Dealer Enquiries Welcome



## RECORD DOCTOR SERIES V

The Record Doctor has been the 'go-to' vinyl-cleaning machine for audiophiles on a budget for many years. The latest version, available now from Australian distributor Decibel Hi Fi, is the Record Doctor Series V. **Brian Maddern**, of Decibel, says the new model offers *'the same great performance as the previous model but at a much lower price.'* According to Maddern, who also distributes Nitty Gritty record-cleaning machines, the Record Doctor V uses the same vacuum motor and vacuum cleaning strip as much more expensive machines, and the cost-saving comes about because rather than provide an expensive motor to turn the records for you while you're cleaning them, you have to turn the records by hand. *'This means you save a handful of cash, and the Record Doctor V features a precision roller bearing to make records spin easily, plus a handy storage tank for the easy removal of spent record cleaning fluids,'* said Maddern. The Record Doctor V comes complete with a 120ml fluid applicator bottle, applicator brush, and illustrated cleaning instructions and comes recommended by none other than **Michael Fremer**, who said of it: *'I think this compact all-in-one box is the way to go. I highly recommend the Record Doctor V to any serious vinyl fan who's been without a vacuum machine.'* (Analog Planet.)

For further information, please contact Decibel Hi Fi on (07) 3344 5756 or visit the website at [www.decibelhifi.com.au](http://www.decibelhifi.com.au)



## SIGNAL PROJECTS AT KRISPY

UK-based cable manufacturer Signal Projects products are now available for the first time in Australia. They're being distributed by Krispy Audio. Signal Projects' range of cables includes digital (BNC and USB) cables as well as speaker, power and interconnect cables. The Monitor Series from Signal Projects has entry-level points of \$645 (digital interconnect cable) and \$1,625 (speaker cable). The Monitor Series is Signal Projects' entry-level Series. In all, Signal Projects has seven levels, the top-line one of which is the Golden Sequence Series, in which the cables use hybrid copper/gold/silver conductors in a mix of multi-core and solid core configurations. *'Each of Signal Projects' cables is constructed in a way so as to minimise noise flow downstream, and they offer a unique service where they can in fact customise a cable depending on your components and sonic preference,'* said Krispy Audio's founder, **Cameron Pope**. Pope says Krispy Audio has the full range of Signal Projects products available for audition.

For further information, please contact Krispy Audio on (02) 8006 4666 or visit [www.krispyaudio.com.au](http://www.krispyaudio.com.au)



## REGA ELEX-R

Synergy Audio Visual has released the new Rega Elex-R amplifier in Australia. The Elex-R is built into a full-width Rega case to enable the use of a large power transformer and also to aid heat dissipation, because Rega rates the power output of the Elex-R at 72.5-watts per channel into 8Ω, 90-watts per channel into 6Ω and 113-watts per

channel into 4Ω, all with both channels driven. There are no tone controls, nor even a headphone socket, with Rega stating that it *'avoided superfluous gadgets such as tone controls or a headphone socket as they can obstruct the signal path and degrade the produced sound quality.'* The output stage in the Elex-R is almost the same as used in the Elicit-R and Brio-R: a low source impedance emitter-follower Class-A driver stage followed by a complementary pair of 150-watt Sanken Darling-ton output transistors operating in Class AB mode. The Elex-R uses a combination of feedback adjustment and passive attenuation to set the overall volume control. According to Rega, this method reduces noise and input overload as it only uses the required gain to amplify the signal. *'This form of volume control is normally only found in professional broadcast environments where accurate low noise control of levels is required,'* said **Philip Sawyer**, of Synergy. *'Overall, the Elex-R is a sublime blend of the Brio-R design with the power circuits and advanced phono stage of the Elicit-R. Rega's engineers have achieved the perfect balance of power, control and dynamics, delivering a performance that always puts the music first.'* Available now, the Rega comes standard with a mini remote control and a three-year warranty. It sells for \$1,999 (RRP).

For further information, please contact Synergy Audio Visual on (03) 9459 7474 or visit the website at [www.synergyaudio.com](http://www.synergyaudio.com)

## ARCHFIX LP STORAGE

Grooveworks now has Archfix LP storage boxes back in stock. Designed to hold up to 50 LPs, these attractive acrylic, modular storage containers can be stacked together either vertically or horizontally... or even wall-mounted, using the slotted screw holes in the rear panel to fasten the units to the wall, and are one of the most popular LP storage solutions in the world, with more than one million sold so far. They're supplied with connector strips to stabilise the shelf construction and create the impression of an homogeneous unit when several are used together. Each Archfix measures 344x177x325mm (HWD) and retails for \$59.95. 'It's great that these popular modular record storage units are available once again,' said **Peter Griffin** of Grooveworks. 'German ingenuity... and typical German quality.'



\$145.99, it's truly affordable.'

Griffin says German ingenuity and quality are also in evidence in the Knosti Disco-Antistat LP cleaner... as recommended by **Paul Rigby**, of *Hi-Fi World*, and distributed by Grooveworks throughout Australia. 'This fantastic manually-operated machine is a dream come true for vinylphiles around the world and bridges the gap between the "cloth and fluid" group of cleaners and the expensive machines,' Griffin told Australian Hi-Fi Magazine. 'Because it uses real goat hair brushes, its bristles penetrate grooves deeper than a felt pad, giving a better clean, and Knosti's label clamp protects the record label from fluid during cleaning, so it's a superior LP cleaner. From a practical point of view there's no need to manually dry records after cleaning and it's also cost-effective, because there are no rollers or brushes to replace. At just

For further information, please contact Grooveworks on (03) 5628 4428 or visit the website at [www.recordclean.com.au](http://www.recordclean.com.au)

## HEOS BY DENON

A new state-of-the-art wireless audio system that takes Sonos on at its own game is manufactured by one of the oldest names in audio and uses ground-breaking Aussie technology. At the Australian release of HEOS by Denon, the company's marketing director, **Nick Murrells**, pointed out that HEOS was developed right here in Australia by none other than **Peter Celinski**, the South Australian electronics engineer who founded Avega Systems ten years ago. He is now chief technical officer at HEOS, which is based in North Sydney.

HEOS by Denon connects seamlessly to your existing Wi-Fi network and, through elegantly-designed, compact wireless speakers, enables you to enjoy music in any room, from cloud sources, local stored sources (NAS, PC or MAC) or from 'legacy' sources (CD, FM radio), all controlled by your Smartphone (iOS or Android), whose music content can also be streamed to the speakers. Qualifi, which has distributed Denon in Australia, has released the first products in the HEOS range: wireless multi-zone music players, the HEOS 3 (\$449), HEOS 5 (\$599) and HEOS 7 (\$899), a wireless integrated amplifier (\$799) and a wireless pre-amplifier (\$549). 'HEOS represents the next evolution in products from Denon, a company that for more than 100 years is still leading in sound quality, new technologies and innovative products that not only appeal but anticipate what consumers are looking for,' said **Ralph Grundl** from Qualifi. 'These great-looking HEOS wireless speakers can play music contained on your Smartphone. If you have more than one speaker, they can work as a multi-room system for your entire home. It's the ideal audio set-up transferring Denon's music experience to today's busy consumers, allowing them to enjoy their favourite cloud music services to the fullest, because it brings Denon-quality audio to any—or all—rooms in their home.'

The HEOS App is designed to offer comprehensive control through a simple interface, allowing system set-up via a couple of taps. It lets you group speakers together, to play the same song in party mode, as well as separate rooms to play a different song in each of them:



lets you create and save playlists as well as check what songs are next in the queue. You can also listen to tracks directly from your own—or anyone else's—Smartphone, or from Internet radio, or streaming services. Currently, HEOS supports Spotify, TuneIn, Pandora and Deezer, but Celinski says other services, including iHeart, Rdio, Beatsmusic, Songza, SiriusXM are 'on our road map.'

The two products of most interest to audiophiles are the HEOS Link and HEOS Amp. The Link adds HEOS multi-room audio functionality to any existing audio system. Simply connect the HEOS Link stereo pre-amplifier via an analogue, digital coax or digital fibre optic cable to turn any existing home cinema or music system into a wireless HEOS audio zone.

The HEOS Amp adds multi-room audio functionality to any pair of stereo loudspeakers. It incorporates a Class-D amplifier with a claimed power output of 100-watts per channel. Then, like the Link, it allows you to stream music from hard drive, thumb drive, NAS or Smartphone. It also has analogue, digital coax and optical inputs.

For further information, please contact Qualifi on 1800 242 426 or visit the website at [www.qualifi.com.au](http://www.qualifi.com.au). There's also an Australian HEOS microsite at [www.heos.com.au](http://www.heos.com.au)

## QUAD ELITE CDX MULTI

Quad's new Elite CDX is a CD player, a pre-amplifier and a DAC, plus it comes with a USB input. Audio Visual Revolution, Quad's Australian distributor, says the Quad Elite CDX is the most recent addition to Quad's Elite series of audio components and is built around the same Crystal 24-bit/192kHz DAC found in Quad's flagship Platinum DMP. *'The Elite CDX continues the tradition Quad has established as being one of the premiere solutions for playing digital audio files whether they be from a CD or computer, with users now able to stream their 24bit/192kHz audio files via USB direct from a PC or Mac without the need for an external USB to S/PDIF converter, and also allowing them to take full advantage of Quad's award winning digital-to-analogue conversion circuitry,'* said **Tony Ingrisano**, of AVR. In addition to a USB input, the new Elite CDX has three optical inputs (TosLink) and two coaxial digital inputs. It also has an optical digital output, together with an unbalanced analogue output, plus a proprietary 'Quadlink' connection that allows unified system

control when using other Quad Elite Series components. *'The Quad Elite CDX truly is a single-chassis solution for all music-lovers seeking not only a high quality CD player, but also a complete digital pre-amplifier solution,'* Ingrisano told Australian Hi-Fi Magazine. Available now, the Quad Elite CDX retails for \$3,129.99.

For further information, please contact Audio Visual Revolution on (02) 9521 4844 or visit the website at [www.avrevolution.com.au](http://www.avrevolution.com.au)



## SONY HAP-Z1ES HDD AUDIO PLAYER

Sony's latest music player, the HAP-Z1ES, plays virtually any music format, including MP3, DSD (up to 5.6 MHz), DSF, FLAC, WMA, ALAC, ATRAC, and AIFF, because the company says it was designed specifically to extract the finest musical details from today's high-resolution audio files. Music files are stored on the player's 1TB hard drive, and can be transferred—wirelessly or via a cable connection—from your PC or Mac using Sony's 'HAP Music Transfer' application.

This app automatically syncs with fresh downloads, so your player's hard drive is always up-to-date. Files stored on the HAP-Z1ES can be explored and selected using the player's front-panel 109mm colour LCD or, with Sony's new 'HDD Audio Remote' app, via your Smartphone or tablet (Android/iOS). Additional storage is simply a matter of attaching an external hard drive to the Sony's USB connector. Available now, the Sony HAP-Z1ES retails for \$2,999. Don't call Sony about it, because Sony ES Series components are now distributed throughout Australia by Melbourne distributor Audio Active Australia.

For further information, please contact Audio Active on (03) 9699 8900 or visit the website at [www.audioactive.net.au](http://www.audioactive.net.au)



## LINN EXAKT AKUDORIK SPEAKERS

Linn has released an active pair of stand-mount four-way loudspeakers: Exakt Akudorik. In the case of the Exakt Akudoriks, they have to be stand-mounted, because the stand houses all the electronics: four 100-watt Linn Chakra power amplifiers, Linn Dynamik power supplies, and an Exakt Aktiv electronic crossover, with crossover frequencies at 400Hz, 3.61kHz, and 8.82kHz. *'A stunning work of engineering beauty, Exakt Akudorik combines the ground-breaking performance of Exakt with compact styling that will complement any room,'* said **Nigel Ng**, of Advance Audio, which distributes Linn in Australia. *'Exakt eliminates magnitude and phase distortion, corrects for drive unit variation, and optimises your speakers for your room, giving you incredible performance that's personalised for you and, like its bigger brother, the Exakt Akubarik, the Akudorik is fed a digital signal using the Exakt Link connection from*

*an Akurate Exakt DSM.'* The Exakt Akudorik loudspeakers feature the same Linn '3K Driver Array' found on the Akubarik: a 13mm silk dome super-tweeter; 25mm dome tweeter, 75mm dome midrange and 165mm doped paper cone bass driver, all operating from a cabinet measuring just 350x228x325mm (WDH) for an internal volume of 12 litres. The cabinet is ported at the rear. Linn claims a frequency range for the Akudorik of 40Hz-33kHz. *'The Exakt Engine is programmable by Linn specialists to optimise performance for your room and your speaker location,'* Ng told Australian Hi-Fi Magazine. *'You also get an independent digital volume control, a digital to analogue converter and a power amplifier for every channel, so there are four for each speaker.'*



For further information, please contact Advance Audio on (02) 9561 0799 or visit the website at [www.advanceaudio.com.au](http://www.advanceaudio.com.au)

B&W

## B&W CM SERIES 2

B&W is using decoupled tweeter technology on all models in its new CM 2 series of speakers and has added a completely new model, the CM6 S2, which has a top-mounted tweeter like that on its award-winning CM10 and flagship 800 Series Diamond. B&W's new decoupled double-dome tweeters use a thin aluminium dome surrounded by a thicker aluminium ring to give both lightness and rigidity, which reduces distortion. The CM10 S2 and the new CM6 S2 also use B&W's 'tweeter-on-top' design—a feature shared with Bowers & Wilkins' most advanced reference speaker range, the 800 Series Diamond—a design technique that improves imaging and dispersion to enable a more life-like soundfield and a better sense of space. *'These tweeter advances are just the first of many improvements; the new CM Series has also been redesigned to deliver vastly improved audiophile-standard performance across the board,'* said **Geoff Matthews**, of Convoy International, which distributes B&W in Australia. *'The crossovers now use respected Mundorf capacitors throughout while anti-resonance dustcaps are employed across all bass/midrange drive units for smoother response and lower colouration. Upgraded internal wiring and nickel-plated terminal blocks round out the technical improvements for the entire range. These improvements augment existing CM Series technologies such as FST midrange drive units in the CM8S2, CM9 S2 and CM Centre 2 S2 plus, in the flagship CM10 S2, the additional clarity of a decoupled FST assembly.'* Available now, prices range from \$1,299 per pair (CM1) to \$5,700 (CM10) and all speakers are available in Gloss Black, Rosenut and Satin White finishes.

For further information, please contact Convoy International on 1800 817 787 or visit the website at [www.ehifi.com.au](http://www.ehifi.com.au)



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## JANDL AUDIO AGENCIES



Jandl Audio Agencies, which started up in 2002 designing and building amplifiers and speakers for sale under the Jandl brand, has now expanded to become a full-line importer and distributor of audio equipment and is now the Australian distributor for Abis, Glanz, Ho's Audio, Jasmine Audio, Maxonic, Ologe Acoustic and Tiglon. Based in Tasmania, Jandl is owned and operated by **John and Lydia Millar**. *'We are a new audio equipment distributor located in beautiful Tasmania',* said John. *'We specialise in unique audio equipment previously not available in Australia and New Zealand. We have sourced true high-end products at reasonable prices and distribute these components through a small but highly professional network of trusted dealers throughout Australia and New Zealand.'* Tiglon cables, which are made in Japan, have copper conductors within magnesium shielding and have been praised by German and US reviewers, as have Abis' range of tonearms. Ho's Audio Technologies is one of the few manufacturers in the world that has a licence to manufacture the BBC-designed LS3/5A small monitor loudspeakers, which originally licensed Rogers, Spondor, KEF, Harbeth, Chartwell, and Goodmans to produce them, and this famous model, along with others, is now available in Australia from Jandl. *'We believe that top-quality high-end hi-fi equipment need not command stratospheric pricing',* said Millar. Recently arrived at Jandl is the new SA Series of tonearms from Abis, including the SA-1 pictured, which is cut from billet aluminium, has none of the resonances associated with S-shaped arms and is ideal for cartridges such as the Denon DL103, Ortofon SPU and Audio Technica AT150mlx.

For more information call Jandl Audio Agencies on (03) 6283 3052 or visit the website at [www.jandlaudioagencies.com](http://www.jandlaudioagencies.com)

## OPTICAL PHONO CARTRIDGE

Japan's DS Audio, which built the world's first optical phono cartridge one year ago exclusively for the Japanese market, has now released a new model, the DS-W1, which has already won an Analogue Grand Prix Award (2014) in Japan. Whereas conventional moving coil and moving magnet phono cartridges use permanent magnets and coils of wire to translate movements of the cantilever caused by movements of a stylus in a groove into electrical signals, the DS Audio DS-W1 uses an optical system to convert the cantilever movements into audio signals. The advantage of this system, according to DS Audio, is that it completely eliminates the electromagnetic frictional forces that compromise all moving-magnet and moving-coil designs. *'The operation of both MM and MC cartridge designs is governed by Faraday's law of induction, and so Lenz's Law must apply in both cases,'* said **Boris Granovsky**, of Absolute HiEnd. *'And Lenz's Law says that the result of the movement of the coil and magnet will be a separate frictional force that affects the movement of the cantilever, and therefore the movement of the stylus in the groove, meaning that neither an MC nor an MM cartridge can ever reproduce exactly the signal contained in a record groove. DS Audio's optical system, on the other hand, has absolutely no effect on the vibration of the stylus/cantilever system.'*

Unlike previous systems that used lasers to read record grooves, which were non-contact systems, DS Audio's system is a contact system that uses a conventional stylus and cantilever, so the stylus must be replaced when it becomes worn. Because the optical nature of the system requires power, a special phono preamplifier/power supply is required to be used in conjunction with the DS-W1, but almost any tonearm can be used, so long as it has a conventional four-wire system. In Australia, the DS-W1 cartridge and phono preamplifier/power supply (including RIAA EQ) will sell for around \$7,500.

For further information, please contact Absolute Hi End on (04) 8877 7999 or visit the website at [www.absolutehiend.com](http://www.absolutehiend.com)



## SONUS FABER LILIUM IN OZ

Sonus faber's new Liliium loudspeakers are now available in Australia, following their debut earlier this year at the Munich High End Show. The Liliium closely resembles Sonus faber's flagship Aida loudspeakers, and it's not a resemblance the Italian manufacturer is hiding away. *'Liliium obviously has much of the DNA of Aida,'* said **Mauro Grange**,

CEO at Sonus faber. The Liliium also borrows from Sonus faber's Ex3ma, in that it uses a separate enclosure for the subwoofer that is fitted with 260mm bass driver and a 260mm passive radiator both integrated into the cabinet in such a way that the axis of subwoofer and ABR are at 90° to the main radiation axis of all other drivers, to minimise any direct or indirect modulation. All drivers in the Liliium are totally new for Sonus faber, comprising a 29mm soft dome DAD tweeter, a new 180mm diameter midrange driver and new 180mm diameter mid-woofers,



along with the previously mentioned bass driver and ABR. The three midwoofers (W18XTR-16) have a lightweight sandwich cone structure formed by sealing a high-tech syntactic foam core between two external surface skins of pulped cellulose, whereas the midrange driver's cone is a single-layer type made with a real-time, air-dried, non-

pressed blend of traditional cellulose pulp, kapok, kenaf and other natural fibres, which is then covered with a transparent viscous surface coating that Sonus faber says *'inhibits any residual cone colourations.'* Available now from Synergy Audio Visual, in either a Walnut or a Red finish, the Sonus faber Liliium speakers sell for \$89,999 (RRP) per pair.

For further information, please contact Synergy Audio Visual on (03) 9459 7474 or visit the website at [www.synergyaudio.com](http://www.synergyaudio.com)

MAGNEPAN

## MAGNEPAN MAGNEPLANAR MG 3.7i

Magnepan's new Magneplanar MG 3.7i loudspeaker is now available in Australia from McLeans Smarter Home Entertainment. Like all Magneplanar speakers, the new MG 3.7i's are slender flat-panel designs that are less than five centimetres thick and use Magnepan's proprietary thin film drivers: including a true ribbon tweeter and two quasi-ribbon bass/midrange drivers. The 3.7i is a three-way design which features Magnepan's unique 1.4-metre true ribbon tweeter but also has fast, low-distortion quasi-ribbon drivers. The 'true ribbon' is a 1.4 metre long ultra-thin, ultra-light ribbon of metallic foil that alone moves the air to create sound. *'There's no voice coil, no cone, no surround, no box,'* said **Bill McLean**, of McLeans Smarter Home Entertainment. *'There's nothing except the ribbon, which sets a standard in high frequency sound reproduction with its ability to reproduce a level of fine detail that would typically be masked by other systems.'* The Magneplanar quasi-ribbon design involves attaching a thin ribbon of foil to a sheet of equally thin Mylar film. *'The beauty of the quasi-ribbon design is that it's rugged and cost-effective with a very wide bandwidth allowing for use in both midrange and bass applications,'* says McLean. In the MG 3.7i, Magnepan's patented 1.4-metre long true ribbon tweeter sits along one edge of the speaker, running the speaker's full height, adjacent to a quasi-ribbon midrange panel, itself alongside a quasi-ribbon bass panel. This latest 'Maggie' is available in Black, Matt Black, Oak and Cherry wood trims plus a new Aluminium finish. Fabric options are: off-white, black and dark grey. The speakers are entirely made in America using virtually all US-made parts and pricing starts at \$7,999.

For further information, please contact McLeans Smarter Home Entertainment on 1300 995 448 or visit the website at [www.mcleans.info](http://www.mcleans.info)



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## HFX RIPNAS SOLID V3

The HFX RipNAS Solid V3 is now available in Australia. It is distributed by **Audio Heaven**. The HFX RipNAS Solid rips CDs, downloads music via web, copies from NAS or USB drives and serves music to your DAC or network streamer using either the server software supplied by HFX or your preferred windows-based media server software. All ripping takes place entirely onboard using a high-quality TEAC professional Profi DVD tray drive with C2 correction and DBpoweramp R14, which obtains metadata from five different databases. UPnP Asset R4 server software enables easy use with tablet-based applications. *'Compatible with MAC, Linux and Windows, the Solid V3 is a ripping NAS drive/music server specifically built for audio applications and is plug-and-play straight out of the box,'* said **Craig Johnstone**, of Audio Heaven. *'There's even a back-up system that's completely automatic and totally configurable, to protect*

*your cherished music collection.'* Additionally, the HFX RipNAS Solid has a 120 GB SSD with 4GB RAM, AMD dual core processor, four USB ports, HDMI, LAN and SPDIF outputs. To ensure silent running, there's no fan. Heat is removed via internal cooling pipes. It comes with a 1TB HDD fitted as standard, but there's room for two additional hard drives. *'With the stability of Windows home server software and a quality buffered and filtered power supply unit this server is a joy to use and delivers an extremely polished musical delivery'*, said Johnstone. *'It can also be used in conjunction with other HFX products, including the AssetNas DSD slim profile server, HFX Mini server, HFX ripper, HFX Monster NAS and Cinema X5.'* Available now, the HFX RipNAS Solid sells for \$3,290 (RRP) with the standard 1TB HDD. You can option in a second 1TB drive for an additional \$245 and a third 1TB drive for an additional \$410.

For further information, please contact Audio Heaven on (04) 1855 2051 or visit [www.audioheaven.com.au](http://www.audioheaven.com.au)

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## BENCHMARK DACS AT BMC

Burwood Music Centre has been appointed the exclusive Victorian dealer for Benchmark Media Systems' full range of products (and for some models, the exclusive Australian dealer). According to Benchmark Media Systems, which designs and manufactures all its products entirely in the USA, its new DAC2 digital-to-analogue converter has less noise, less distortion, and higher conversion accuracy than the DAC1. It also has more digital inputs (five total), more analogue inputs (two total) and more analog outputs (three total). It also incorporates new features, including front-panel read-outs of sample rate and word length, native DSD conversion, digital signal pass-through, switchable polarity, home theatre bypass, asynchronous USB 2.0 and driverless asynchronous USB 1.1. 'The DAC1 has become a reference standard in many of the finest recording studios and mastering rooms, but this new DAC2 defines a new reference,' said **Charles Lee**, of Audiophile Reference Recordings, which partners Burwood Music Centre. 'It delivers outstanding musical detail and precise stereo imaging, thanks to advanced high-headroom digital filter design, a new high-sample-rate asynchronous USB audio interface and because all inputs are fully isolated from interface jitter by Benchmark's new UltraLock2 jitter attenuation system.'

The DAC2 HGC incorporates Benchmark's Hybrid Gain Control (HGC) system. 'HGC combines active analog gain control, passive low-impedance attenuators, a 32-bit digital gain control, and a servo-driven



volume control,' Lee told Australian Hi-Fi Magazine. 'All inputs are controlled by the rotary volume control. Analog inputs are never converted to digital, and digital inputs never pass through an analog potentiometer. Digital inputs are precisely controlled in the 32-bit DSP system. The DSP system preserves precise left-right balance, and precise stereo imaging, while avoiding any source of noise and distortion. Benchmark's unique passive output attenuators provide distortion-free gain reduction without reducing the dynamic range of the converter. The attenuators optimize the gain staging between the DAC2 and the power amplifier. Much of the success of the DAC1 converters can be attributed to the passive output attenuators. Musical details can be obscured by system noise whenever a preamplifier and power amplifier are improperly matched.' The DAC2L and DAC2D retail for \$2,140, the DAC2 DX for \$2,600 and the DAC2 HGC for \$2,550.

For more information, contact Burwood Music Centre on (03) 8683 9910, or Audiophile Reference Recordings on (04) 2132 8366. [www.audiophilereferencerecordings.com.au](http://www.audiophilereferencerecordings.com.au)

## BLUESOUND IN OZ

Convoy International has released four Bluesound wireless streamers to the Australian market: the Node, Powernode, Vault, and Pulse, as well as a compact satellite and powered subwoofer combo (Bluesound Duo). 'We're extremely proud to introduce Bluesound to Australia,' said **Geoff Matthews**, CEO of Convoy. 'We understand what you need to obtain the perfect listening experience in the digital age and we are excited about launching the Bluesound family of products into the hands of Australian consumers—it really hits the mark.'



The Bluesound Node is a wireless streaming music player that connects all your digital music to any existing stereo system via either a spare digital or analogue input. According to Convoy, it supports all streaming music formats as well as all high-resolution digital formats. It retails for \$649 (RRP). The Bluesound Powernode is a wireless streaming music player with a built-in 90-watt per channel Class-D stereo amplifier that uses patented, 'DirectDigital' Class-D topology. Like the Node, the Powernode supports all streaming music formats as well as all high-resolution digital formats. It retails for \$999 (RRP). Bluesound's Vault is a wireless streaming music player that includes a CD-ripper and a 1TB HDD, so it enables you to rip your entire CD collection to any lossless high resolution format without a computer while optionally simultaneously creating maximum-quality MP3 files for use on mobile devices. It retails for \$1,499 (RRP). The Pulse is an all-in-one compact speaker system and wireless streamer that was designed by renowned speaker designer, **Paul Barton**. It partners two full-range 70mm aluminium-coned drivers with a 122mm bass driver. Each driver is powered by its own dedicated Class-D amplifier. 'The Pulse is custom-tuned for a 24-bit listening experience anywhere in the home, and is capable of clean 39Hz deep bass and crisp, shimmering highs,' Matthews told Australian Hi-Fi Magazine. It retails for \$999.

Bluesound's new Duo is a compact powered subwoofer/satellite speaker that uses Class-D amplifiers to drive a 203mm subwoofer and a pair of satellite speakers fitted with 100mm bass/mid drivers and 25mm aluminium tweeters. It retails for \$1,499 (RRP).



For further information, please contact Convoy International on 1800 817 787 or visit [www.convoy.com.au](http://www.convoy.com.au)

## BRYSTON BDP-1USB DIGITAL MUSIC PLAYER

Canadian manufacturer Bryston has a new digital music player, the BDP-1USB, which joins the flagship BDP-2 in the company's music player line-up, and becomes the entry-level model in the company's range. *'The BDP-1USB is Bryston's most affordable high-performance music player, designed specifically for those customers using one of many popular USB external DACs available on the market,'* said **John Davies**, of Sennheiser Brands, which distributes Bryston in Australia. The BDP-1USB handles music libraries of up to 30,000 tracks—from MP3 to high-resolution files stored on external USB or NAS drives. **Chris Russell**, CEO of Bryston, told Australian Hi-Fi Magazine that requiring owners to use their own external USB DAC meant they'd been able to make the BDP-1USB affordable without reducing quality. *'By building the new player without including the premium-grade internal sound card featured in the BDP-2 we've reduced the cost without any penalty in sound quality*



*and opened the world of high-resolution audio playback to a broader audience,'* he said. *'With the increased prevalence of USB DACs available at a wide range of prices, the BDP-1USB opens the door for music lovers seeking Bryston performance and build quality in an affordable package.'* On-board features include UPnP compatibility, Squeezebox emulation, DoP (DSD over PCM), four data USB inputs/outputs plus one for powering external hard drives, 100mbps Ethernet, and gapless playback. You can control the BDP-1USB via a web browser or from any Apple or Android phone or tablet.

For further information, please contact Sennheiser Australia on 1800 648 628 or visit the website at [en-au.sennheiser.com](http://en-au.sennheiser.com)

## MYRYAD Z SERIES

Final Link Audio is now the official Australian distributor for Myryad Electronics from the UK, and tells us that Myryad has updated its product range and re-launched it. Final Link says the changes mean better performance and lower prices. The first range to arrive will be Myryad's new Z Series, comprising the Z240 integrated amplifier (\$999) and Z210 CD Player (\$999). Both are available in both black and silver finishes. Myryad plans to round out the Z range with a new Z Series DAC and Headphone Amplifier-DAC. *'Myryad builds exceptional-sounding audio equipment with modern design to suit any system requirements for the modern age customer,'* said **Shane Lewis**, of Final Link Audio. *'Because Myryad is English-designed, they love being matched up with other English equipment, particularly speakers.'*

The Z210 CD Player uses eight separately regulated power supplies, massive reservoir capacitors and proprietary DAC decoupling to power a high-quality Cirrus Logic 24/192 fifth-order Delta-Sigma DAC, an output filter using close tolerance metal film resistors, precision polypropylene film/foil capacitors and high-speed low-distortion FET input op-amps, and an isolated low-jitter master clock. Each CD player comes standard with a Myryad System Remote Control and is equipped with Myryad's 'Smart My-Link' for intelligent system operation with other Myryad products.

Myryad's new Z240 integrated amplifier is rated with an output of 50-watts per channel into 8Ω loads and 70-watts per channel into 4Ω loads. It's designed around a short, direct signal-path that has just a single high-speed low-loss film coupling capacitor in-circuit, and a 2.2kg toroidal transformer that fronts a power supply stage comprised of discrete 'soft recovery' ultra-fast rectifier diodes and ample storage. *'The Z240 delivers extended, weighty and controlled bass, open and detailed midrange, and refined top-end air and sweetness,'* said Lewis.

For further information, please contact Final Link Audio on (03) 9746 0394 or visit the website at [www.finallink.com.au](http://www.finallink.com.au)



## ALPHA DESIGN LABS EH-008

Alpha Design Labs' (ADL) new EH-008 earphones use dual dynamic drivers, where an 8mm-diameter low/mid frequency driver is positioned in a chamber located directly behind a high-frequency titanium film driver. *'This configuration delivers phase-correct high resolution output to the ears, which adds up to a stunning, realistic soundstage that allows you to hear more deeply into your favourite recordings,'* said **David Eleftheriadis** of Reference Audio Visual, which distributes Alpha Design Labs in Australia. Eleftheriadis says the EH-008 was designed to present an attractive appearance as well. *'From its beautiful diamond-cut aluminium end plates to the deep lustrous finish on the carbon-fibre enclosures, the EH-008 invites a 'pride of ownership' not often found in the world of earphones,'* he said.

For further information, please contact Reference Audio Visual on 1800 133 135 or visit the website at [www.referenceav.com.au](http://www.referenceav.com.au)



## MICROMEGA LAUNCHES MYAMP



French manufacturer Micromega, now owned by former motorcycle racing champion **Didier Hamdi**, has added to its compact 'My' series of components by releasing the MyAmp integrated amplifier, which has Bluetooth aptX

built-in to enable high-fidelity wireless streaming. In addition to the Bluetooth capability, Micromega's MyAmp integrated amplifier features an 'LLC' power supply, an ultra-low-noise forced convection cooling system, a 256-step resistor network analogue volume control that operates in 0.5dB steps, a 24-bit ESS Sabre Hyperstream DAC and a built-in headphone amplifier with independent volume control. Micromega says the MyAmp's output stage is a linear Class-AB design and will deliver 30-watts per channel into 8Ω loads and 60-watts per channel into 4Ω loads. The MyAmp has three analogue inputs and three digital inputs (optical and coaxial SPDIF plus USB.) There is also subwoofer output (filtered to 400Hz) and a record output. The Micromega comes with its own compact infra-red remote control, but can also be controlled via RC5 for use in custom installations. As with all components in Micromega's 'My' series, the MyAmp is contained within a non-conductive and low resonance ABS plastic casing that's available in black or white, but it's around twice the size of other components in the 'My' series, measuring 140x140x75mm (WDH). 'The Micromega MyAmp is a versatile amplifier designed to meet the exacting requirements for both the digital generation and serious audiophiles at an affordable price,' said **Boris Granovsky**, of Absolute HiEnd, which distributes Micromega in Australia. 'It delivers functionality and performance 'way beyond its price tag, particularly since the inclusion of Bluetooth means you can stream to it direct from your phone or tablet.' It has a recommended retail price of \$899.

For further information, please contact Absolute Hi End on (04) 8877 7999 or visit the website at [www.absolutehiend.com](http://www.absolutehiend.com)

## ISOTEK ENHANCES EVO3 TITAN

The successor to Isotek's multi award-winning GII Titan power conditioner, the EVO3 Titan is now available in Australia. 'IsoTek's original GII Titan was designed to deliver clean, high-current, filtered power for power-hungry amplifiers, mono-blocs, active loudspeakers and subwoofers in a compact design,' said **Paul Clarke**, of Audio Active, which distributes IsoTek in Australia. 'The new EVO3 version retains the same bijou size, but manages to pack in a raft of technological enhancements, several of which have been trickled directly down from the extensive research that went into the Titan's 'big brother', IsoTek's flagship Super Titan.' UK manufacturer Isotek says the EVO3 Titan uses the basically same circuitry used in the Super Titan, reconfigured into a more compact form, but with subtle improvements to the company's proprietary circuit topology, including a doubling of the copper component before 24-carat gold plating, and the use of a fully optimised 'KERP' (Kirchoff Equal Resistance Path) circuit layout. 'KERP ensures equal resistance and equal power delivery to all outlets, providing a pure, coherent signal path through the unit,' Clarke told Australian Hi-Fi Magazine. Rated with a maximum continuous current capacity of 20-amps, the Isotek Evo3



## AYON SIGMA

Ayon Audio has released new budget 32-bit valve DAC/Preamp with a DSD capability. The new Sigma digital/analog converter/preamplifier is a valve design by virtue of its single-ended output stage and differential gain stage being composed of a high-performance 6H30 valve (one per channel) and valves also being used in the power supply. Ayon provides all valves with a high-capacity power supply and a logic-sequenced soft-start power-up to extend valve life. 'As well as being used as a conventional DAC, the Sigma is also prepared for computer playback and DSD professional audio use,' said **Boris Granovsky**, of Absolute HiEnd. 'The sound is powerful with fantastic bass performance, super-dynamic, airy, detailed and holographic.' The single-ended pure class-A pre-amplifier circuit uses no negative feedback and ultra-short signal paths, where even the copper traces on the PCB are kept to minimum length. 'All Ayon Audio's circuits are based on the simplest most direct circuit paths for purest musical sound and high reliability,' said Granovsky. 'There are no solid state devices in the analog tube output (signal path), minimal discrete wiring for optimum signal propagation, no followers or buffers in the signal path and Ayon Audio components are all fully hand-assembled to ensure the highest level of craftsmanship.' Internally, the Ayon Audio Sigma has a switchable hardware PCM upsampler (enabling CD sources to be upsampled to 24/192k if desired), plus native 192kHz PCM and DSDx128 conversion. Available now in black or silver anodised aluminium finishes, the Ayon Audio Sigma retails for \$4,990.

For further information, please contact Absolute Hi End on (04) 8877 7999 or visit the website at [www.absolutehiend.com](http://www.absolutehiend.com)



Titan measures 275x183x275mm (WHD) and weighs 17kg. Available now in either black or silver, each unit comes fitted with IsoTek's EVO3 Premier power cable terminated with a 16-amp mains plug, and retails for \$5,499.

For further information, please contact Audio Active on (03) 9699 8900 or visit the website at [www.audioactive.net.au](http://www.audioactive.net.au)



# Krell S-550i

## INTEGRATED AMPLIFIER

**L**ong ago I had my heart set on buying a high-power amplifier but could not decide between a Mark Levinson and a Threshold. But I was dreaming rather than saving, because I couldn't afford either. Then in 1980 along came the Krell KSA-100, a stereo Class-A amplifier that could deliver 1,600-watts into a single ohm. This power output level was unheard of at the time (and is still rare!). I heard a KSA-100 at an Australian Hi-Fi Show in Sydney, and wanted one, because it sounded fabulous. I wanted one so badly I started saving seriously, but another romance intervened, and the money was re-purposed by she who would in time become my better half.

Since then, Krell prices have easily kept pace with inflation and other costs, so few have been able to afford one. However, the introduction first of the Krell S-300i (a 150-watter), and now the Krell S-550i (rated at 275-watts per channel), have been game-changers for this US-based company, because

for the first time, Krell amplifiers have become affordable. The S-550i is still not exactly what you'd call 'inexpensive' but it's certainly within the reach of any audiophile who's being paid a smidgin more than the 'average' Australian wage.

### THE EQUIPMENT

Krell has always eschewed 'pretty' chassis in favour of stark 'industrial' exteriors, to the extent that its early power amplifiers—such as the aforementioned KSA-100—were all sharp edges and unfinished aluminium. The S-550i isn't quite as industrial as the KSA-100, but it's also not exactly pretty... its looks fall somewhere between the two, so let's compromise on the expression that it looks 'business-like'.

Although the Krell comes with a remote control (and what a remote it is, about which more later!), everything you could sensibly expect to control on the amplifier is able to be controlled via the front

panel alone, which is eminently sensible. Pushbuttons let you switch between five different inputs, labelled S1, S2, S3, B1 and iPod. The 'S' (Source) buttons select the associated unbalanced RCA input terminals on the rear panel. The 'B' button selects a pair of balanced XLR input terminals on the rear panel and the iPod input selects a balanced stereo iPod input via a locking 30-pin connector on the rear panel. Krell provides an iPod dock to plug into this, so unlike many amplifiers, no 'extra' purchase is required. The dock will accommodate only older iDevices, and not any of the newer Apple devices with Lightning connectors. (And don't bother waiting for an S-550i with a Lightning connector: Krell says it currently has no plans to make such a dock.) When you select any input, your choice is displayed in the dot-matrix display panel at the right of the front panel.

To the right of the source selector buttons is a mute button that instantly mutes the

speaker outputs of the S-550i without affecting the volume control setting. This is a 'push to mute', 'push again to un-mute' button but it lacks any 'smarts' so if you turn the volume control up via the front panel control or the remote while the amplifier is muted, it will not automatically un-mute, which is a poor design choice. De-mute should happen automatically whenever a volume control is adjusted. (Specifically, adjusted upwards: If a volume control is turned down, muting could stay active, but 'dual-action' muting circuits such as this are difficult and expensive to implement.)

Below the Mute button is a 'Menu' button that allows access to the various menu features, the most significant of which is the balance control that allows you to adjust the left/right channel balance by 10dB ( $\pm 5$ dB range for each channel) and an input trim, which allows you to adjust the input sensitivity of each input to compensate for different source components having different output levels (which they mostly do!), so that you won't get any variations in volume level when you're switching from one source component to another. You can also add your own labels for each input, so you could have 'CD' displayed when you select S1, and 'DV' when you select S2, and so on. Very nice. Initially I was a bit confused as to why Krell had bothered to include a dedicated 'Menu' button in the first place, since the manual said it could also be accessed by pressing the front-panel volume control, but it turned out that this was not the case: you need to use either the front panel Menu button or the one on the remote. I do think the front panel would have looked much 'cleaner' if Krell *had* omitted the Menu button, and let you push the front-panel control to access the Menu, but presumably Krell had its reasons for not doing this.

You also need to access the Menu in order to select the Krell S-550i's 'Theatre Throughput' mode, whereby you can use the S-550i to drive the front two channels of a multi-channel home theatre system, with other amplifiers driving the other channels. Other 'non-core' electronic functions fitted to this Krell include 12-volt triggers, RC-5 input and RS-232 connectivity.

As for that remote, it's a beauty! Whereas many other high-end manufacturers are trying to cut costs by providing only an el-cheapo plastic remote control, or providing their components without remotes, and charging you extra if you want one, Krell's remote is a beautifully made, solid metal unit with high-quality pushbuttons. It looks great (all black), feels wonderful when you're using it, and works perfectly. In short, it's superb. The remote's only failing is that when you

open the case to insert the two AA batteries supplied by Krell (good quality brand name Alkaline ones, too!) there is no indication in the battery compartment of which way around the batteries should go. For the record, you should orient each battery so its negative terminal is the one that comes in contact with the spring.

The rear panel has all the inputs I have mentioned so far, but also sports a pre-amplifier output. I was also rather surprised to find two speaker output fuses accessible via the front panel. It's not surprising that the Krell has fuses to help protect your speakers (and the amplifier itself), but it is surprising that they're accessible via old-fashioned 'retro' fuse holders on the rear panel. Most manufacturers include such fuses, but they fit them inside the amplifier, where they're only able to be changed by an authorised service centre. I didn't blow either of the fuses during my sessions, but if I had I would have found the Instruction Manual pretty light-on with replacement instructions. In any event, use only correctly rated 'fast-blow' fuses (i.e. not 'slow-blow'), and always turn off the amplifier before starting the replacement process. The other unusual fitting on the rear panel is a 'circuit-breaker' style mains power switch. I initially presumably this was linked to some form of electronic protection (over current, d.c. etc) inside the S-550i, but when I asked, Krell's Peter Mackay advised that other than the two rear-panel fuses, the only other protection inside the amplifier is thermal.

The S-550i might be an integrated amplifier, but the specifications look more like they come from one of Krell's high-end power amplifiers, with a power output rating of 275-watts per channel into 8 $\Omega$  and 550-watts per channel into 4 $\Omega$ , a frequency response of 2Hz to 140kHz ( $-3$ dB) and a signal-to-noise ratio of 96dB A-weighted.

If you were to open the amplifier (don't do this at home: you'll void the warranty!), you wouldn't see any signs of cost-cutting in either the circuitry or the components that are used inside the S-550i. All circuitry is direct-coupled (no capacitors in the signal path) and the volume control isn't the usual rotary variable resistor, but simply an encoder for a balanced ladder-resistor network. Surface-mount devices are used extensively, and Krell is using proprietary current mirrors that have far higher open-loop linearity than most other designs. The power supply is fed by an enormous 1,750-watt toroidal transformer that feeds a capacitor bank with a total rating of 68,000 $\mu$ F, which between the bank and the transformer are what contribute most to the amplifier's incredible weight (the S-550i tips the scales at a substantial 29kg).

The chassis itself certainly doesn't add much weight. Unlike many high-end amplifiers, whose massive cast chassis are what gives them much of their mass, the casing of the S-550i is constructed from a fairly light-weight alloy. The amplifier measures 438 $\times$ 148 $\times$ 450mm (WHD).

If you're familiar with Krell and its history, you might be wondering how this US company, famous because of its founder, Dan D'Agostino\*, as well as for building its amplifiers entirely in the USA, has managed to build the S-550i so economically. The answer is that unlike Krell's higher-end amplifiers, the S-550i is built for Krell in China, something that's clearly and honestly stated on the rear panel. After having examined the S-550i very carefully, both inside and out, I'm here to tell you that

## KRELL S-550i INTEGRATED AMPLIFIER

**Brand:** Krell

**Model:** S-550i

**Category:** Integrated Amplifier

**RRP:** \$7,995

**Warranty:** Five Years

**Distributor:** Audio Marketing Pty Ltd

**Address:** Unit 14L, 175

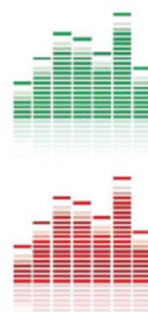
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## LAB REPORT

Readers interested in a full technical appraisal of the performance of the Krell S-550i Integrated Amplifier should continue on and read the LABORATORY REPORT published on page 24. Readers should note that the results mentioned in the report, tabulated in performance charts and/or displayed using graphs and/or photographs should be construed as applying only to the specific sample tested.



**Lab Report on page 24**

it's every bit as high quality as the Krell amplifiers that are made in the US, so if Krell hadn't put a 'Made in China' label on the rear panel, no-one would ever have been any the wiser.

## IN USE AND LISTENING SESSIONS

The first thing to be aware of before installing the Krell is that its 240V power plug is so large that you won't be able to plug anything in alongside it if you're using a standard double power point or a power distribution board of any kind. The reason is that the three wires in Krell's power cable are so hugely thick that they won't fit into a standard 15-amp 240V plug. I suspect it's also a physical reminder of something Krell points out in its Set-Up Guide, where it says: *'Because of its powerful amplifier channels and high-capacity power supply, the S-550i will benefit from a dedicated a.c. circuit. Avoid connections through extension cords or multiple a.c. adapters. Use only the power cord provided with the S-550i to make the connection to AC power. Operation with a power cord other than the one supplied by Krell can induce noise, limit current, or otherwise impair the ability of the integrated amplifier to perform optimally.'*

The second thing of which you'll already be aware is that the Krell is a high-power amplifier and it uses a Class-AB output stage strongly biased towards Class-A, so unless it's properly ventilated, it may become 'overly warm'. My advice is to again follow the advice in Krell's Set-Up Guide which specifies that the S-550i: *'requires at least 2.54cm of clearance on each side and at least 5cm of clearance above to provide adequate ventilation. Installations inside cabinetry may need extra ventilation.'* Although low-powered integrated

amplifiers don't often require you to be too particular about ventilation, amplifiers rated at 550-watts per channel demand that you do follow the ventilation guidelines.

For some reason, I didn't get the detailed instruction manual that's supposed to come with each amplifier, only the Set-Up Guide, and I couldn't find an electronic one on the company's website either... though I did find one for the S-300i. However, it's a measure of how intuitive it is to program the Krell S-550i that I was able to do everything any typical user might want to do: adjust balance, input trim, label the inputs etc, without recourse to a manual. I was a little annoyed that you aren't actually able to name each input, as I'd initially imagined when I heard you could program the inputs. Instead you only get to choose from a pre-programmed list of names Krell has stored in the S-550i's memory... though if you can't find one you want from the 78 that are in the amplifier's memory, I'd be surprised. (Note to Krell's design department: many audiophiles with high-end components like to label their inputs so that, for example, when they select the 'Phono 1' input, the front panel display on the amplifier shows 'Linn' or 'LP12' or the name of whatever other turntable they may own. In other words, it would be nice if S-550i owners were able to program their own alpha-numerics, rather than just pick the most appropriate one from a list... even if it is a long list.) The other thing I'd like Krell to eliminate is the turn-on thump. It's not particularly aggressive, but it's certainly noticeable.

If I were to use one word to describe the sound of the Krell, that word would certainly be 'effortless', (though I did spend some time agonising whether that word would be effortless or transparent), because no matter what type of music you're listening to, or how loudly or softly you're playing it—and certainly irrespective of the speakers you're using!—the Krell S-550i never seemed to be doing any work at all. When I asked, it delivered. No fuss, no bother. It really was as if the amplifier were not in the chain of components at all (which is why I was sorely tempted to use the word transparent to describe it). This ability is certainly the mark of a superior amplifier: one where you can't really tell it's there at all, except that you know it must be, otherwise your speakers would not be producing such glorious sound.

Needless to say (though here I am saying it), you won't ever need more amplifier power than is available from the Krell S-550i... I didn't even begin to approach the maximum levels of which it's capable before I had a neighbour knocking on the door to tell me to turn it down... and then coming around the back to wave at the window, because I

didn't hear him knocking at the door. Another neighbour phoned... and I didn't hear that either. And when you're not using the Krell's maximum power (that is, you're only playing back your music at ordinary to low levels), the S-550i is as sweet-sounding as a Class-A tube amp, with no harshness, no 'rough' edges, and with a perfectly silent background, so that notes decay into the silence of your own room, and not into the noise floor of the circuitry.


But even if you are playing at low levels, you'll 'hear' the power of the Krell because of the incredible dynamics enabled by the power capability. For example, the sound of a kick drum, whose initial transient can be squashed by lower-powered amplifiers (those whose power output tops out at two figures), is delivered perfectly by the S-550i. There's no impression of 'loudness' *per se*, because the transient is so short in duration: what you *perceive*... rather than *hear*... is sonic realism. It's as if you're hearing a kick drum in your room, and not some recorded facsimile of a kick drum.

Funnily enough, this manifests as a type of 'softness' to the bass, but I think this is because so many amps go into clipping in this situation, which creates a 'hard' sound so if you're used to listening to recorded music, rather than live, and you have an amplifier with a fairly low power output, you might have become used to the 'hard' bass (caused by your amplifier clipping) and not realised that the 'soft' bass sound is actually more realistic.

The same is true of the midrange sound of the Krell: but here it's not that the amplifier has a 'sound'—it doesn't. It's just that the music and vocals are delivered so true-to-life that your brain is not having to build any sonic constructs... you're hearing the music effortlessly, which means you can relax, which in turn means greatly improved enjoyment of what you're listening to.

In addition to enjoying what you're hearing more, you can also appreciate it more keenly, because the Krell is so accurate that you're not missing out on anything. Even the most microscopic details of micro-dynamics are delivered precisely: you'll hear every inflection in a vocal, every nuance in a melody line. In short, amazing detail.

## CONCLUSION

**Your time has come.** If you've always lusted after a Krell, now is the time to consummate your desires. It may not be the prettiest amplifier in town, but it's certainly one of the most powerful. Its lineage and ancestry are impeccable and it will entertain your aural senses like no other amplifier. And best of all, the parents aren't asking for much of a dowry!  **Lesley Swan**

## Krell

Although Dan D'Agostino founded Krell in 1980, and acted as its chief designer for many years, he no longer works for Krell, although he reportedly still has a minority shareholding in the company. He reputedly named the company after an extinct race of advanced beings that lived on the planet Altair IV, as shown in the classic 1956 science fiction film *Forbidden Planet*. He did so because the first Krell amplifier, the KSA-100, was dubbed 'the first high power, high-current, true Class-A biased stereo power amplifier available to audiophiles' and, in the movie, the Krell had reached a stage of technological and scientific development so advanced that they were able to construct a machine that delivered 'virtually unlimited' power.

*The spiral of time...*



*...at one with the universe*



SPIRAL GROOVE

## LABORATORY TEST RESULTS

Power output has always been a strong point of Krell amplifiers, and you can see from the results of *Newport Test Labs*' testing, as shown in the table that accompanies this review, that the S-550i maintains that tradition. When driving 8Ω loads, the S-550i delivered 315-watts per channel, both channels driven, at all three test frequencies: 20Hz, 1kHz and 20kHz. This is not only higher than specification, it's also excellent performance. When driving 4Ω loads, and with both channels driven, *Newport Test Labs* measured the S-550i as delivering 524-watts at 20Hz and 20kHz, and 529-watts at 1kHz. This meant that into 4Ω loads, the S-550i's output was a little lower than Krell's specification of 550-watts, but the difference is minuscule (0.1dB). The performance into 2Ω loads speaks for itself: 800-watts per channel, at all frequencies across the audio band. This is more than sufficient to power even the most inefficient loudspeakers, even those with very low impedances. When a single-channel is driven into a 4Ω load, the Krell S-550i will deliver almost 1-kilowatt of power!

The Krell S-550i's wideband frequency response was very flat and extraordinarily extended, being just 1dB down at 4Hz and 86kHz. The 3dB down-points were measured at 2.5Hz and 151kHz. Frequency response across the audio band is shown in

Graph 5, where the black trace shows the response into a standard laboratory-grade non-inductive 8Ω load, which is exactly at reference level at 20Hz then rises to around +0.08dB at 100Hz, before falling to +0.01dB at 1kHz, to reference again at 8kHz, then rolling off above 10kHz to be about -0.05dB at 20kHz. Overall, normalised, this puts the measured frequency response at 20Hz to 20kHz  $\pm 0.06$ dB. The red trace on this graph plots the S-550i's frequency response

**■ When a single-channel is driven into a 4Ω load, the Krell S-550i will deliver almost 1-kilowatt of power!**

when driving a reactive load that simulates the impedance of a two-way bookshelf loudspeaker. This is a little more irregular than the response into a resistor, but overall the response is 20Hz to 20kHz  $\pm 0.09$ dB. This is excellent performance. Channel separation was not quite so excellent, but still far more than required to deliver pin-point imaging and proper stereo staging, so the figures are somewhat academic, particularly since the



## Krell S-550i Integrated Amplifier – Power Output Tests

Channel	Load (Ω)	20Hz (watts)	20Hz (dBW)	1kHz (watts)	1kHz (dBW)	20kHz (watts)	20kHz (dBW)
1	8 Ω	320	25.0	320	25.0	317	25.0
2	8 Ω	315	24.9	315	24.9	315	24.7
1	4 Ω	564	27.5	566	27.5	564	27.5
2	4 Ω	524	27.1	529	27.2	524	27.1
1	2 Ω	924	29.6	924	29.6	924	29.6
2	2 Ω	800	29.0	800	29.0	800	29.0

Note: Figures in the dBW column represent output level in decibels referred to one watt output.

## Krell S-550i Integrated Amplifier – Laboratory Test Results

Test	Measured Result	Units/Comment
Frequency Response @ 1 watt o/p	4Hz – 86kHz	-1dB
Frequency Response @ 1 watt o/p	2.5Hz – 151kHz	-3dB
Channel Separation (dB)	88dB / 80dB / 65dB	(20Hz/1kHz/20kHz)
Channel Balance	0.049	dB @ 1kHz
Interchannel Phase	0.06 / 0.08 / 0.98	degrees ( 20Hz / 1kHz / 20kHz)
THD+N	0.049% / 0.005%	@ 1-watt / @ rated output
Signal-to-Noise (unweighted/weighted)	64dB / 73dB	dB referred to 1-watt output
Signal-to-Noise (unweighted/weighted)	87dB / 96dB	dB referred to rated output
Input Sensitivity (S3 Input)	76mV / 1.2V	(1-watt / rated output)
Output Impedance	0.07Ω	
Damping Factor	114	@1kHz
Power Consumption	1.6 / 92	watts (Standby / On)
Power Consumption	136 / 990	watts at 1-watt / at rated output
Mains Voltage Variation during Test	243 – 249	Minimum – Maximum

'worst' result is 65dB at 20kHz. Channel balance was superb, at 0.049dB.

Distortion at an output of one-watt into 8Ω and 4Ω loads was low, but not as low as I sometimes see for solid-state amplifiers, and the distortion components were almost entirely odd-harmonic, so that into 8Ω, there was a 3<sup>rd</sup> harmonic at -70dB (0.0316% THD), a fifth at -83dB (0.0070% THD), a seventh at -92dB (0.0025% THD), and a ninth at -105dB (0.0005% THD). Driving 4Ω loads, the levels of all the odd harmonics rose slightly, and there's also a second-order component at -97dB (0.0014% THD) and an eleventh at 106dB (0.0005% THD). Although these levels are higher than I might have expected, the overall THD+N figure measured by *Newport Test Labs* was just 0.049%, as you can see in the tabulated test results, which is so low that it would be completely inaudible to the human ear.


At rated output, either into 8Ω loads (275-watts) or 4Ω (550-watts) the distortion spectrum becomes more as I'd have expected, with both even-order and odd-order harmonic distortion components. Interestingly, distortion actually drops at



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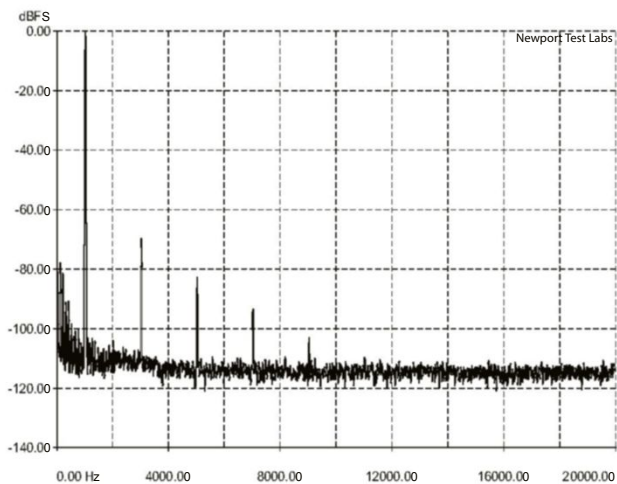


these higher output levels, with a second, third and fifth harmonics all at around -85-90dB (0.0056-0.0031% THD) down, and all the higher-order harmonics 100dB (0.0010% THD) or more down when driving 8Ω loads. Despite the presence of even-

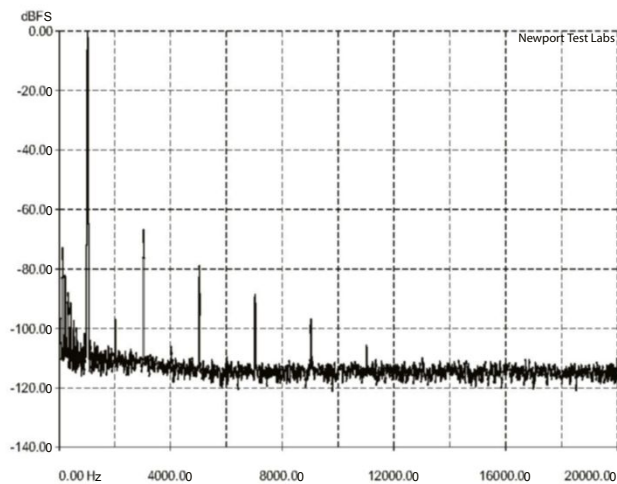
order harmonics, odd-order components still dominate the output spectrum. The 4Ω result is very similar to the 8Ω result, though the 'grass' visible down on the noise floor at the extreme left of the graph indicates that the power supply is working hard to deliver

550-watts into 4Ω loads. Again, overall THD+N percentages were very low, as you can see from the tabulated figures. *Newport Test Labs* measured 0.005% THD+N, far better than Krell's own specification.

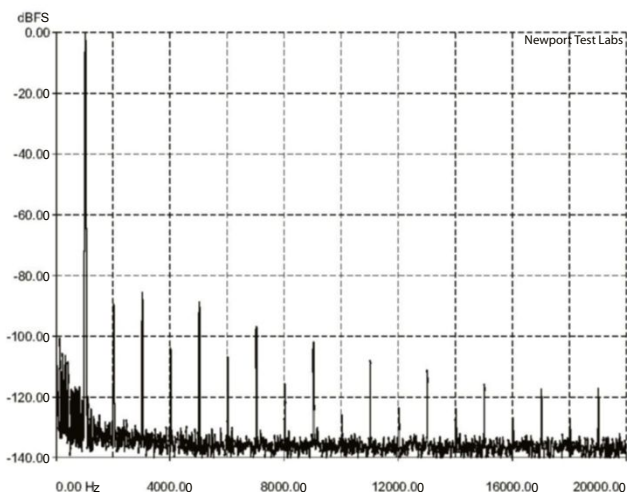
Intermodulation distortion (CCIF-IMD) is



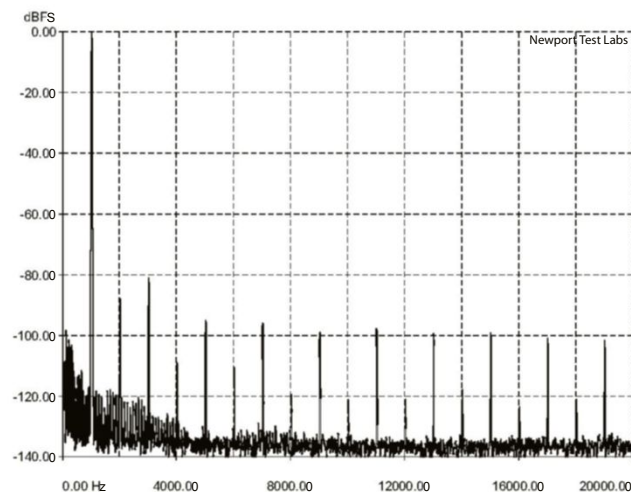
Graph 1: Total harmonic distortion (THD) at 1kHz at an output of 1-watt into an 8-ohm non-inductive load, referenced to 0dB. [Krell S-550i]



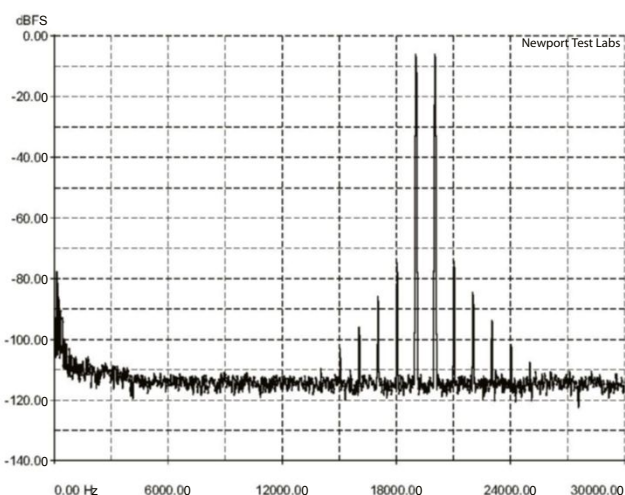
Graph 2: Total harmonic distortion (THD) at 1kHz at an output of 1-watt into a 4-ohm non-inductive load, referenced to 0dB. [Krell S-550i]



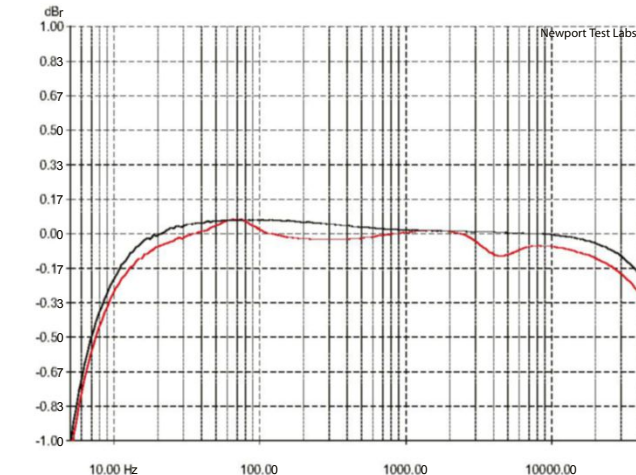
Graph 3: Total harmonic distortion (THD) at 1kHz at an output of 275-watts into an 8-ohm non-inductive load, referenced to 0dB. [Krell]



Graph 4: Total harmonic distortion (THD) at 1kHz at an output of 550-watts into a 4-ohm non-inductive load, referenced to 0dB. [S-550i]



Graph 5: Intermodulation distortion (CCIF-IMD) using test signals at 19kHz and 20kHz, at an output of 1-watt into an 8-ohm non-inductive load, referenced to 0dB. [Krell S-550i Integrated Amplifier]



Graph 5: Frequency response of line input at an output of 1-watt into an 8-ohm non-inductive load (black trace) and into a combination resistive/inductive/capacitive load representative of a typical two-way loudspeaker system (red trace). [Krell S-550i Integrated Amplifier]

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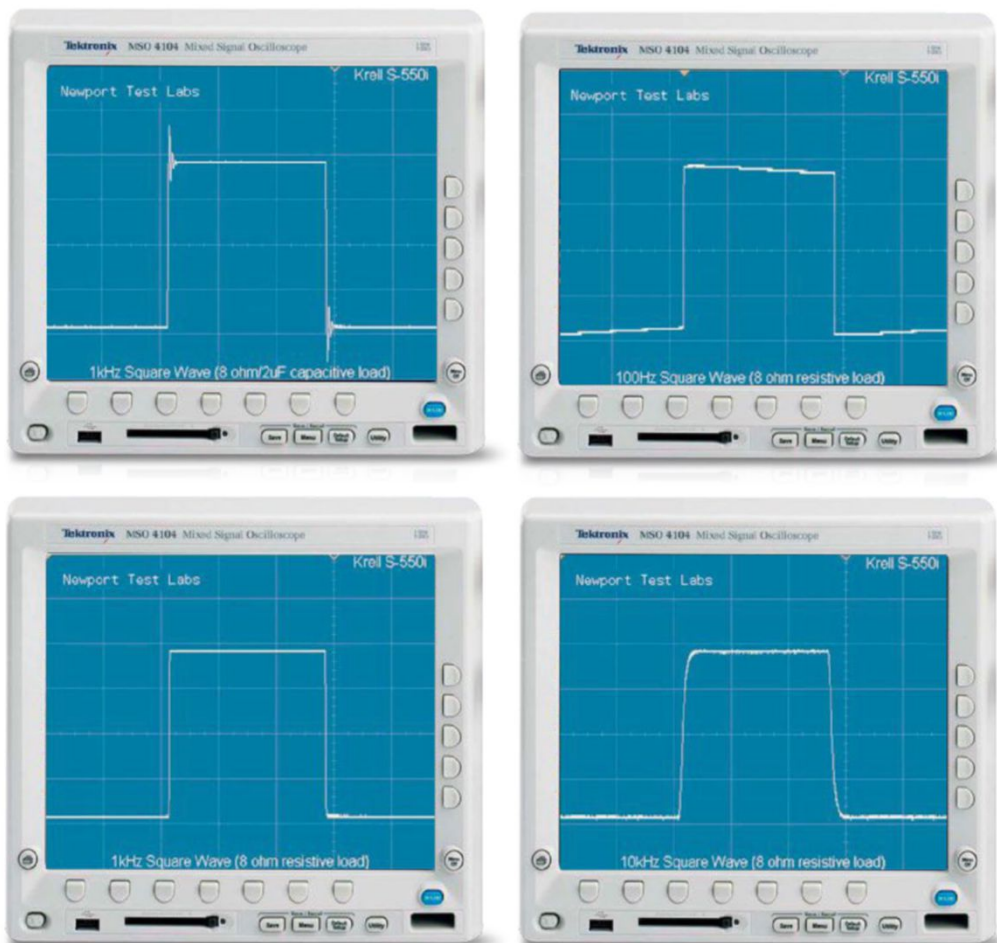
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shown in Graph 5. In an excellent result for the S-550i, there is no regenerated signal visible at 1kHz. The 19kHz and 20kHz test signals do, however, generate some unwanted sidebands, but the first set of these (at 18kHz and 21kHz) are at -75dB (0.0177% THD), the second set at -85dB (0.0056% THD), and the third set at -105dB (0.0005% THD).

Signal-to-noise ratios were measured at 64dB unweighted and 73dB 'A'-weighted referred to an output of one watt, and 87dB unweighted and 96dB 'A'-weighted referred to rated output, this last matching-up well with Krell's own specification of 96dB A-weighted. However, this 96dB result must be viewed in the light of the Krell's extremely high power output, which 'improves' the figure by about 5dB compared to, say, a 100-watt amplifier with the same inherent circuit noise.


Square wave performance was excellent, as you can see from the four oscillograms. The 1kHz and 10kHz results are particularly good, with the 1kHz waveform looking like it came straight from *Newport Test Labs'* square wave oscillator. The 10kHz wave shows excellent symmetry and almost no rounding on the leading edge, confirming visually the Krell S-550i's extended high-frequency response. The 100Hz shows a little tilt, visual confirmation of the -3dB down-point at 2.5Hz and showing that response stops shy of d.c., but there's no tilt, so there is no l.f. phase shift. (There's very little inter-channel phase shift either, as evidenced by the tabulated results.) The last of the four square waves shows that the Krell will be





unconditionally stable even into highly reactive loads, such as those presented by electrostatic speakers. The Krell will also be able to control unwanted cone movement of any loudspeaker, as evidenced by the high damping factor (114 at 1kHz).

Power consumption in standby mode didn't quite meet the Australian standard for standby power, which is 0.5-watts, but at 1.6-watts, it's fairly low. But when it's operating the Krell S-550i is a little

more power-hungry than most amplifiers, requiring 92-watts whenever it's switched on but not in standby mode, around 136-watts when it's playing music at ordinary levels, and 990-watts when it's performing at its maximum capability.

The Krell performed well in all *Newport Test Labs'* tests, meeting or exceeding its manufacturers' specifications for it in all areas. It's a very powerful and very well-designed amplifier.  **Steve Holding**



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# B&W 685 S2

## LOUDSPEAKERS

One of the world's most famous loudspeaker manufacturers releases a new, updated 'Series 2' version of one of its best-selling, multi-award winning bookshelf/standmount models. What could possibly go wrong?

Ummm... a whole lot of misinformed and anonymous internet users could claim that it's not a new version at all... that's what!

### THE EQUIPMENT

So let's start by discussing the topic of what constitutes 'new', which is a subject that has proved somewhat controversial amongst audiophiles because, if you frequent the forums, you'll find many posters claiming the 685 S2 is not a new design at all. So how different is this S2 version from the original 685? According to B&W's Patrick Butler, who should know, everything about the 685 S2 is new: *'New cabinet, new drivers, new crossovers. The only thing that is not new is the name.'*



he posted on one of the forums in answer to the naysayers. [See full quote on page 35]

The problem is that the definition of what constitutes 'new' really depends on how picky you wish to be about it. The bass/midrange driver on the 685 S2, for example, is most certainly making its first appearance on the 685 S2. It has not appeared on any previous B&W model. So I'd personally say that qualifies it as being 'new'. But its cone is made of the same woven Kevlar used in

dozens of previous B&W models, including some of its highest-priced offerings. It also uses the same type of aluminium in the driver chassis, the same type of copper for the wire used in the voice coil, the same type of Nomex in the voice-coil former... the point is that in the year 2014, nothing in this world is really completely 'new'. The bass/midrange driver in the 685 S2 may indeed incorporate materials that have been used previously by B&W, but in its entirety it is, truly, a new driver for B&W.

Indeed B&W's engineers would have been insane not to continue using their company's proprietary woven Kevlar as a cone material: it not only has truly excellent mechanical and acoustic properties, it's also superior to the similar-looking materials used by many other loudspeaker manufacturers. That would also be true of the spider suspension: B&W spends an enormous amount of time and money engineering these 'soft parts' and so re-purposing them across several different models makes sound financial sense, both for B&W as a manufacturer and for us as buyers, because the result is that we end up with a superior product at a lower price.

Speaking of pricing, that's another area where, in order to remain competitive, B&W had to start production in China, but unlike some other speaker manufacturers, when it did, it did so by establishing its own factory in Zhuhai, rather than outsourcing its production to an OEM manufacturer. And although it now produces many of its lines in Zhuhai (including the entire 600 Series), it has not moved all its speaker production there: the 800 Series and Nautilus models, for example, are still manufactured in B&W's factory at Worthing, in the UK... and, of course, all the R&D takes place in the UK as well, at the company's dedicated facility in the idyllic setting of the small English town that is Steyning.

The bass/midrange driver is, as I said before, made of Kevlar (and note that it's real DuPont Kevlar, not the fake look-alike stuff that's found on some other brands that claim their cones are 'Kevlar'). The overall diameter of the driver is 176mm, the moving part (cone plus suspension) is 144mm and the cone diameter is 120mm. The important dimension, though, is the Theile/Small diameter, which determines the effective cone area ( $S_d$ ), as this is what the engineers plug into their calculators to calculate how they want to best-tune the bass response, and that diameter was 133mm, to give an  $S_d$  of 140cm<sup>2</sup>. The mushroom-shaped dust cap at the centre of the cone is completely different than what was on the original 685, but it's not exactly 'new' since it's previously made an appearance on B&W's PM1. The original 685 had a bullet-shaped phase plug that projected through the cone, so you could see the voice-coil former. This 'exposed coil' design makes it easy for grit to get into the gap between the coil and the pole-piece, potentially affecting sound quality. This new design completely seals off the voice coil (which is why it's called a dust cap!) and so to my mind is a considerable improvement.

The 25mm dome tweeter has an unusual dome. There are two different thicknesses of aluminium used to make it. Around the periphery the dome is thicker to enhance rigidity, whereas across the main part of the dome the aluminium is thinner, to ensure the dome is still lightweight. B&W has also decoupled the tweeter from the baffle by surrounding it with a ring of gel. The rear of the dome is loaded by a tube design that's directly descended from B&W's flagship Nautilus loudspeaker. Unlike some gel-mounted tweeters, where the tweeter is so loosely mounted that you can make the tweeter 'wobble' in the baffle by prodding it with your finger (though you're probably not supposed to do this, so don't try it with your own speakers!), B&W's gel seems made of sterner stuff: I couldn't perceive any 'wobble' at all when I prodded it.

Although B&W apparently designed the 685 S2 as a bass reflex loudspeaker, providing it with a front-mounted bass reflex port that's 40mm in diameter and flared at both ends using B&W's trademarked dimpled 'Flowport' material that's intended to reduce turbulence, the 685 S2 comes with foam bungs that can be used to block off the port entirely, to turn the loudspeaker into an infinite baffle loudspeaker. But, in an even-more curious twist, each bung comes with a removable centre section, so by using only the outer ring, you can make the diameter of the port narrower, and also provide a different surface for the air that does flow through the smaller port (in this configuration the air flows over foam, rather than plastic). B&W reportedly provides these bungs in order to allow you to 'tune' the bass response to suit your personal tastes and your room's acoustics... and you can most certainly do this, as I was to discover.

B&W's custom speaker terminal plate is beautifully made, and allows bi-wiring or bi-amping, via the provision of two pairs of gold-plated, multi-way colour-coded speaker terminals. (For the colour-challenged, there are also '+' and '-' markings moulded into the terminal plate.) I was particularly impressed with the gold-plated terminals because they come with freewheeling 'collars' that mean that when you tighten the terminals over bare wire, the strands of wire don't get cut or twisted (which they otherwise often do with ordinary terminals), and you get a much better electrical connection as a result. All speaker terminals should have similar collars.

As with most loudspeakers, the crossover network is mounted on

the rear of the terminal plate however, unlike most speakers, B&W has made the wires that connect the plate to the drivers so short that it's impossible to remove it. All I could see on the crossover PCB was a single very large air-cored inductor and a capacitor, so unless B&W has other components located inside the cabinet, the crossover is as straightforward as two-way crossovers get, with no frequency or impedance compensation at all.

The cabinet is primarily made from 15mm MDF which, for the same price, can be finished in either black ash vinyl or white... your choice. The baffle, however, has a super-smooth plastic-like finish that's so smooth it looks as if it could be metallic (it's not).

## B&W 685 S2 LOUDSPEAKERS

**Brand:** B&W

**Model:** 685 S2

**Category:** Bookshelf/Standmount

**RRP:** \$999

**Warranty:** Five Years

**Distributor:** Convoy International Pty Ltd

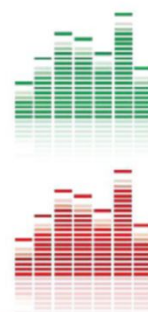
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## LAB REPORT

Readers interested in a full technical appraisal of the performance of the B&W 685 S2 should continue on and read the LABORATORY REPORT published on page 34.

Readers should note that the results mentioned in the report, tabulated in performance charts and/or displayed using graphs and/or photographs should be construed as applying only to the specific sample tested.



**Lab Report on page 34**

The speaker grille is black acoustic cloth stretched over a black plastic grille that attaches to the baffle via four pegs. When I unpacked the speakers, I discovered thin white strips at the top and bottom of the grille, sandwiched between the grille and the baffle. I had no idea what these strips were for, but they looked so good that I thought they may be a design feature. A quick email to Convoy International, B&W's Australian distributor, revealed that the strips are fitted solely to protect the grille and grille pegs during transport, and should be removed prior to installation. Me, I think I'd leave them there!

## IN USE AND LISTENING SESSIONS

One thing that will attract many people to the 685 S2s is that these speakers can be mounted in so many different ways: on shelves, side-tables, speaker stands, or even wall-mounted. And if you move to a new home, where space is more constricted (or you gain increased space) you can re-mount the speakers differently, so you'll not have to purchase a new pair of speakers.

The mounting method you use will affect the type of sound you get from the 685 S2s. If you put them on stands and keep them clear of nearby walls you'll get great stereo imaging and image depth, but a little less bass extension than if you were to place them on a side-table or on a wall. However, if you place them on a side table, shelf, or mount them on a wall to extract a little extra bass, you'll get the same stereo imaging, but not quite the image depth. (It's always 'swings and roundabouts' when it comes to positioning speakers.) You can tune the bass not only with speaker placement, but also with the aid of the foam bungs provided with the 685 S2s. Again, the effect the bungs have on the bass will be influenced by where you've positioned the speakers.

For this review, I listened to the B&W 685 S2s without any bungs fitted at all, and with the speakers placed on stands that in turn were positioned around two metres from the rear wall, and three metres in from each side wall, in effect forfeiting some of the 685 S2's bass extension for improved stereo imaging, greater image depth and a better sense of image height. I was so happy with this arrangement (as you'll find in a moment) that if I owned the 685 S2s and wanted more bass extension, I'd get it by adding a subwoofer, rather than re-positioning the speakers.

I also listened to the speakers with both speaker grilles fitted: the main rectangular fabric grille and also the small circular perforated metal mesh grille that provides additional protection for the tweeter. Before



doing this, I did A/B comparisons of all four possible variations (no grille+no mesh; with grille but no mesh; etc) and although there were slight differences in tonality for each variation, I was happy with the sound quality across all variations, so I'd recommend using the speakers with both grilles fitted. If you are interested in trialling the differences for yourself, I'd suggest you do this when you're auditioning the speakers, so your dealer can help with the A/B comparisons. At the same time the dealer could show you how to safely remove and replace the tweeter mesh—there's a special technique you need to use, otherwise you could damage the mesh, the tweeter or both!


My first impressions of the B&W 685 S2 were of a hugely engaging sound quality that had me instantly relaxing and enjoying the music—something I often find hard to do when reviewing. There was certainly not even the faintest suggestion that the 685 S2s were not giving their all in the treble department, with a breezily airy high-frequency delivery that, while bright and crisp-sounding was not overly so in either department. Listen to Leigh Raymond's violin (particularly Track 7) on Susy Blue's album *Nobody's Somebody*. Track 3 is also excellent for testing out the B&W 685 S2's bass extension (which is impressively deep)... but listen to the lyric at your peril!

The midrange was equally bright, and so bouncy that the energy in the room was palpable. It's rare to hear such levels of dynamics issuing from such small and

inexpensive loudspeakers. The dynamic capabilities stretched to enabling me to turn the volume up louder than I should have... only to discover that the 685 S2s can play very loud: indeed if you go too far, and over-cook it, it's only a slight edginess creeping into the highs that will warn you not to turn the volume control any more clockwise than you already have.

Tonal balance across the upper bass, midrange and lower high-frequencies is impressive, with the transition from the upper mids to the lower highs being handled more transparently than was the case with the early version of the 685. If you want to hear the 685 S2s at their best, fire up your favourite female vocalist, preferably accompanied by only a few musicians and prepare to be impressed by the clarity of the voice, the delineation between the vocal and the instruments... and indeed the delineation between the instruments themselves, particularly when they're all playing in the same octave. I marvelled at the sound of Hollie Fullbrook's new project, *Tiny Ruins* (previously only Fullbrook, but she's now joined by Cass Basil on bass and Alexander Freer, percussion) which has just released an absolutely outstanding album, *Brightly Painted One*. Fullbrook's vocals are perfectly pitched, with her acoustic guitar elegantly weaving its sound through the lyrics, backed up by tasteful percussion and a perfectly-recorded bass. The B&W 685 S2s sounded fabulous throughout the entire album and if you want to talk about perfect balance, just listen to the ethereal opening bars of *The Ballad of the Hanging Parcel*. (And at about 1.06 in, listen to the realism of the percussion entry and towards the close, to the depth of the soundstage.)

## CONCLUSION

The original B&W 685 was such a high-quality loudspeaker—a design that picked up awards right around the world, including a prestigious EISA award—that whoever at B&W it was who was in charge of the team charged with improving it must have had a good few sleepless nights wondering if it could actually be done. The proof that it could is here: this new B&W 685 S2 is not only a significantly better speaker than the original; it's also one of the best small two-way designs I've ever heard. I'll bet right now that it, too, will pick up an EISA award. Here in Australia, the B&W 685 S2s have already won a 'Best Loudspeaker' (under \$1,000) award from *Sound & Image Magazine* for 2014–15. For small loudspeakers, these B&Ws sound fabulous!  greg borrowman

CONTINUED ON PAGE 34



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## LABORATORY TEST RESULTS

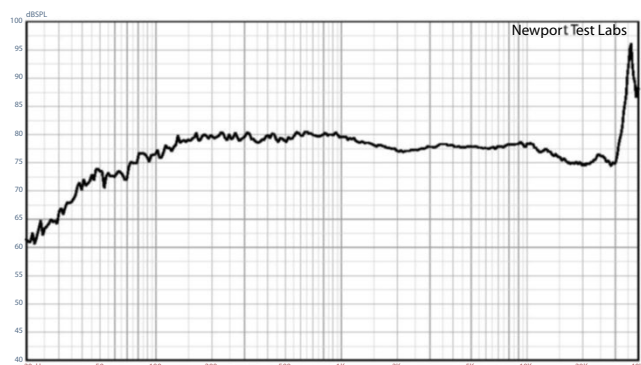
Newport Test Labs first tested the in-room frequency response of the B&W 685 S2 using a pink noise test signal, averaging the response across nine different microphone positions, then measured the high-frequency response using a gating technique that simulates the response that would be obtained if measuring in an anechoic environment, after which the two different measurements were spliced together at 9kHz via post-processing. The result is shown in Graph 1. As you can see, the B&W 685 S2's frequency response is fairly

smooth and controlled over the audio bandwidth, extending from 70Hz to 33kHz  $\pm 3$ dB.

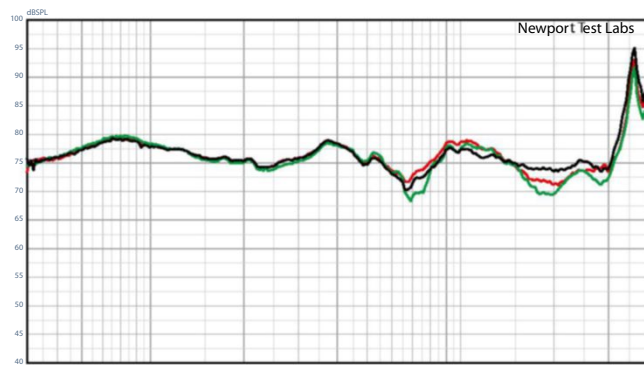
Although  $\pm 3$ dB is a good 'window', for a loudspeaker frequency response, the distribution of the variations in response is not random, because the average level of the response from around 100Hz to 1kHz is within  $\pm 1$ dB but around 2.5dB above the average level between 2kHz and 10kHz, so high frequencies will be reproduced a little quieter than bass/midrange frequencies. However 1kHz is high enough in frequency that very few fundamentals will be affected

by this diminution, only harmonics. The rather dramatic peak in the high-frequency response visible at the far right of the graph is the resonant frequency of B&W's metal dome tweeter. As you can see, the peak starts at 30kHz ('way above the limit of human hearing of 20kHz) and rises 23dB to peak at 36kHz before dropping away. This peak characterises this particular tweeter, but would not be audible.

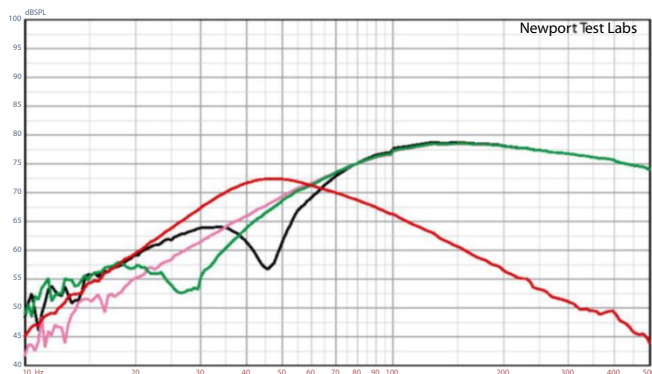
The second graph (Graph 2) shows the high-frequency response of the B&W 685 S2 in even more detail, by using a gated sinus



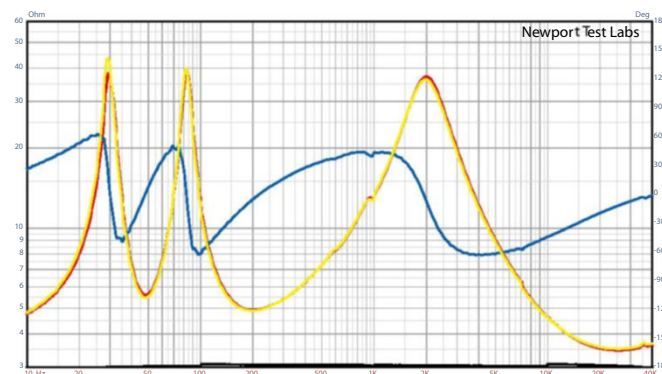
Graph 1. Frequency response. Trace below 9kHz is the averaged result of nine individual frequency sweeps measured at three metres, with the central grid point on-axis with the tweeter using pink noise test stimulus with capture unsmoothed. This has been manually spliced (at 9kHz) to the gated high-frequency response, an expanded view of which is shown in Graph 2. [B&W 685 Series 2 Loudspeaker]



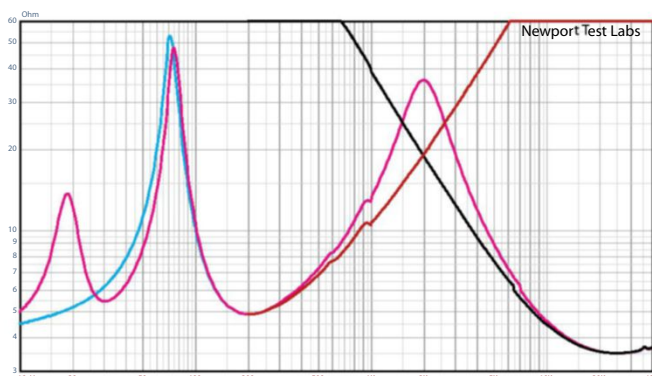
Graph 2. High-frequency response, expanded view. Test stimulus gated sine. Microphone placed at three metres on-axis with dome tweeter. Black trace is without tweeter mesh or grille; red trace is with tweeter mesh on, but grille off; green trace is with both mesh and grille on. Lower measurement limit 400Hz. [B&W 685 Series 2 Loudspeaker]



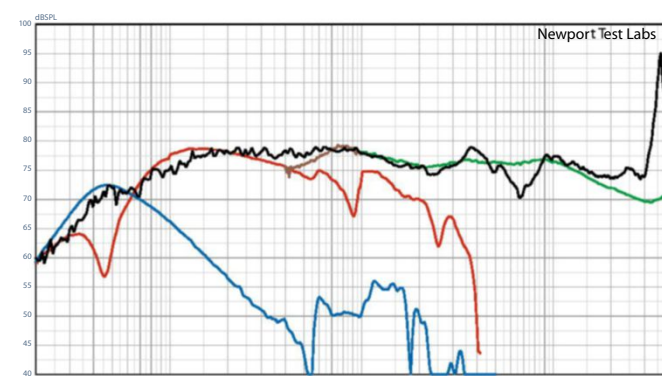
Graph 3. Low frequency response of front-firing bass reflex port without bung (red trace) and woofer. Woofer is shown without bung (black trace), with half bung (green trace) and with full bung (pink trace) Nearfield acquisition. Port/woofer levels not compensated for differences in radiating areas. [B&W 685 Series 2 Loudspeaker]



Graph 4. Impedance modulus of left (red trace) and right (yellow trace) speakers plus phase (blue trace). Black trace under is reference 3 ohm precision calibration resistor.



Graph 5. Impedance modulus with port bung in place (blue trace) and with a half-bung (pink trace) plus LF-only (brown trace) and HF-only (black trace) sections. [B&W 685 S2]



Graph 6. Composite response plot. Blue trace is output of bass reflex port. Red trace is anechoic response of bass driver. Black/green trace is averaged in-room pink noise response. Black trace above 1kHz is simulated anechoic response. [B&W 685 Series 2]

technique for the entire graphed bandwidth (400Hz to 40kHz). You can see the roll-off from 1kHz to 2kHz that was also evident in Graph 1, but the higher resolution made possible by sinus gating reveals a small peak in the frequency response at 3.7kHz and a larger suck-out at 6.6kHz. These response variations are so narrow in bandwidth—and so high in frequency—that they would not be audible. The ‘smoothing’ effect is shown in Graph 6. The three different traces on this graph show that there are very slight differences in the high-frequency response depending on whether you use the main speaker grille or not, and on whether you leave the small tweeter protection grille on or not. The flattest, most linear response is returned without any grilles fitted at all (black trace) but I doubt that anyone could hear the difference between these three options when using ordinary music programme material.

The low frequency response of the B&W 685 S2 was measured using a near-field technique that simulates the response that would be obtained in an anechoic chamber (Graph 3). The woofer’s response (naturally) varies depending on whether or not the port bungs are used. Without either bung (black trace), you can see a classic ‘bass reflex’ roll-off, where the output of the bass/midrange driver drops quickly down from 100Hz to a minima at 46Hz. The bass driver’s lack of output at 46Hz is compensated for by the output of the bass reflex port (red trace), as you can see. The port’s output peaks at 46Hz, showing ‘classic’ alignment by B&W’s design team. With the port partly blocked by one of the bungs (the one with the hole in its centre), the 685 S2 is still technically a bass reflex design, but you can see the response rolls off less steeply below 100Hz, and the minima is now at around 26Hz, and not as ‘clean’ (because the port’s walls are no longer smooth). With the bass reflex port fully blocked, the trace shape becomes that of a classic infinite baffle (sealed enclosure) design, and rolls off completely smoothly below 100Hz.


Because of the complexity of the alignments possible with the B&W 685 S2, *Newport Test Labs’* tests of its impedance have been split across two graphs. Graph 4 shows the impedance of both the left and right speakers, with no port bungs fitted, plus the phase response. You can see the impedance minima is at 50Hz, with the expected dual resonance peaks at 30Hz and 83Hz, reaching around 40Ω. Note that the left/right speaker matching is outstandingly good, shown by how well the two traces overlay each other. Although the impedance remains above 5Ω across most of the audio range, it drops below 5Ω at 9kHz and continues down to a minimum of 3.5Ω at 20kHz, before slowly



rising. This modulus should be easy for any well-designed amplifier to drive, but means that technically the design should attract a ‘nominal’ impedance rating of 4Ω under IEC rule 268-5 (16.1). Phase angle is well-controlled, because although it swings  $\pm 60^\circ$  it doesn’t do so where it would place excessive demands on the driving amplifier. Graph 5 shows the impedance with a full bung (blue trace) and with a half bung (pink trace). You can see from the LF/HF traces that the electrical crossover frequency is exactly 2kHz, so I have to assume that B&W’s specification of 4kHz refers to the 685 S2’s acoustic crossover point. The traces show that there are no cabinet resonances: hardly surprising for such a small enclosure. (The glitches on the traces at 1kHz are caused by the test equipment’s

auto-range switching, so ignore them.)

*Newport Test Labs* measured the sensitivity of the B&W 685 S2 design as being 86dB SPL at one metre, using a 2.83Veq wideband pink noise test signal. This is very close to B&W’s own specification of 87dB SPL and an excellent result for such a small loudspeaker, since the particular measurement technique used by *Newport Test Labs* makes it exceedingly difficult for bookshelf and stand-mount loudspeakers to record high SPLs. This result, combined with the B&W 685 S2’s impedance, means that you will get best performance from these speakers if you use an amplifier rated with an output power of at least 50-watts per channel into both 8Ω and 4Ω loads.

I must admit to being surprised at how B&W has been able to engineer the low-frequency performance of the 685 S2 so as to give users very useful options for tuning the bass without compromising the speakers’ bass response in any of the three modes: it’s an exceptionally talented juggling act. But the remainder of the design is equally good, because the 685 S2 delivered an excellent set of results, through all *Newport Test Lab’s* testing. So, overall, an outstandingly well-designed loudspeaker.  **Steve Holding**



Hi Folks,

I thought I would chime in and clarify a few points.

With the exception of subwoofers, each model in the new 600 series is entirely new. New cabinet, new drivers, new crossovers. The only thing that is not new is the name.

In North America, 683 went from \$1500 to \$1650 per pair. I calculate that as a 10% increase in price. Not bad considering the last 683 came out 7 years ago and the cost of producing products has escalated. Add in hugely improved performance, and I’d call that a bargain.

Regarding the move to China, we moved the entire production line and managers to our facility in China. 800 Series then had room to expand production. The 800 Series line runs constantly to keep up with demand. That requires more skilled employees, not less. So a bit of a win-win. Products stay affordable while production expands.

Regards,

Patrick Butler

B&W Group North America

<http://www.avforums.com/threads/bowers-wilkins-launches-new-600-series.1857806/>

FEB 11 2014 4.30pm



# Allnic Audio H-1201

## PHONO EQ AMPLIFIER

Many audio reviewers would have you believe that high-end components designed and built by a single person are often distinctively individual... sometimes, even, verging on 'quirky'. And it's products such as the Allnic Audio H-1201 Phono EQ Amplifier, designed by Kang Su Park, that prove there's more than a grain of truth in that theory.

### THE EQUIPMENT

Before getting onto the 'distinctively individual' elements of the H-1201's design, let's get the nuts and bolts out of the way. And they are 'nuts and bolts', because there are certainly no 'bells and whistles' on this Spartan phono stage. As a phono stage, it has inputs for both moving-coil and moving-magnet cartridges. The voltage gain of the MM section is fixed, at 38dB, as is the impedance (47k $\Omega$ ).

The voltage gain of the MC section is variable, as it's able to be switched between an indicated 22dB, 26dB, 28dB and 32dB. However, because the MC section includes a fixed gain stage with a voltage gain of 40dB, the actual gains are 62dB, 66dB, 68dB and 72dB. When you switch gain on the MC section, you also necessarily switch input impedances, which Allnic confusingly labels as  $\times 13$ ,  $\times 20$ ,  $\times 26$  and  $\times 40$ , stating only that the highest input impedance the MC section offers is 280 $\Omega$ . In fact, according to Kang Su Park, the corresponding impedances are 29 $\Omega$ , 69 $\Omega$ , 117 $\Omega$  and 278 $\Omega$ . In each case these are suitable for cartridges 'up to 29 $\Omega$ ', 'up to 69 $\Omega$ ', 'up to 117 $\Omega$ ' and 'up to 278 $\Omega$ '.

The construction of the transformers (which are made in-house at Allnic's facility in Korea) is what gives rise to the company's name, because they use cores made from Permalloy, which is a Nickel-Iron compound

developed by Gustav Elmen (*Ref 1*) when he was working at Bell Laboratories, and Allnic says that the word 'Allnic' is a contraction of the words 'All Nickel Core'. This confused me because Permalloy not pure Nickel at all, but a mix of Nickel and Iron. Notwithstanding, Park is apparently a great admirer of Elmen's work; he even includes a dedication in the Owners' Manual for the H-1201 that says: 'Allnic is grateful to Mr G.W. Elmen of Western Electric for inventing Permalloy for transformer core use, and in so doing, providing an enormous service to recorded music listeners everywhere.' Permalloy is most useful because of its extremely high permeability, but its other highly desirable magnetic characteristics, including low coercivity, almost no magnetostriction—and its significant anisotropic magnetoresistance—made it the ideal material to use in tape recorders, which is presumably the application for which Allnic is lauding Elmen.

## ■ Anyone 'experienced in the art' of valve design will have done a double-take when they heard that Allnic uses E180CC valves, because they were designed for use in computer circuits...

However as a tape recorder head material, Permalloy had several drawbacks, the main one of which was its relative softness, so it was eventually superseded by ferrites. (This obviously isn't an impediment when Permalloy is used in a transformer, as it is in the Allnic H-1201.)

As you can see from the photographs accompanying this review, the gains are set individually for each channel, as you're actually changing taps on the transformers themselves (one for each channel), and these transformers are located at the back of the unit, behind the four E180CC NOS twin triodes (Mullards, made in Holland, were the ones fitted to my review sample). Rather than use E180CCs, you can also use 12AV7s, 7062s, or 5965s, but Allnic's *Owners Manual* warns that while these 'equivalent' valves are: 'approximately electrically equivalent' they are not, says Allnic, 'sonically equivalent.'

Anyone 'experienced in the art' of valve design will have done a double-take when they read above that Allnic is using E180CCs, because these valves were not designed for audio use. To quote the descriptor for this valve on the 'The National Valve Museum' site [www.r-type.org] "*The E180CC is a special quality double triode designed for use in computer circuits. The E180CC will maintain its emission characteristics after long periods where the valve is biased to cut-off. This characteristic equates to use in a bi-stable or flip-flop circuit. The E180CC is not designed for audio use.*" This apparently didn't deter Park from experimenting with the E180CC valve, with the happy result that he's now a convert. He reportedly told reviewer David McCallum (*Enjoy The Music*) not only that the E180CC is 'a very good tube' but also that he: 'loves this tube.' (Ref 2.)

The fact that Park loves the E180CC puts him in very good company, because according to none other than English electronics designer Phil Taylor of Effectrode [www.effectrode.com], the E180CC is a great-sounding valve. He says of it: '*Audiophiles have been seeking it out since the price is generally lower than the premium ECC81 NOS prices currently. Like the 5965, it has slightly lower gain than the 12AT7, and has the added advantage of a 10,000-hour heater life to make it another audiophile "secret" tube. A super bargain when you find them, since they are musical and smooth to listen to, and actually sound better than many*

*standard 12AT7 tubes. This tube is about a half-inch taller than the standard 12AT7, so chassis space is an important consideration.*'

Allnic says the H-1201 is a pure Class-A design that does not employ any negative feedback, and that the RIAA equalisation is done passively, using discrete capacitors and resistors to an overall accuracy of  $\pm 0.3\text{dB}$ . Distortion is specified at 'less than 0.3% at 1kHz' and signal-to-noise ratio is specified at '68dB at 1kHz (CCIR).'

The front panel of the H-1201 has a push-button for mains power (with a status LED above), a push-button for muting (again with a status LED above it) plus a large rotary switch for selecting either the MM or MC input. I don't know if it's just me, but I couldn't understand what the graphic on the mute button meant. Obviously I knew that one position muted the output and the other unmuted it, but I could not tell just from looking at the graphic which position was which, nor could I work it out from the chameleon tell-tale LED above it. (For the record, 'out' is muted, and the manual has this information in it.)

The rear panel has gold-plated RCA connectors for the MM and MC inputs, along with nickel-plated earth terminals, plus a single pair of gold-plated RCA connectors for outputs (which have an impedance of 1.2k $\Omega$ , according to Allnic). The Allnic Audio H-1201 measures 310x230x140mm (WDH) and weighs 13.2kg.

Now, let's look at those 'distinctively individual elements' of the design I mentioned earlier. First, the H-1201 has no overarching external chassis, so what you see is most definitely 'what you get' with this design, which means the four valves are somewhat exposed. It's true that the valves are afforded a very high level of protection by virtue of being enclosed in clear tubing, the tops of which are covered by circular perforated steel casings to allow heat to escape, but it's not the same level of protection that would have been given by a fully-enclosed chassis.

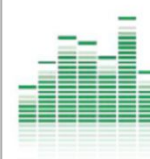
A second 'distinctive element' is that the valve shields are actually higher than the front panel, so they protrude above it. This means that if anyone places anything on top of the H-1201, it will rest directly (and only) on these shields,

rather than the front panel. If the front panel had been just 13mm higher, it would have at least been as tall as the valve tubes.

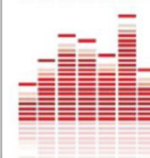
A third 'distinctive element' is actually two distinctive elements, by which I mean the two sculpted carrying handles—which to me looked rather like knuckle-dusters—that are located either side of the 'deck' that supports the valves and transformers. Although I found the design of these handles rather unusual, I cannot deny that they 'felt' great when I was using them to carry the H-1201 around, and they also allowed me to move the H-1201 with supreme confidence that I'd never lose my grip. They're also beautifully balanced. So practically—and ergonomically—speaking, the handles are a runaway success.

### ALLNIC AUDIO H-1201 PHONO EQ AMPLIFIER

**Brand:** Allnic Audio  
**Model:** H-1201  
**Category:** MM/MC Phono Amp  
**RRP:** \$3,725  
**Warranty:** Two Years  
**Distributor:** Audio Heaven Pty Ltd  
**Address:** Keys Road, Keysborough  
VIC 3173  
**☎ (04) 1855 2051**  
**✉ craig@audioheaven.com.au**  
**🌐 www.audioheaven.com.au**



- Individual design
- Superb sound
- Great value



- Limited MC matching
- Exposed wires behind MM/MC switch

### LAB REPORT

Readers interested in a full technical appraisal of the performance of the Allnic Audio H-1201 Phono Stage should continue on and read the LABORATORY REPORT published on page 114. Readers should note that the results mentioned in the report, tabulated in performance charts and/or displayed using graphs and/or photographs should be construed as applying only to the specific sample tested.



**Lab Report on page 114**



**■ You will be so thrilled by the incredible purity of the sound you're hearing, to the extent that it will likely be as if you're hearing the music for the first time**

Visually, I'm still not quite sure...

The other distinctive element is that the wiring behind the MM/MM switch is not hidden or protected in any way. Damage is unlikely, but it looks untidy... or quirky and individual, take your pick!

### IN USE AND LISTENING SESSIONS


I used the Allnic Audio H-1201 with both moving-magnet and moving-coil cartridges. When used with moving-coil cartridges, despite finding settings that suited all the different MC cartridges I used, I did make note of the fact there are only four different settings from which to choose. It's true that the H-1201 is Allnic's entry-level phono stage,

but I have reviewed similarly-priced phono stages from other manufacturers that have offered more than thirty different impedance settings, along with more than half-a-dozen different capacitance settings, plus additional options for gain. The difference is that all the manufacturers offering this flexibility were using active circuitry—often solid-state—with all the issues and problems these approaches bring to audio, whereas Allnic Audio uses primarily passive circuitry—and valves!—which makes such options impractical.

But when you hear the sound of your favourite LPs, as reproduced by your favourite phono cartridge operating through the Allnic H-1201, you will instantly forget all about resistance and capacitance matching, because

you will be so thrilled by the incredible purity of the sound you're hearing, to the extent that it will likely be as if you're hearing the music for the first time. The H-1201 retained everything I love about vinyl: the incredible realism of the stereo staging, the precision of the treble, and the organic, rich sound of the bass, but at the same time delivered an even more sweet-sounding midrange than I've heard before, plus an over-arching 'richness' in the sonic tapestry that I can't find words to describe, other than to say I was enchanted. And perhaps that's the reason: the Allnic Audio H-1201 had (like Carlos Santana's *Black Magic Woman*) cast a spell over me. (And for all the pedants out there who will otherwise send complaining emails to the editor, yes, I know that Santana did not write *Black Magic Woman*, and that it was Peter Green, of Fleetwood Mac. But it was Santana's version on the album *Abraxas*—which I used when auditioning the H-1201—that made the song famous. And for the ultimate pedants, the song owes much to another tune—*Gypsy Queen*—composed by Hungarian jazz guitarist Gábor Szabó, which in early versions was played as an instrumental at the end, and in others also used as an introduction, but in yet others omitted entirely. A band I was playing in at the time played all the versions of this song, depending on how much time we had to fill when we'd almost exhausted our repertoire!)

### CONCLUSION

Yes, the Allnic Audio H-1201 is 'distinctively individual'—and yes, some may even say it's verging on 'quirky'—and you're certainly paying for the fact it's all made almost entirely by hand, and that each one is individually tested and inspected by the designer himself. But the sound... ah, the sound... it's truly magic!  **George Engler**

References: (1) <http://tinyurl.com/permalloy-elsen>  
(2) <http://tinyurl.com/ksparquote>

## ALLNIC AUDIO

Allnic Audio was established in 1997 in South Korea, by Kang Su Park. Park had previously (March 1990) established Silwaweld Audio Design, which merged with another Korean company (Hanil, owned by Han Jin Cho) in 1993. Park (who had been the chief designer) then sold his interest in the company in order to found Allnic Audio Labs. From all accounts, K.S. Park has decided to keep all Allnic Audio's production not only 'in-house' but also 'in the family' so to speak, because it appears that all Allnic Audio's products are individually hand-made in South Korea only by people who are immediate and extended members of Park's own family, which includes his wife (who works as the company's accountant) and his son (who works as an assistant engineer). The company even winds its own transformers... by hand. In addition, Park personally inspects and signs off on every Allnic product before it leaves the factory. (His are the distinctive spidery initials you'll see alongside the 'Final Inspection' section on the quality control certificate that is supplied with every Allnic product.) Allnic's global distribution is handled by David Beetles, of Hammertone Audio in Canada, who is also responsible for producing the English-language versions of Allnic Audio's *Owners Manuals*. Here in Australia, Allnic Audio distribution is handled by Craig and Annabelle Johnstone, of Audio Heaven. 

# AFFORDABLE HIGH-END AUDIO



The new Musical Fidelity M6si integrated amplifier with increased power, more inputs, completely new internals and greatly improved technical and sonic performance. Featuring two completely separate and independent mono power amps and preamp with separate regulated power supply. The 220 watt per channel M6si has a new MM/MC phono stage, 24bit 96kHz asynchronous USB input, balanced XLR input and Home Theatre bypass facilities.

**MUSICAL FIDELITY**



New Krell Foundation 7.1 Surround Processor and Krell Vanguard integrated amplifier. The Krell Foundation features 10 x HDMI inputs with Intelligent switching, balanced audio outputs, automatic set-up and room EQ and Krell's legendary robust hardware. The new Krell Vanguard 200 watt per channel integrated amplifier with a massive 750A toroidal transformer and Class A preamplifier featuring Krell Current Mode technology. An optional field-installable digital module with USB, HDMI, Coaxial and Optical inputs plus Ethernet and apt-X Bluetooth streaming is planned.

**KRELL**  
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The new Focal Aria 900 loudspeaker range. Affordable High – End designed and made in France. Featuring Focal sandwich cone technology composed of natural flax-fibre cones and new TNF Aluminium/Magnesium inverted dome tweeters with Poron suspension. Carefully designed crossovers and Walnut or Black High Gloss cabinets with a glass top surface and leather – finish front panel.

**FOCAL**  
THE SPIRIT OF SOUND



The new Peachtree Nova 220SE dual-mono balanced 220 watt per channel stereo integrated amplifier. Featuring 24 bit 192 kHz asynchronous USB input, Optical and Coaxial inputs, Pure analogue input, Audiophile quality headphone amplifier and selectable triode tube buffer.

**peachtree audio**



# Denon DCD-1520AE

## SACD PLAYER

It's interesting that so many people are saying the appearance of internet streamers heralds the death of the CD player. Interesting because Google analytics show that far more people search for reviews and prices on CD players than they do for internet streamers. And the numbers from Australian Hi-Fi Magazine's website reinforce that statistic, because reviews of CD players are far more popular than reviews of internet streamers.

But it appears that manufacturers of CD players are listening to the doomsayers, because increasingly they have taken to 'value adding' circuits and features into their CD players to make them more attractive to modern consumers. The result of this value-adding is that now most CD players do far more than just play back compact discs. In the case of Denon's DCD-1520AE, it's actually an SACD player, so it plays back SACDs as well as CDs, along with home-recorded computer discs containing WMA and MP3 files, plus it can be connected to a computer via USB and used as a D/A

converter, in which mode it supports DSD and 192kHz/24-bit PCM signals. It can also be used as a stand-alone DAC, plus of course it can connect to your iDevice or phone and play back content stored on it.

All these 'value-add' features are great, but they do tend to take the focus away from the fact that, first and foremost, Denon's DCD-1520AE is a fabulous-sounding CD player.

### THE EQUIPMENT

It's obvious that no-one at Denon has ever heard the word 'slim-line' because the DCD-1520AE is a very chunky machine. And for good reason: it contains a considerable amount of very advanced circuitry, and a particularly well-designed loading tray mechanism. Indeed Denon says it has paid considerable attention to the loading tray and uses a 'newly developed advanced S.V.H. Mechanism' in which it says the disc tray is made of Xylon with two metal damper plates, each made with a different metal to inhibit vibration, and that the mechanism itself has a low centre of gravity, which Denon says:

*'reduces vibration from the inner area during disc rotation.'* (S.V.H. stands for Suppress Vibration Hybrid construction.)

The tray certainly moves smoothly enough—and very quietly—taking less than three seconds to move outwards. If you load a CD then press the play button, the total time taken before play commences is 19 seconds. Amazingly, loading an SACD is even faster, at only 15 seconds. The disc drawer logic is excellent, so if an incorrectly positioned disc prevents the drawer from closing, it will simply re-open. But if you accidentally put a disc in upside-down, the player will attempt to read it for a rather lengthy 60 seconds before rejecting it, which it does by stopping rather than by re-opening the tray.

Once a disc is playing, you can access some of the transport modes (track-skip forward/reverse, play/pause, stop and disc eject) from the front panel, but all of them via the remote. It's nice to see Denon offering at least some front-panel transport controls, because many manufacturers are not fitting any at all (except for eject and play/pause/

stop), instead expecting you to use the remote. Why? My only explanation is that every button a manufacturer removes from a front panel is a cost-saving, which enables a lower retail price. Me, I'd rather pay the few bucks extra for some buttons. Also on the front panel is a 'source' button which is used to select between disc, USB and digital (SPDIF) inputs.

Two controls that might need further explanation for some readers are the 'Pure Direct' and 'Disc Layer' buttons. The Disc Layer button allows you to access the two-channel area of a Super Audio CD in DSD format (1-bit/2.8224MHz); play back the multi-channel area of an SACD in DSD format, but down-mixed by the player itself to stereo, or play the CD layer of a Hybrid SACD at Red Book standard (16-bit/44.1kHz).

as high-quality soundcard for your computer, so you can play back files stored on your computer (be it Windows or Mac). It can handle PCM signals up to 24-bit/192 kHz as well as MP3, WMA, AAC, WAV and FLAC files, plus DSD2.8 and DSD5.6. To do this, however, you will need to download and install driver software on your computer. The software is provided as a zip file on the 'Download' section of the DCD-1520AE page on Denon's website.

### IN USE AND LISTENING SESSIONS

As a format, SACD has never really gained any traction, despite the fact that it is technically far superior to CD, and its sound quality is leaps and bounds ahead. Whereas a CD's frequency response tops out at 20kHz, the

cassette and CD.) [If you're not a fan of Pink Floyd, but would like an unreal auditioning experience, buy your favourite album in SACD format to use as a demonstrator disc... just make sure that it was specifically remastered for the format. In the beginning, some labels just transferred CD-standard masters into SACD format.... which was yet another thing that worked against it becoming the dominant optical disc format. And if you haven't heard of Pink Floyd, buy Dark Side of the Moon as your introduction to this amazing group of musicians: 51 million people... and counting... can't be wrong.]

Anyway, once you have your SACD version of Dark Side of the Moon (or whatever), make sure your friendly local hi-fi dealer has connected the DCD-1520AE to the

## ■ The real proof is in the pudding, so if you want to hear why you should buy an SACD player, buy the SACD version of Pink Floyd's classic 'Dark Side of the Moon'

It's also used to switch between layers on an SACD with two DSD layers (that is, no PCM layer). The 'Pure Direct' button does two things simultaneously: it turns off the front-panel display so it cannot adversely affect the fidelity of the audio signal and turns off the player's digital output, for the same reason.

Denon's remote control duplicates all the front-panel controls, and adds fast forward/fast reverse, random play and repeat play (track/disc/programmed selection) transport modes, as well as track programming. It can also be used to control other Denon components, via the 'NET' button. And, if you connect an Apple iDevice to the USB input on the front panel, you can use Denon's remote to operate it (select tracks, access playback operations etc)... though the extent of the operations you will have access to will depend on the age of your iDevice. The front-panel USB input also has a charge function that charges the device while-ever it is plugged in... even if the DCD-1520AE is itself in Standby mode. (Speaking of which, the Denon conforms with the Australian Standby power standard, consuming less than 0.5-watts in this mode.) The DCD-1520AE can also save even more power by automatically switching itself to standby after 30-minutes of not being used, though you can override this if you wish, by forcing the machine to stay on all the time, meaning that you'd then have to select Standby manually.

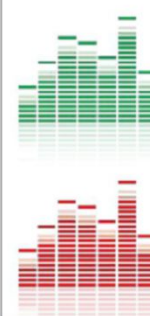
There's also a rear USB-B input that enables the Denon DCD-1520AE to operate

response on an SACD extends to 100kHz. And whereas compact discs have a noise floor down at around -120dB, SACD's noise floor (in the audio band) is better than -160dB. And, of course, as the clincher, SACDs can be either multi-channel (six channels) or two-channel (or both), whereas a CD is restricted to two channels. (SACD also has potentially longer playback times: 256 minutes of stereo rather than the 70 or so on a CD... though this capability is rarely used.) Compatibility was never an issue either, because while 'pure' SACD discs will play back only in SACD players, most SACD discs available are 'hybrid' discs, that will play back in both SACD players and in ordinary CD players.

But the real proof is in the pudding, as they say, and if you want to hear why you should buy an SACD player, I'd recommend buying the SACD version of Pink Floyd's 'Dark Side of the Moon', which contains this album in 5.1-channel hi-res surround, in two-channel hi-res SACD and in two-channel CD, so you get all versions (plus the disc will also play in a conventional CD player, or on a computer drive.) The only thing you may balk at is that in SACD format, Dark Side of the Moon will set you back \$35.99, but grit your teeth and wave your plastic over the PayPass terminal, because it'll be the best thirty-six bucks you've ever spent. (Not surprisingly, the high price of SACD also worked against it becoming the dominant playback format, not least because many balked at paying for music they already owned on vinyl,

### DENON DCD-1520AE SACD PLAYER

**Brand:** Denon  
**Model:** DCD-1520AE  
**Category:** SACD Player  
**RRP:** \$2,299  
**Warranty:** Three Years  
**Distributor:** Qualifi Pty Ltd  
**Address:** 24 Lionel Road Mt Waverley VIC 3149  
**☎ 1800 242 426**  
**✉ info@qualifi.com.au**  
**☎ (03) 8542 1111**  
**🌐 www.qualifi.com.au**



- Amazing sound
- Loads of features
- Excellent build quality

- Bulky design
- Balanced output

### LAB REPORT

Readers interested in a full technical appraisal of the performance of the Denon DCD-1520AE SACD Player should continue on and read the LABORATORY REPORT published on the page 92. Readers should note that the results mentioned in the report, tabulated in performance charts and/or displayed using graphs and/or photographs should be construed as applying only to the specific sample tested.

**Lab Report on page 92**





best 5.1-channel system he has in the store, settle back in the prime listening position and prepare to have your mind absolutely blown away. The combination of the Denon DCD-1520AE, the 5.1-channel Pink Floyd sound and the incredible mastering job (by James Guthrie) will instantly convert you to the SACD format. Even if you listen to only the two-channel SACD layer, you'll still be gob-smacked by the sound quality. It's the demo disc from heaven! But the other beauty of owning an SACD player is that because of the superior circuitry in it that's required to reproduce SACD sound, it makes ordinary CDs sound better as well. So in this case, the Denon DCD-1520AE will make your existing CD collection sound better into the bargain... including the standard CD version of Dark Side of the Moon you likely already own. Even if you have your music on computer, the same paradigm applies, especially if you have hi-res tracks stored on your PC, due to the Denon's USB input: connect it to your computer and prepare to be blown away.

Although I am still slowly building my SACD collection, I have to say that most of the music I most listen to is not available on SACD, and probably never will be, so the majority of my listening sessions involved playing back standard CDs. No matter what genres I listened to, the DCD-1520AE


**■ The Denon DCD-1520AE is superb in all aspects of its performance, no matter which of its many features you plan to use (and you'll likely end up using all of them!)**

delivered better sound quality than any standard CD player I've heard. I was particularly impressed by the sound on a new Move CD: 'Music for Trumpet and The King of Instruments.' As well as enjoying the music, I learned that Albinoni didn't compose the *Adagio in G Minor* for which he's famous (it was Remo Giazotto), and Bach didn't compose his famous *Tocatta and Fugue in D minor* (author unknown, but apparently the prime suspects are either a Johann Krebs or a Johann Kellner). Both works are on this disc, with trumpet played by Bruno Siketa and the St Michaels organ (Collins St, Melbourne) or Collingwood Castle organ played by Rhys Boak. The St Michaels organ was apparently a sentimental choice, but it's also a good acoustic choice, because it's small enough that it doesn't overwhelm the trumpet. The same is true of the Collingwood Castle organ, which is owned by Milan Hudecek, CEO of the Radixon Group and reputedly Australia's best privately-owned instrument of its type. Some of the duet tracks are spectacularly successful: *Csárdás*, by Vittorio

Monti (arranged by Boak) and Rachmaninoff's *Vocalise* (again arranged by Boak) were my favourites, but the other tracks (in particular the *Adagio* and *Tocatta*) were so close that it was difficult to pick favourites. This will be a particularly good demo disc for loudspeakers, as the trumpet is beautifully recorded, and its piercing tone will work out midrange and tweeters, while the organ will tax all drivers equally.


I could not fault the DCD-1520AE sonically, and neither could I fault it operationally, because everything worked perfectly. The only quirk I noticed was that track skipping operations are faster in the forward direction than they are in reverse. The CD-Text (also SACD-Text) front panel displays are crisp and easy to read, quick to load, and have good scrolling speed.

## CONCLUSION

When I first unboxed the Denon DCD-1520AE I was a little concerned that in trying to build a component that offered so much, with multiple disc formats, DAC inputs and outputs, multiple USB inputs, 'Made for Apple' compatibility and also waving the flag for hi-res computer audio, Denon might have fallen into the trap of building a 'jack of all trades' component. I am happy to report that my concerns were misplaced: the Denon DCD-1520AE is superb in all aspects of its performance, no matter which of its many features you plan to use (and you'll likely end up using all of them!). It's a brilliant CD player, a brilliant SACD player, a brilliant DAC (via either SPDIF or USB) and also excels at plug n' play convenience, should you want to connect your iDevice via the front panel socket. Factor in Denon's reputation, and the outstanding build quality of this machine and the DCD-1520AE is my 'go-to' SACD player of the year.  **Chris Croft**

LAB REPORT ON PAGE 92

## ADVANCED AL32 PROCESSING

Denon makes much about its 'Advanced AL32 Processing' but what, exactly, is AL32 processing? The 'AL' letters are short for 'ALPHA' which in turn is Denon's acronym for 'Adaptive Line Pattern Harmonised Algorithm', a mathematical process that Denon says takes the 16-bit data that's coming from a CD and uses it to generate 32-bit data. The circuit has been around for some years, but Denon says that that its AL32 circuitry is now performing better than before because the DCD-1520AE uses a Texas Instruments PCM 1795 DAC, which has a 32-bit digital filter. The AL32 circuitry performs two additional operations: it oversamples the 44.1kHz signals, using a 16x process and outputs audio via an adaptive digital filter whose pass band is said to adjust itself depending on the signals being processed. Denon claims this adaptive approach to filtering delivers better sound quality than the fixed-width digital filters used by most other manufacturers. As for that Texas Instruments PCM 1795, it's a monolithic CMOS IC in an SSOP-28 package that uses segment DAC architecture to achieve 123dB S/N and improved tolerance to clock jitter. It accepts both pulse code modulation (PCM) and direct stream digital (DSD) data.  C. C.

# HEADLINES

The Newsletter of Len Wallis Audio

Summer 2014

## **BLUESOUND** Wireless Multiroom Hi-fi



## **DOLBY ATMOS** What You Need to Know

## **NEW RELEASES** Krell, Marantz & Yamaha



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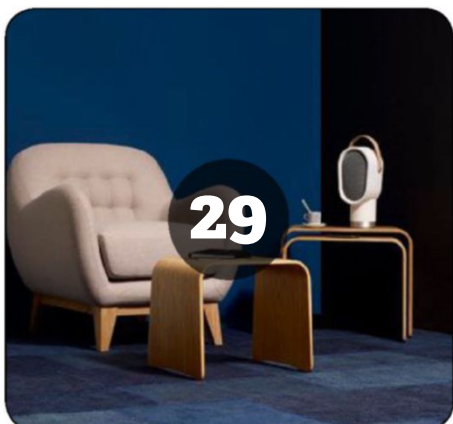
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**04**

**08**

**21**

**16**

**29**

**24**

**21**

**31**

## NAIM NIGHT!

► 19 November

Join Len Wallis Audio as the Naim mu-so and Statement come to town! **See p23**

## Contents

- 04 A New Age of Wireless**  
HEOS, Bluesound, Naim mu-so & more
- 08 New raft of loudspeakers**  
Axis, Focal, B&W and Richter
- 12 It's above you!**  
Dolby Atmos comes to home cinema
- 15 New Krell range**
- 16 Classic Themes – Modern Capabilities**  
Smart-home installation in a period home
- 19 Cinema Sensation**  
Pro-standard movie delivery in the home
- 21 Introducing AURALiC**
- 22 NAD's Master Series**
- 23 Berkeley's Alpha DAC**
- 24 Yamaha in stereo, surround & soundbars**
- 26 New Musical Fidelity amplifiers**
- 27 Marantz receiver release**
- 29 Meet Lenny!**
- 30 Outdoor Speaker Specials!**
- 31 Accessories and the Astell&Kern AK240**


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# A NEW AGE OF WIRELESS



**I**t is now some years since Sonos burst onto the market, and while they may not have created a new market category they certainly re-defined it. Their mix of ease of use, value for money, bulletproof reliability and general 'wow' factor made them an overnight sensation. In an industry renowned for short production lead times and a voracious 'copy-cat' approach to product development, Sonos has inexplicably owned this market – almost unopposed – for close on a decade now.

Suddenly it appears that the industry has awoken from a deep slumber and realised that Sonos had created a new

and lucrative marketplace, and through default owned almost all of it. Companies are now coming out of the woodwork

**The HEOS family of wireless multiroom speakers – the \$899 HEOS 7, the \$599 HEOS 5 and the \$449 HEOS 3**





## WHAT IS A WIRELESS MULTI-ROOM SYSTEM?

Firstly it is important to realise that despite the industry 'category' that these products fall into, they are not necessarily only 'multi-room' – they can operate as a single room product. It is when used as a whole-of-house system that they really hit their straps.

These products are all streaming products. They connect to your home network and are designed to play either the music that you have stored on your computer or NAS drive, or alternately any of the on-line music options that are currently available, including internet radio, or more commonly the increasingly popular music streaming services, e.g. Spotify, MOG, Deezer etc.

Once you have one component set up in one room, additional components can be set up in any other area of the house. These devices all talk to each other wirelessly, eliminating the need for running cables all over the house. Each of these rooms can then work independently of each other. For example you could be listening to your stored music in the family room, another member of the household is listening to internet radio in another part of the house, Spotify is playing in a third etc.

While convenience and flexibility is obviously a big advantage of this system, another is cost. A system such as this will cost a fraction of the hard-wired, keypad based systems we were installing 20 years ago.

with their Sonos 'alternatives'. As if it is an acknowledgement that Sonos had done their homework so well, many of these are very closely aligned to the offerings that Sonos has already taken to market.

Having lived for so long with Sonos as our only wireless multi-room system, we find that by the end of this year we will be carrying five. Bose was probably the first serious contender to Sonos with their Soundtouch product. We have been carrying the Bose 'Soundtouch' for some time now, and it is expected that their current roll-out of a new theatre range will draw more attention to this product.

The other three are already creating a huge wave of excitement.

## HEOS (By Denon)

This range is the most closely aligned to the offering pioneered by Sonos, both in terms of product and price. While with time the range will expand, the models currently on offer consist of:

- HEOS 3 wireless speaker \$449
- HEOS 5 wireless speaker \$599
- HEOS 7 wireless speaker \$899
- HEOS Amplifier \$799
- HEOS Link streaming pre-amp \$549.

Despite the obvious similarities to Sonos there are also some important differences. Firstly the interface (via a free App available for both iOS and Android

devices) is not as slick and user-friendly as the Sonos. Nor do they have the width of streaming offerings that Sonos has – featuring Spotify Connect, Deezer, Pandora and Tune-in – although this will expand with time. Also at this stage they do not have a Soundbar or subwoofer – I understand these are currently under development. Otherwise HEOS is like Sonos on steroids. While the speakers closely resemble the Play:1, 3 and 5 from Sonos, they are better performers. For example the \$899 HEOS 7 features five digital amplifiers, twin passive radiators and an active in-built sub – and stunning performance to boot. All of the speakers have local inputs which can be shared across the network. The HEOS Amp and Link have also addressed one of the shortcomings from Sonos with the inclusion of digital inputs for the connection of a TV etc.

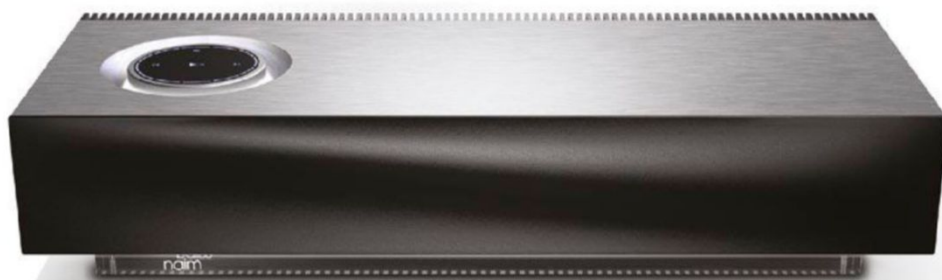
One surprising aspect of the HEOS brand is that it was developed here in Australia, growing out of the AVEGA company who were pioneering wireless speaker technology in their Ultimo offices many years ago.

## Bluesound (by NAD)

Again this range is similar to Sonos, offering two wireless speakers, a streaming amplifier and a streaming

**The Bluesound family — the Pownode and Node, in front of a Pulse, with the Duo subwoofer and twin satellite system behind**





**Naim Audio's mu-so – suddenly wireless streaming gets serious!**

pre-amp. However there are also some important differences. Firstly Bluesound will recognise and play high-definition audio files, up to 24bit/192kHz resolution. This has been one of the major criticisms aimed at less expensive solutions by anyone looking for better than background quality multi-room audio. (Bluesound are promoting under the banner of 'Hi-Fi for the wireless generation'.)

The second major difference is the addition of the 'Vault'. This is a CD ripper with a 1TB hard drive offering a very simple storage solution for those who would prefer not to access their computer or record to a NAS drive in order to store their music.

Finally the interface for this system is excellent – possibly the best that we have seen. How these systems are accessed and controlled is vitally important. The best streaming system in the world has little validity if no-one can work out how to use it. The Bluesound system is a joy to use.

### **Mu-so (by Naim Audio)**

Suddenly wireless streaming gets serious! There is currently only one product in the mu-so lineup. It is a wireless speaker incorporating six 75watt digital amplifiers driving two midrange drivers (in their own enclosures), a pair of tweeters and two bass drivers. The mu-so speaker handles high-definition files, and can be installed as part of an existing Naim system or as a standalone multi-room system or product. Naim are also releasing a new control system to coincide with the mu-so release.

Mu-so will be the last of the new systems to hit our store, arriving in November, although we have had the opportunity to play with one. To say it was impressive would be an understatement. Firstly this thing is beautifully built. If only all audio components were constructed to this standard (and you can't argue that this costs too much – as you will see!). Secondly – it's a Naim component, so it should not be a surprise that performance was excellent – it was certainly head and shoulders above anything else that we have heard in this category.

Finally – the mu-so it is going to sell in Australia for \$1,699. While this may be considered expensive compared to many other wireless speaker offerings out there, it is a bargain considering the performance and build.

I read in one of the overseas reviews that the Naim brief was that the system *'...had to offer incredible, class-leading sound quality whilst being beautiful and elegant, using premium quality materials. It was to be simple to install and control whilst creating the intense and emotive musical experiences on which Naim has built its reputation.'*

Admittedly it is still early days, but at this stage I am inclined to believe that the engineers got it right on all counts!

This is an exciting time for this industry. Sonos have already shown that the ability to have almost unlimited music anywhere in your home need not be difficult or expensive. We are now finding that there need not be any compromises on quality.

### **WHAT PRICE RELIABILITY?**

This can be a strange industry, being heavily influenced by factors outside of what is important (which is performance, usability and reliability).

A good example of this is the recent move by Sonos to distance itself from their existing 'Mesh' wireless network and to move towards the use of the consumer's existing network. I realise that wireless networks have improved considerably over the last couple of years, and with upcoming developments this trend will continue. However issues still persist and Sonos have always shone as a beacon of reliability in this area.

I suspect that Sonos are concerned that their 'Bridge', which connects to the consumer's router and forms the link between the network and the Sonos Mesh network, at \$75, may be considered to be expensive. In fact I have seen a number of popular press articles suggesting this. There can be no doubt that competition in this field is now heating up – and no-one wants to appear to be expensive.

However, the existing Sonos system works – and works bloody well. The reality is that for what it delivers the Sonos product is incredibly good value. Is the small saving offered worth the angst of having the system fall over on you?

This industry makes a habit of cutting corners to save a few dollars. While the upside can be incredible value for money, I am sure a great proportion of consumers would prefer that this is not at the expense of reliability – which it often is.

The 'Bridge' still remains as part of the Sonos product range. Any system we sell or install, at least until we find a better alternative, will include a Bridge. The problems we have experienced with the initial installations we did without a Bridge have cost us far more than the savings – not to mention the frustrations it has caused our customers.

# BLUESOUND

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# New raft of loudspeakers

Over the last few months we have seen a number of new loudspeakers hit the market. Some are revamps of old models, others are new and innovative products...



## Axis VoiceBox S

While working in retail it is not often that we get the opportunity to see how the other half of the industry works, the half responsible for actually creating the products that we then take to market. We have been afforded this opportunity recently as we watched the rebirth of the Axis VoiceBox loudspeaker.

While it is not a household name, Axis Loudspeakers have been around since 1992, the brainchild of designer John Reilly. The brand achieved considerable critical success during the 1990s, receiving numerous 'Best Buy' awards and being named as 'Manufacturer of the Year'. The product was distributed throughout China, Hong Kong, Taiwan, Malaysia, Thailand and Australia. Due to an economic downturn in Asia during the late 1990s, production of the range was halted in 1997.

In recent years John decided that the time was right to re-launch Axis – but on a more ambitious scale. This time John's goal was to produce a world product – something that has not been successfully done by an Australian company since Duntech, again late last century. To this end he has been working with another well-known Australian speaker designer (and former competitor) Brad Serhan. Brad has had a long and illustrious career spanning thirty years designing speakers in Australia. John (who has Australian/Chinese heritage – and who shares his time between the two countries) is manufacturing the product in China. This is one of a growing number of products that is alerting the world to the fact that when done right, Chinese factories have the capability of producing product to the very highest of standards (see the article on AURALiC on page 19) – the finish quality on the Axis VoiceBox is second to none!

We have been very fortunate to be able to track the progress of this project – Brad and John have, from time to time, used our facilities to listen to and tweak their new product. It is fascinating to hear the effects that the smallest of changes to the crossover or to the cabinet design can make to the final result. At times we thought they had absolutely nailed the design, only to have them return with an improved version.

The Axis VoiceBox may not appeal to everyone. It is a small speaker, and as such is not designed to play at extreme volume levels or with thunderous bass. However it is a design that appeals to me. I have always been a fan of good quality bookshelf speakers, reaching back as far as the legendary Rogers LS3/5A and the Epos ES14.

If your interest extends to a speaker with exquisite detail, impeccable tonal characteristics and spooky imaging, this may be the product that you are looking for. I find this to be a very engaging speaker, and in many ways reminiscent of another favourite Australia high-end bookshelf speaker, the Duntech DSM15 – which I understand Brad also had a hand in designing.

The Axis VoiceBox will sell in Australia for \$2,295/pair. This represents excellent value, and I understand will be below the asking price in overseas markets. I did come across a very complimentary review of the earlier version of this speaker which noted that the speakers were selling for \$2,500 the pair.

John's goal of a global speaker may be bearing fruit. While the product is only just now coming to market they have already secured a high profile distributor in the US – Colleen Cardas Imports. *Len Wallis*

## Focal Easya

High performance wireless loudspeakers are one of the most asked-about products in the industry – and one of the most elusive. Focal have recently released a model that works!

Easya is Focal through and through. This two-and-a-half way bass-reflex design utilises their Polyglass cone speakers and their newly-developed Aluminium/Magnesium inverted dome tweeter. Each speaker has a built-in 85watt amplifier, and comes with a wireless hub which transmits wirelessly to the speakers in CD quality. It features multiple inputs and is compatible with Bluetooth aptX technology.

Easya sells for \$3,499/pair, and is the ideal solution for those situations where you want Hi-Fi performance but cannot get speaker cable around.

Easya joins the Focal Sub Air wireless subwoofer, which happens to also be compact in design – making positioning a cinch. Sub Air sells for \$999.

The other new sub from Focal is the SUB300P, a traditionally hard-wired subwoofer selling for \$1,199. This unit utilises an 11" driver with a 300watt amplifier, and frequency response extending down to 36Hz (±3dB).



## B&W CM S2 Series

Another series re-vamp. The CM series has proven, and with good reason, to be very popular. The new S2 series can only enhance this. The speakers have cleaner lines, a new tweeter (with the exception of the CM10), and the crossovers in all models have been improved. The result is that B&W have taken what was already a very good loudspeaker, and improved on it.

They have also added a new model to the range, the CM6 S2 (main image). This now becomes the best-performing stand-mounted speaker in the range, and features the top-mounted tweeter found in the floor-standing CM10 S2. The CM6 S2 sells for \$2,699/pair.



The new CM9 S2 Theatre system is designed to fill the largest of rooms with music and movie sound



## Richter Series V

Richter has new owners – to the best of my knowledge the fourth since being introduced by Ralph Waters back in 1986, although chief designer Martin Gosnell has overseen product development for much of this time. One of the first decisions that the new owners made was

to develop a new range – Richter Series V. Although this range closely resembles the outgoing series, each model has been re-engineered from the ground up, a make-over that includes giving them a more contemporary look. The range now consists of the models below.



### **DRAGON V**

The flagship model, these are floor-standing quasi-four-way speakers featuring Richter's new 6-inch Series V drivers, and are ideal for hi-fi stereo in a large room or anchoring the sonic drama of your home cinema. \$2,199/pair.



### **WIZARD V**

Richter's most popular model, now also in its fifth generation. This floor-standing three-way design features Richter's top-line wide-dispersion soft-dome tweeters and the same powerful 6-inch bass and midrange drivers used in the flagship Dragons. \$1,699/pair.



### **HARLEQUIN V**

The smallest of the floor-standing speakers. These compact three-way speakers again feature Richter's top-line wide-dispersion soft-dome tweeters and newly developed 5-inch proprietary midrange and bass drivers. \$1,399/pair.



### **MENTOR V**

The larger of the two bookshelf models. This two-way design still features the same top-line wide-dispersion soft-dome tweeters and 6-inch drivers as the flagship Dragons. \$999/pair.



### **MERLIN V**

Richter's smallest speaker. The two-way Merlins use Richter's top-line wide-dispersion soft-dome tweeters and their newly developed 5-inch mid/bass driver. \$799/pair.



### **THOR V**

Filling out the range is the Thor V, a subwoofer with a 12" driver powered by a 300 watt amplifier. This is a **very impressive** sub – and at \$1,299 offers great value.



**GRIFFIN V:** The matching centre channel: \$499



# Dolby Atmos

Experienced Sales and Custom Consultant, Juan Leon investigates the impending release of Dolby Atmos technology and what it means for Home Cinema.

**Atmos:** from the Greek ατμου – which has a literal meaning of ‘vapour’ or ‘smoke’.

**I**n real life, sounds come from all around us, including overhead. This three-dimensional sound experience is what movie studios and sound engineers consider to be the ‘Holy Grail’ of the sound experience, and one that many have been attempting to re-create for a long time.

In reality, however, current technology has always imposed limits on a true three-dimensional sound experience. When you visit a commercial cinema at the moment what you are hearing is effectively a flat, two-dimensional 7.1- or perhaps 7.2-channel surround sound. This two-dimensional sound limitation also limits the immersion of the experience. For example, instead of perceiving a helicopter flying over your head, it seems to whirl around you on the ground. Or if rain is falling on the screen, it seems to fall all around you, yet not directly on your head.

Dolby Atmos promises to change that.

Dolby has sought to re-create the sounds of the real-life environment that surround us. In 2012 Dolby introduced a new Surround Sound technology called Atmos, which, with the use of overhead speakers, effectively creates three-dimensional surround sound not previously possible with conventional 7.1 surround sound. The premise of this was to make the sound effects coming from above become so believable that, if you were watching the movie “Noah”, in the deluge, you would be searching

for your umbrella! Since its introduction into commercial cinemas, Atmos has been embraced by all the major Hollywood studios, seven Academy Award-winning directors and 16 Academy Award winning sound mixers, among others. What’s exciting is that later this year, home theatre enthusiasts will also be able to access the Dolby Atmos technology.

## How does it work?

Dolby Atmos goes beyond just adding more speakers and the conventional wisdom of channel mixing of the past, where the aim was to get sound from particular channels to imitate three-dimensional space. Instead, Dolby has come up with what they call an “Object Orientated” approach. So when sounds are mixed by the engineer or the editor, each sound is attached with metadata, similar to when music is recorded with attached metadata: information about the track, album name, etc. This metadata carries the information for where the sound effect (Object) within the multi-dimensional space will be coming. Then, as your Dolby Atmos processor knows your system configuration, Atmos will use a group of channels to locate the effect exactly in its intended location.

## Compatibility

A Dolby Atmos home theatre processor can play any stereo, 5.1, or 7.1 content. You can choose to have Dolby Atmos technology automatically adapt to any signal, using the full capabilities of your system, including overhead speakers, to take full advantage of this new immersive sound capability.

## Will I need to update my source?

The good news is any Blu-ray player that is current and conforms to the Blu-ray specification can play a Dolby Atmos movie without the need of a firmware update. Just remember to set your player to bitstream audio output mode. Do be aware that some Blu-ray players default to having secondary audio ‘on’, which may interfere with the Dolby Atmos processor. Therefore Dolby recommends having the secondary audio turned off, so the bitstream audio will pass straight to the Dolby Atmos decoder inside your receiver.

## Cables, what about cables?

You will not need to buy new HDMI cables. The current HDMI specification fully supports Dolby Atmos audio.

## Are new Blu-ray discs coming with soundtracks mixed in Dolby Atmos?

Yes, according to Dolby we should start to see the emergence of this new sound format on Blu-ray releases by the end of this year.

## So what’s the deal with loudspeakers – how many, and where?

Advanced Dolby codecs and processing will scale and adapt the original cinema experience to your home theatre, from seven speakers to as many as 34, re-creating the full intent of the filmmaker.

You will be able to use your existing 5.1, 7.1 or 9.1 configuration, then by

### EXAMPLE LOUDSPEAKER SET-UPS FOR DOLBY ATMOS



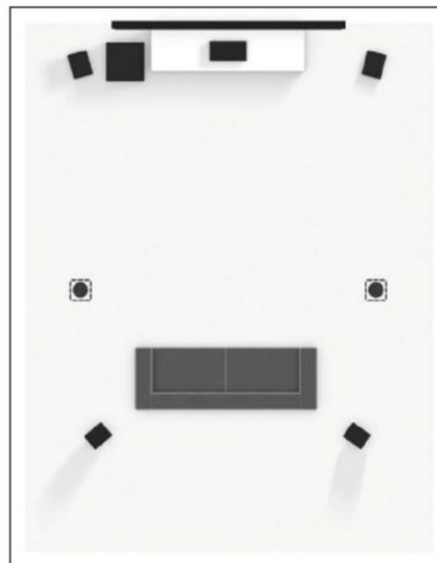
Conventional speaker



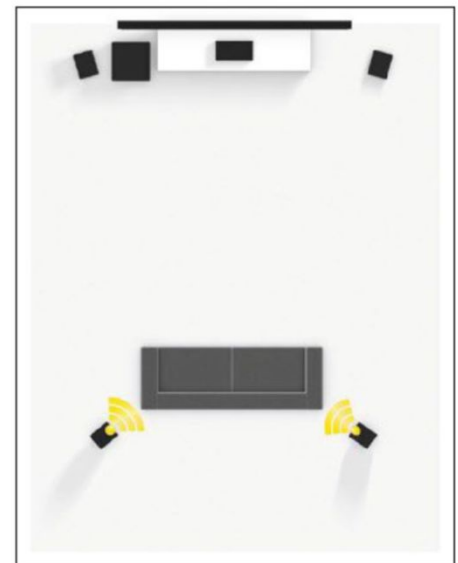
Conventional speaker plus additional Atmos-enabled speaker



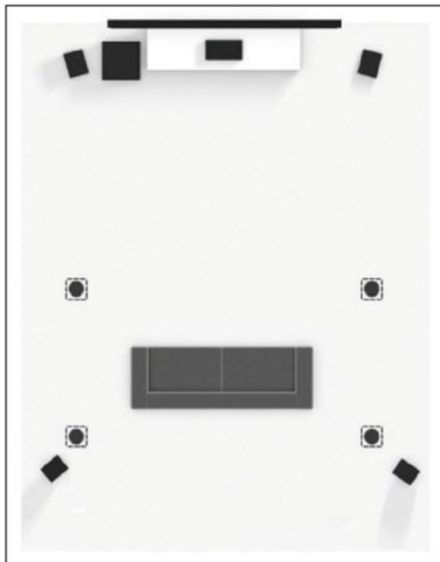
Atmos ceiling speaker



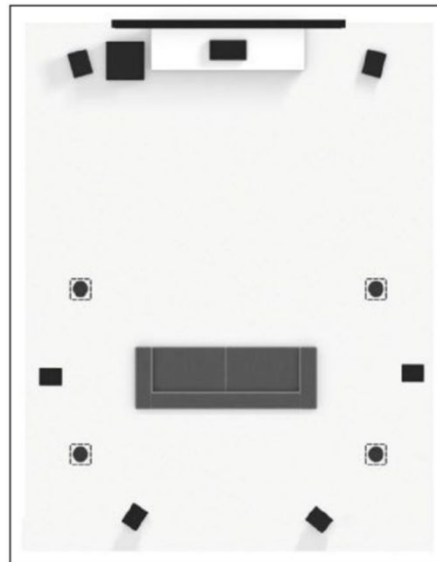
Dolby Atmos 5.1.2 using two ceiling speakers



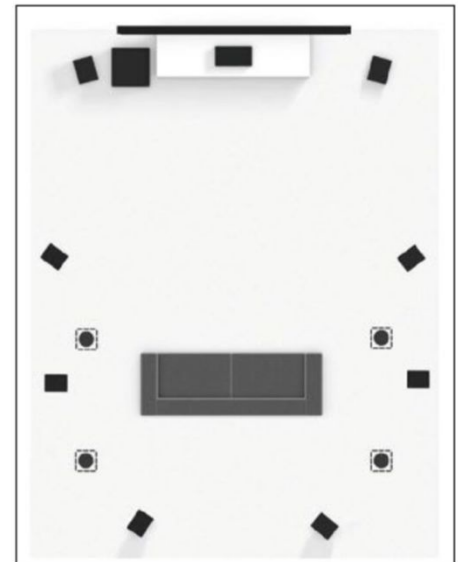
Dolby Atmos 5.1.2 using conventional rears plus rear Atmos-enabled speakers



Dolby Atmos 5.1.4 using four ceiling speakers



Dolby Atmos 7.1.4 using four ceiling speakers



Dolby Atmos 9.1.2 using two ceiling speakers

Images courtesy Dolby

adding four (or a minimum of two) ceiling speakers, you are ready to use a new Atmos surround receiver. If there is an impediment installing ceiling speakers, there are Dolby Atmos "enabled" speaker modules giving you "virtual" ceiling speakers. These modules have upward-firing drivers and are placed on top of the front left/right and rear left/right speakers or on top of nearby furniture, pointing them towards the ceiling. The added modules will require separate speaker cables, meaning that if you are in the process of building your home, you will need to allow for those extra cables and determine the module locations.

The diagrams above show Dolby's recommended layouts. For optimal performance, Dolby also recommends flat ceilings (pitched ceilings or ceilings with acoustic absorbent material are not recommended) with a height of 4.27 metres or less, and made of an acoustically reflective material. The ideal ceiling height is between 2.44 and 3.66 metres.

### When will this be available?

Over the next few months, we will see Marantz's new receivers and preamplifier processors with Atmos. Yamaha as well will have upgrades for a couple of models.

### MODELS AVAILABLE WITH DOLBY ATMOS

- **Yamaha RX-A3040 & RX-A2040**  
**Receivers:** New models are in stock now, the Dolby Atmos upgrade (via USB) will be available in October/November.
- **Marantz SR7009 Receiver:**  
Available on 2nd December.
- **Marantz AV7702**  
**Pre-amplifier/Processor:**  
Available on 2nd January.
- **Marantz AV8802**  
**Pre-amplifier/Processor:**  
Available in 1st quarter of 2015.

## MORE FACTS ON DOLBY ATMOS



- The scalability and adaptability of Dolby Atmos will start with a 5.1.2 configuration as a minimum (Front LCR/Rear LR, 1 Subwoofer, 2 Ceiling) all the way up to a 24.1.10 speaker configuration, if you wish to go that far! There will be only one mix on the Blu-ray disc and your Dolby Atmos receiver will decode the mix based on your speaker configuration.
- When Dolby was talking with mixers and film directors, they asked them about how they wanted to create this next generation format. A lot of them like to work with channels to deal with more static sound effects, so Dolby created 'bed channels', a standard 7.1 configuration with a couple of height channels. On top of that, Dolby provided up to 118 'Objects' to position anywhere. These were in the very early days of Atmos. Today many movies are using object-orientated effects. The same bed channels and Objects are in the Cinema mix as are in the Atmos home version.
- If you have an older receiver without an Atmos decoder, you will still be able to play Blu-ray discs encoded with Atmos as they will also come with legacy Dolby Digital TrueHD, Dolby Digital and Dolby Digital Plus formats. Additionally, legacy channel-based content not mixed for Dolby Atmos can be expanded to fill the flexible speaker layouts of a Dolby Atmos system.
- A White Paper specification will be released shortly regarding overhead speakers. In general, they should have as much dispersion as possible and you should consider that a full-range signal will be available in the mix for all channels but the processor will match your speakers. Timbre is important, but Dolby is working very closely with Equalisation partners and they are expecting that room EQ can balance out any timbre mismatching. However, select speakers with matching timbre characteristics when possible.

Acknowledgements: Craig Eggers, Director Home Theatre – Dolby; Brett Crockett, Director of Sound Research in Sound Technology – Dolby; Andrew Jones interviewed by Scott Wilkinson – HTheatre Geeks





# New Krell range

**K**rell have been redefining high-end audio since 1980, and it does not appear that they have any intention of slowing down, with a raft of new products about to hit Australia. We have not had the opportunity to audition any of these prior to putting this newsletter together, but hopefully by the time you receive it we will have some models in stock. While the range will eventually be far more extensive than this, we are expecting to see four models within the next month.

One model in particular, the Vanguard integrated stereo amplifier, has been creating a lot of interest. This amplifier is rated at 200 watts per channel into 8 ohms (400 watts into 4 ohms) and has a Class 'A' preamplifier. An optional, field-installable digital module with USB, HDMI, coaxial, and optical inputs as well as Ethernet audio and apt-X Bluetooth streaming will also be available in the near future.

This unit has been on the US market for a while now, and all reports have been very positive. The Vanguard will sell for

\$5,999. At this stage we still do not have a price on the optional board.

## Krell Power Amplifiers

Krell's fame came from its work in Class 'A' design. It has always been acknowledged that the best sounding technology is Class 'A' but trends towards more efficient designs have seen this technology fall out of fashion in recent times. Krell have continued to work on Class 'A' designs behind the scenes, and have recently come up with a new technology (called iBias) that allows their amplifiers to run in full Class A mode to full power while minimising heat generation. Previous efforts at using a "tracking" bias only measured the incoming signal and set bias levels from this information. iBias technology significantly elevates the effectiveness of previous designs by calculating bias from the output stage. This seemingly small change in topology results in a dramatic improvement in sound quality, especially midrange richness and purity.



### Duo 300 2-channel iBias power amplifier

Rated at 300 watts/channel into 8 ohms – full Class 'A'. This unit will sell for \$13,495.



### Solo 575 mono iBias power amplifier

Rated at 575 watts – full Class 'A'. This model will sell for \$31,900/pair of amps.



### Illusion Pre-Amplifier

This two-box design (the power supply has its own chassis) is Krell's flagship pre-amplifier, and will sell for \$21,000.



# Classic Themes – Modern Capabilities

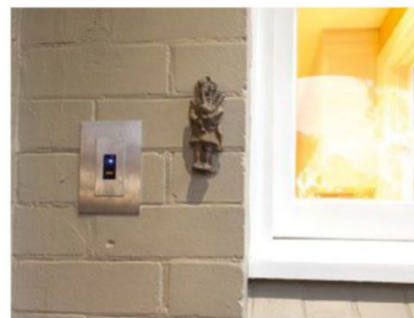
**T**his completely remodelled 1905 Federation home on the North Shore of Sydney involved a comprehensive installation process that has developed into an ongoing relationship between the client and Len Wallis Audio over more than two years. The brief was to achieve a true integrated smart home which encompassed Lighting, Security, Audio and Video, and all networking of the systems.

The client was enthusiastic about taking advantage of all the modern smart-home technology capabilities in the market, but stressed it was important to maintain the look and feel of the original period architecture of the early 1900s.

We achieved true smart-home functionality by carefully integrating C-Bus lighting control, Ness Security, E-Key Biometric access and Mobotix CCTV, as well as all the Audio Video components, with an all-encompassing Savant control system.

This allowed us to provide the client with an easy-to-use all-in-one interface solution to control all aspects of the home. The system also allows

the client to monitor and control the house remotely from anywhere in the world – especially handy if one is away on business and needs to give access to maintenance or delivery personal.





The Lighting control is designed to be integrated with an astronomical clock to ensure lights turn on with the sunset and off at the desired time. This also ensures that the house is environmentally responsible and efficient.

Biometric access control has been incorporated as part of the Security system to provide a secure entry to the home, as well as to trigger events into the control system for lights and AV operation.

A sense of the security and comfort

comes from the integration of the CCTV cameras onto the iPads around the home, while this also extends to the ability to view these security cameras from outside the home through a secure VPN connection.

Audio and video equipment is all controlled via the Savant Host controller and achieves seamless integration with lights and blinds. The project includes an extensive home theatre system using an Anamorphic Lens set to a true theatre-like 1.35.1, and also features motorised side masking to the screen to allow for seamless viewing transitions to 16:9 content, just like a commercial cinema!

Multi room audio to a total of 8 zones is via Sonos, chosen due to its superior interface and its ease of use. The Savant control system was accepted well by the client, and its ability to run on the client's range of iPads and iPhones means that favourite music is always just a swipe or two away.





# Cinema Sensation

**A**chieving a great home theatre design is not as simple as just throwing together some nice gear, plugging it in and hoping for the best. A proper integrated solution has to harmonise with the room, needs to perform correctly (and at its maximum potential) and be reliable for years to come.

This particular installation in an inner Sydney residence was, like all our custom

projects, founded in a strong collaborative partnership between our team, the architect, builder and client. Taking an effective consultative approach allows for plenty of time to plan ahead and make sure there are no surprises.

In this installation, screen dimensions, speakers and seating were all designed based on THX recommendations, with correct viewing angles and speaker locations all being considered using this

methodology. There were some specific challenges to overcome, such as mounting the projector, and considerations for cooling of the system in a way to ensure that it would be aesthetically pleasing and not intrude on the overall look and feel of the room.

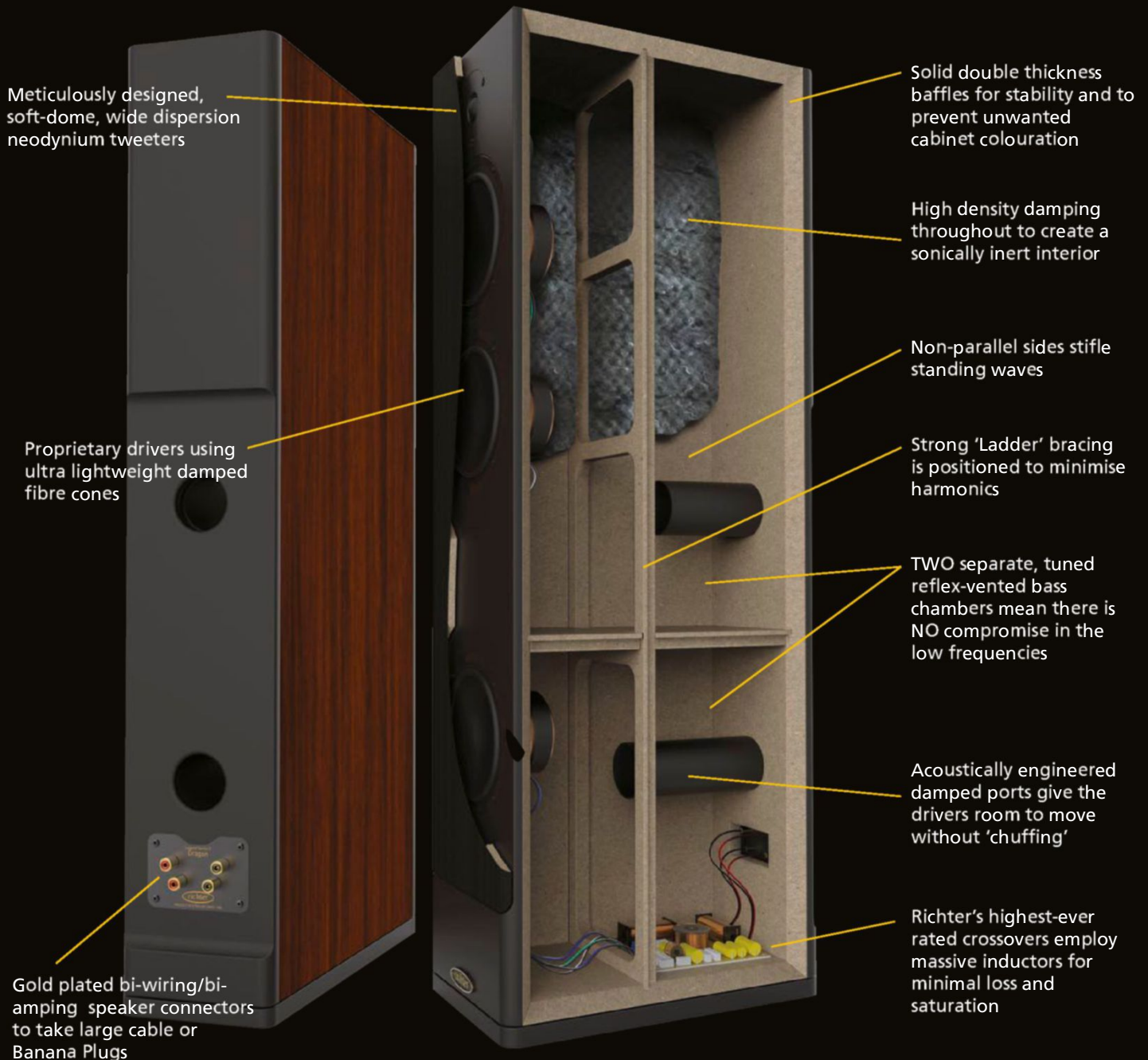
In a room size of approximately 60 square meters we professionally calibrated and installed a 7.2-channel Home Cinema system to achieve excellent dynamics and accurate audio reproduction.

We used a multi-channel Marantz pre-amplifier/processor and a 7 x 190watt Elektra7 HD power amplifier, with Focal IW1003Bee (25–240w) front in-wall reference speakers as an alternative to high-end traditional speakers.

The room also features bass trap panels at the two front corners to help with the bass resonances in the room, plus acoustic panels and finally full professional calibration. The end result was an exceptional home theatre of a professional standard.



# Inside the DRAGON SERIES V



*'hi, fidelity!'*

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# Introducing AURALiC

**T**he advent of streaming has brought with it a new emphasis on DACs and Headphones, and has given rise to many new brands – with one of the more impressive entries being AURALiC. This company manufactures a small, but very high quality, range of ‘new age’ products.

## VEGA Digital Audio Processor (\$3,999)

There is no shortage of good DACs in audioland, so they must offer exceptional value at their price point, with the Musical Fidelity V90-DAC (\$399), the NAD M51 (\$1,499) and the Berkeley Alpha DAC (\$5,999) all being great examples.

At \$3,999 the VEGA (below left) is also a stand-out product. Like the NAD M51 it will double as a pre-amp, and it supports all high resolution music formats including DXD (352.8ks/s, 384ks/s in 32bit) as well as DSD streams at 2.8224MHz and 5.6448MHz. Five digital inputs include AES/EBU, coaxial (two), Toslink and USB, and it features both balanced and single-ended analogue outputs.

An interesting development for the

VEGA is the embedded Flexible Filter, which has six modes, each containing several digital filters optimised for corresponding sampling rates. These filters are solely developed by AURALiC to optimise the listening experience for different music and formats. VEGA allows its user to customise according to different music formats, tuning the sound to best personal preference.

## Taurus Mk11 headphone amplifier (\$2,299)

Again a rather crowded market – but once again AURALiC have come up with the goods. This is a tough market with many quality alternatives (the Oppo HA-1 comes to mind), but we would suggest that you audition the Taurus (below right) prior to making any rash decisions.

## Aries (\$2,139)

This product (below) is difficult to pigeon hole – I am not sure if there is another product out there that does exactly what the Aries does. The Aries serves as a “bridge” between music files on network storage or high quality online streaming

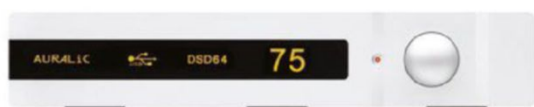
services and the consumer’s DAC — enabling DACs to stream high-resolution music quickly and wirelessly in virtually any sampling rate, including DSD, Double-Rate DSD and DXD.

Aries is bundled with AURALiC’s Lightning DS App which will control Aries as you browse music libraries on your network-attached storage (NAS), to stream high quality music content from service providers, to control the playback and to select the hardware settings such as output channel and WiFi network, etc.

## Gemini 2000 DAC/Headphone amplifier/Stand (\$2,549)

A totally new take on an existing market. This DAC/headphone stand/headphone amp is functional yet high performance at the same time. Iconic in design (and with various colour options, as pictured above), this unit is a stylish one-box power house capable of decoding high-resolution files, with a quality headphone amplifier. This is a very unique, yet high performance product.

I can envisage this finding a home on many an executive/home office desk!





# The Master Series

**N**AD have built an enviable reputation for achieving quality performance at budget prices. Some years ago they released their 'Master' series, a range designed to appeal to the more discerning 'audiophile' while yet again not attracting the hefty price tags that this market is known for.

NAD have now taken this range one step further, with new models designed to appeal to the 'new audiophile', someone who has high expectations, is digital savvy, yet still budget conscious.

## M12 Digital Pre-Amp DAC

This is a product for today's market, designed to get the best out of High-Resolution digital files while at the same time making allowance for legacy technologies. It features a 24/192 Asynchronous USB DAC, and at the same time boasts a MM/MC phono input. All

the pre-amp functions are handled in the digital domain. Like previous models the pre-amp also features Modular Design Construction (MDC) where specific modules can be added later to increase inputs, add streaming facilities etc. This also allows for future upgrades as new technologies are developed.

One of these modules is the MDC DD-BluOS. This is a complete digital music solution allowing connection to music stored on anywhere on your network, or access to the various forms of music services available on the internet. Control is via a free App available for both iOS and Android devices. This is then compatible with NAD's Bluesound wireless streaming devices (covered on page 5).

This is an extremely versatile high performance pre-amplifier featuring more facilities than we can list here. At \$5,800, it also offers great value.

## M22 Stereo Power Amp

This amplifier utilises new technology called nCore, providing distortion below measurement, ultra-high damping factor and unconditional stability with any speaker. It develops 250 watts/channel from a surprisingly small package. My first audition with this amplifier was with a pair of Focal Scala speakers – and it drove them beautifully.

The M22 is also great value at \$4,700. However when purchased as a package the M12/M22 combination sells for \$9,950/pair.





# The Alpha DAC!

**W**e will not see this product for at least a month yet – but we are looking forward to receiving the Berkeley Audio Design Alpha DAC Reference Series. The standard Alpha DAC (\$6,995) has long been regarded as a benchmark, outperforming DACs with far greater price tags. If the overseas reports are accurate, the Reference Series looks set to redefine the genre.

The highly respected Robert Harley from 'The Absolute Sound' publication has recently penned this conclusion to his review:

*'The Berkeley Alpha DAC Reference Series is not only the absolute state of the art in digital-to-analogue conversion, it goes far beyond even this superlative*

*to re-define what's possible in digital playback. This is a landmark product in that it crosses a threshold of sound quality and musical expressiveness that renders moot the idea that digital can only aspire to mimic analogue rather than offer its own set of virtues.*

*'I... can guarantee that you've never heard digital audio sound like this.*

*'I'm confident in saying that the Alpha Reference will be remembered decades from now as the turning point in digital audio sound quality.'*

Phew!!

Expected price is \$19,500. If you would like us to contact you when this product arrives please phone or email us ([sales@lenwallisaudio.com.au](mailto:sales@lenwallisaudio.com.au)) and we will let you know as soon as we receive stock.

## NAIM NIGHT!

On **Wednesday 12th November** we will hold a special release night for Naim Audio at our store in Lane Cove. The night will feature two very special products:

- The **mu-so** wireless streaming speaker (featured on page 6);
- The much heralded \$250,000 **Statement** power amplifier.

Representatives from the importers will be on hand to field those difficult questions, and as usual finger food and drinks will be available.

If you can make it to this special release please phone 02 9427 6755 or email [meenak@lenwallisaudio.com.au](mailto:meenak@lenwallisaudio.com.au) and leave your name and contact details.





# Stereo, Surround & Sound Projection!

## YAMAHA'S NEW 'S' SERIES

After their successful re-entry into the world of hi-end audio with the A-S3000 amplifier and the CD-S3000 CD player, Yamaha have released the lower spec'd S2100 series, again comprising of an integrated amplifier and a CD player.

Back when Len Wallis Audio opened its doors in 1978, Yamaha were known for a formidable range of hi-end products, but they gradually exited this market as companies like Krell and Musical Fidelity emerged. At the same time, they found that they were becoming distracted by new markets such as Home Theatre. Despite their absence, however, they have clearly not lost their touch.

The most immediate impression given by this new release (both shown above), and its larger siblings, is build quality. Like many of the high-end Marantz offerings the Yamaha 'S' series is meticulously constructed – a product that you would have pride in owning for decades to come. Surprisingly this is an attribute lacking in a number of very expensive and highly lauded 'audiophile' brands.

More important is the sound quality. This was a brave move by Yamaha – they have positioned themselves against many of the highly fancied and highly performing established audiophile brands, and have not been found wanting. The performance of these units is as good as,

or better than, expected at these price points – \$3,999 for the A-S2100 Amplifier, \$2,999 for the CD-S2100 CD Player.

## YAMAHA 'RXA' HOME THEATRE RECEIVERS

It is no accident that Yamaha are the leaders in Home Theatre receivers. They were one of the first (if not the first) major electronic company to get involved in this technology with the release of the DSP-1 in 1985, considered to be a revolutionary product at the time. Yamaha have been developing on this ever since.

The release of the Aventure series of Home Theatre receivers in 2010 was also a large step forward. Yamaha took



a by-then established technology and showed that it could be built to a higher level. The rest is history.

We have just received the fifth generation of the 'RXA' series (pictured above), and as always they are a step-up on the previous series.

The features found in the RXA series (5 models in all, ranging in price from \$1,299 to \$2,799) are far too extensive to cover in this publication, but they do include the latest wireless technologies such as built-in Wi-Fi and Bluetooth (via the included YBA-11 adaptor). Other hallmarks of the series include Pandora and Spotify Connect streaming services, AirPlay, high-resolution audio streaming encompassing FLAC and Apple Lossless, and support for the new HDMI standard to accommodate increased frame rates for 4K Ultra HD and deeper colour spaces.

The build quality has been maintained, which is reflected in the 4-year warranty (which includes replacement if the unit fails in the first 12 months). One obvious change is the addition of a titanium finish option for two of the models, the RX-A1040 and the RX-A3040.

### YAMAHA YSP-2500 DIGITAL SOUND PROJECTOR

Also new from Yamaha is the YSP-2500 sound bar. This was released to celebrate the 10th anniversary of the YSP-1, Yamaha's first of this breed, and probably the product that launched the category. Since then Yamaha have been perfecting the technology, and we believe that they still make the best range on the market.

The YSP-2500 replaces the very successful YSP-2200. They have added wireless music streaming from Bluetooth-

enabled devices, as well as app control via Yamaha's free-to-download HT Controller for iOS/Android phones and tablets.

The YSP-2500 (pictured below) comprises an array of 16 small speakers, each with their own independent amplifier. Patented YSP technology is applied to control the orientation of the sound through focused 'beams'. The centre channel reaches the audience directly, for example, while audio from surround channels is heard after being reflected off walls. The ensuing effect

immerses the listener in surround much like a multi-speaker home theatre system.

For video, the YSP-2500 supports 4K Ultra HD 50/60Hz. Up to three HD sources can be connected simultaneously via 3D-capable HDMI sockets, and when connected to a CEC-compatible television, the YSP-2500 will turn on/off with the TV, while the TV remote control can be used to control the volume.

More importantly the YSP-2500 at \$999 is \$300 cheaper than its predecessor. This unit offers exceptional value.





# Fidelity by name...

Musical Fidelity's new integrated amplifiers provide increased power output and add a DAC stage

**T**his company will need no introduction to many of you. They have been manufacturing high quality, yet very affordable High Fidelity equipment for over thirty years. They are certainly one of the most prolific manufacturers in the industry, with a seemingly endless array of new products coming down the line. During this period they have earned an enviable reputation for producing 'audiophile' standard products, without the associated price tags.

Their most recent release is the upgrade of the M3i and M6i integrated amplifiers to the M3si and M6si respectively. These upgrades are more than a token model change.

## M3si integrated amplifier

The power has increased from 76 watts/channel to 85. It now features an internal 24bit/96kHz DAC, with a USB input, and a Moving Magnet phono stage has also been added. The M3si sells for \$2,199.

## M6si integrated amplifier

A marginal increase in power from 200 watts/channel to 220 watts. However the internal layout has been completely reworked and the M6si is now effectively a pre-amplifier with two completely separate and independent mono-bloc power amps in one chassis. Even the pre-amp stage has its own dedicated power supply. Again an internal DAC has been added, along with the phono stage. The M6si sells for \$4,695.

## STOCK ALERT!

We still have stock of the older 'M' series amps, and are selling them for:

- » M3i: \$1,595 (this is a very good buy – particularly if you do not require an on-board DAC)
- » M6i: \$3,495



Visit Len Wallis Audio online for the latest news, products and more!

Our website has been refreshed to make the site less cluttered, enable closer integration with our social media profiles and make it easy to sign up to our eNewsletter. You can also find selected products on our eBay shop. Have a look around and see what you think!

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



# Marantz receiver release!

**M**arantz is not a company to release a new range just for the sake of change. If they are going to supersede models it is with good reason, and the upcoming release of a new range of AV receivers is a case in point.

The Marantz receiver range is small, consisting of only five models. The baby of the range, the

NR1504, remains in the current line-up without change (a model that we are running on special at \$699 – one of the better buys in this industry). The rest of the series has undergone some significant improvements.

This is going to be a staggered release from Marantz with the first two models being released in October, and the larger two coming in November.

## RED-HOT MARANTZ PRICES!

We are making way for these new arrivals with some red-hot clearance prices on the current series. These are sensational prices for top quality products. For more detail on the models visit our website and click through to the Product Pages.

The slimline **NR1604** and **NR1504** (the latter model continuing on) – now going for **\$799** and **\$699** respectively.

**SR5008** – rrp\$1380, **now \$899!**

**SR6008** – rrp\$1799, **now \$1299!**

**SR7008** – rrp\$3290, **now \$2199!**



### **SR5009** (\$1,350)

This is the first of the larger chassis models – made necessary as the power increases from the 50 watts/channel available in the NR1605 to 100 watts/channel (x7). Improvements over its predecessor include:

- Increased power
- 2 x HDMI outputs instead of 1
- Extra HDMI inputs
- RS232 port for external control systems
- Plus the improvements seen in the NR1605



### **NR1605** (\$1,080)

Sharing the same compact size as the predecessor NR1604, it is astounding what Marantz have been able to pack into a small package. Additions over the previous version include:

- Bluetooth
- Built-in Wi-Fi
- 4K full scaling and pass-through
- 7.1 surround (its predecessor was 5.1)
- 4-ohm speaker drive
- AIFF and DSD file capability
- ISF Calibration



### **SR6009** (\$1,790)

Once again the power output has been increased here, to 110 watts/channel (x7), and also:

- **Zone 2 now features** an HDMI output
- Audyssey DSX for superior room calibration
- The addition of a phono input
- The first unit to incorporate DTS Neo:X 7.1
- Plus the improvements in the previous models



### **SR7009** (\$3,250)

The earlier SR7008 was a substantial receiver – but this unit has been upgraded in many areas:

- Yet again power is up on the **previous model, this time to 125 watts/channel (x9)**
- It incorporates Dolby Atmos
- DTS Neo:X 9.1
- 13.2 Channel pre-out
- 3 zones
- Additional HDMI's (7+1 in and 3 out)
- Plus the improvements of the previous models



### **Plus – the PM7005!** (\$1,790)

Marantz have rightfully built an enviable reputation for stereo components. They have been building them for decades, and doing a remarkable job. The PM7005 fills a hole in their range – **and I predict it will prove to be very successful.** The PM7005 is a high quality, beautifully constructed 60 watt/channel stereo integrated amplifier. It also incorporates a high quality 24bit/192kHz DAC. It boasts one further attribute which is becoming a rarity these days – **'Built in Japan!'**

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# Meet Lenny

The wireless portable Bluetooth speaker



**W**hat we have here is a new stylish wireless portable Bluetooth speaker created in

co-operative partnership between European speaker manufacturer Elipson and furniture designers Habitat.

The result is a speaker that has just been awarded a 9.6/10 rating in the European Consumer Choice awards.

By placing priority on both form and function, this classy portable speaker not only looks great but is designed to work wirelessly with any device using the Bluetooth 2.1 protocol (including Apple and Android devices). Offering up to eight hours of playback off a single charge, it is also weather resistant, making it perfect

for outdoor uses such as camping, boating or just lounging by the pool.

The inner workings of the Lenny include 2 x 2.5-inch loudspeakers and one four-inch loudspeaker to deliver a rich room-filling sound that's surprising for its size and price point.

So whether you need a mobile speaker for in or outside the home, holiday location or the office – the Lenny is the perfect stylish companion to wirelessly enjoy music no matter where you are!

The new Lenny (as well as the slightly older Lenny) is in store, so drop down to the showroom to experience it for yourself, or give us a call and place order for a Lenny today – you won't be disappointed!



Lenny is designed by  
Pierre Favresse for  
Habitat & Jean-Yves  
Le Porcher for Elipson



**W**hy should music be confined to the indoors? Outdoor speakers let you enjoy music everywhere: sunbathing by the pool, playing in the yard with the kids or even tending the

garden. We carry a great range of outdoor speakers, including Proficient Audio's range which includes on-wall weatherproofed speakers and 'rock'-style speakers to hide away in your garden. No matter where you wander, your music can stay with you.



Proficient's outdoor options will make any BBQ or Pool gathering a real party!

**1 AW400 on wall outdoor speakers**  
(Black or White) - \$299 down from \$499

**2 AW525 on wall outdoor speakers**  
(Black or White) - \$399 down from \$599

**3 AW830 on wall outdoor speakers**  
(Black or White) - \$899 down from \$1199

**4 R650 Rock speakers** (available in Granite or Sandstone) - \$429 down from \$599

**5 R800 Rock speakers** (Sandstone only in stock) - \$549 down from \$795

**6 AW600TTW on wall stereo speaker**  
(single-box stereo) \$499 down from \$699

**ACCESSORIES**


## Vibrapods

One of our evergreen accessories that does so much good for so little money – at \$39.95 a set of four, Vibrapods (above right) can replace your existing basic equipment feet and start soaking up vibrations right away. The improvements to audio quality have been well-documented, and they come in five models to cover differing weights of equipment, roughly around 1kg, 2kg, 4kg, 7kg and up to 13kg. For heavier items, up to 25kg, the Vibrapod cones (above left) come into play, at \$11.90 each.



## Flexson: Sonos Speaker Skins

Flexson offer brackets for Sonos speakers, and have added a range of colourful skins to suit Sonos speakers Play:1,3 and 5. Instead of boring old black or white, you can enjoy primary colours! Well, yellow, red, and blue, plus pink and purple. Costs are \$79.95 each to fit the Play:5, \$59.95 for the Play:3, \$39.95 for the Play:1.

**LEN WALLIS  
AUDIO IS  
ON EBAY!**

## Spin-Clean A Winner

Still in demand! Spin-Clean (\$135 for the kit) is essentially a narrow tank to contain clean water and a small quantity of special cleaning fluid. Two rollers support the 12" LP (with alternate positions for other sizes) and two brushes in the middle do the cleaning while you rotate the record three times clockwise and three times more anti-clockwise.

The Spin-Clean fluid is applied directly onto the brushes, and as the record rotates the brushes get the dirt and other matter out of the grooves and it goes into

the water then, due to the chemical action of the cleaning fluid, sinks to the bottom of the tank. This means (a) it doesn't re-attach to the LP, and (b) you can use the same mixture for more LPs. Each batch of water/fluid additive is said to be good for up to 50 LPs. Your initial batch will be enough for 700 cleans! The fluid contains no alkalines, soap solutions or phosphates, and is bio-degradable.

Each LP has to be wiped dry with one of the reusable lint-free cloths provided. The process is also claimed to reduce



static. No residue is left on the record. The simplicity of the concept is its strength, as it does the job at minimal cost, and more thoroughly than other cheap methods.



## Racks'n'stands

The **Tauris Gamma equipment rack** ticks all the boxes and then accommodates them neatly, keeping cables hidden at the rear while having full access and visibility at the front. When you have nice audio or video equipment, you might as well show it off, and the sleek black glass shelving with silver metal supports does the job very well while being minimal in terms of visual impact. At \$399 this is very affordable. Each shelf is 610x433mm, and the total height of the unit is 785mm.

**Tauris SP-148A speaker stands** (\$249/pair, pictured above centre). Being able to adjust the height of your rear effects speakers between 65cm and 115cm is the

big drawcard for these stands. Most ready-made stands are only 50-60cm, usually fine for the front speakers, but rears often have to be more elevated to sound clear above furniture - and the extra height also adds some spaciousness to the effects.

The **Lovan Affiniti II stands** (\$239/pair, above right) are a tall alternative (736mm) for those situations where the standard height of 500-600mm is not enough. While this often applies to rear effects speakers, it is sometimes also required for front or stereo speakers. The Affiniti is a rigid metal stand using two hollow columns which are sand or lead shot fillable. Spikes are supplied.



### Emotion & Pleasure

#### AK120 High Resolution Portable Music Player

The Astell & Kern AK120 is one of the ultimate high-fidelity audio systems – and it also happens to be portable. High-res audio files right up to 24-bit/192kHz (studio quality) are supported and combined with thorough file support for AAC, AIFF, ALAC, FLAC, MP3 and WAV.

The little pocket rocket comes with dual microSD card slots giving you a colossal 192GB of potential storage PLUS a digital optical audio connect so it can work like an external DAC to virtually any home system.

Put simply, the AK120 delivers a high satisfying music playback experience that makes mainstream portable music players seem toy-like.

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# esoterica



## SOUND TRAVELS

Where a Plinius SA250 takes a pair of Energy Veritas 1.8s to new levels

## KRIX NEUPHONIX AE40 LOUDSPEAKERS

Only forty pairs of this 40th Anniversary Special Edition are available, so you'll have to be quick to own a pair!





# SOUND TRAVELS

Steve P loves to chill-out to the comforting and relaxing sound of soothing music. He likes folk and soft blues and finds that escaping to some good music is a great way to unwind and clear the head. That said he still wants resolution, transparency, timbre and natural sound to go with the interesting music... and he loves the aesthetics of great design. Here he is interviewed by Tom Waters of the Sydney Audio Club...

**Tom Waters:** *Do you have a first memory, a first unforgettable musical experience that left an impression?*

**Steve P:** I wouldn't say it was 'unforgettable' musically, but I do have fond memories of listening to music with the family in the car during long road trips. My older sisters would sing along to their favourite songs on the radio (with mum poking fun

at the music and lyrics) until the airwaves started to break up and we eventually lost the signal as we headed out of Sydney.

Then, out came my parent's tapes. On the usual rotation we had Neil Diamond, Barbra Streisand, Peter Allen, Kenny Rogers, Barry Manilow, The Bee Gees and a few others of this 'calibre' [said with sarcasm]. Of course it was never cool to say you

enjoyed listening to these artists or that you sang along with the family to their songs, so I never will, but in my defence, my siblings and I were brainwashed into liking them!

Apparently I used to get car sick on some of my earliest road trips but now I'm starting to think the nausea was probably brought on by Barbra.

**TW:** *And did that start you on the hi-fi journey or did something else start you on the audio equipment quest?*

**SP:** I do recall noticing the sound quality of the different stereos in the different cars my parents bought throughout the years with the Becker(?) system in the Mercedes sounding so much better than any of the others, so I guess that was the start.

The real journey began when I spent my first few apprentice chef's pay cheques on a Pye all-in-one system from Norman Ross and lovin' it. But within a year I was already looking at more expensive systems in Grace Bros when someone I knew as a regular diner (in the restaurant I was working in) approached me. It was Gordon Stephenson of Piramai Hi-Fi (in Burwood years ago) and he opened my eyes to the world of real hi-fi with separate components and brands



I'd never heard of—all offered significantly better sound than anything the box-movers were offering.

I spent three times more than I had expected to spend on a JVC system with Aaron speakers and a C.D.C. turntable. I didn't have the money to also get the JVC CD player at that time, although I did manage to grab it several months later.

I was the first of anyone I knew to own a CD player and CDs.

I became a regular customer at Piramai and ventured into AV and the many generations of surround sound, laserdiscs and so on but I would always drool over the B&W 801 speakers running on the ME-1500 amp and ME preamp in the main sound lounge. But being well out of my price range, it was a mere dream of me ever owning them.

A few years on and I could afford an ME750 amp and when I was offered a pair of 801s that were traded-in for the B&W 800s, I jumped at the chance. It was a huge

financial stretch for me and would not have been possible if it weren't for the support of the store extending me the courtesy of a very long lay-by, but it was worth it.

**TW:** *Where do you think your system is going, or has it arrived?*

**SP:** With an interest in hi-fi spanning almost 30 years now, I've gone through many upgrades and changes throughout that time, mostly on the AV side of things, so I doubt my system will ever reach a final destination. How could it with so much new good stuff coming? Even after scoring a new item that takes the system to a greater level of performance, there's always something better that comes along and keeps you moving the goal posts a little further each time. I guess I love technology and I'm excited by what advancements new gear can bring to my audio and video enjoyment. It's hard to know what will be around in 10–20 years' time but I can't imagine not owning and enjoying some of it. So, where is it going? Only time will tell.

**TW:** *What's your favourite piece of equipment at the moment, something that you wouldn't sell?*

**SP:** Not just for the financial challenge of buying them but also for the fact that I've had them for 22 years now; it would have to be my B&W 801 Matrix Series 2 speakers. I couldn't part with that much history; however, I wouldn't say they are my favourite piece of kit at the moment.

My favourite gear would have to be my Energy Veritas 1.8 speakers. These are not that well-known in Australia and are quite rare here.

With changes to the electronics in my system over the years, these speakers (built in the mid 90s) continue to surprise me with their sound quality and capabilities. They won't be going anywhere soon.

**TW:** *You really like the Plinius SA250 amp too. Yet it's not your favourite?*

**SP:** Yes, it's great. It's taken the Veritas to a whole new level. People who heard the Veritas with other amps didn't think they were capable of sounding as good as they do now. I think it's amazing that even mid-90s speakers can sound like more modern speakers when driven by a more modern amp. Maybe the speakers were ahead of their time, or perhaps my amps back then weren't in the same league as the Veritas and didn't allow them to open up as they do now. The Plinius sounds especially good in Class-A mode, but my power bill sky-rockets when I use it, so I don't listen in Class-A all the time.

**TW:** *What do you see as your next hi-fi purchase or upgrade?*

**SP:** Hard to say as there is nothing I really need at the moment. I have considered getting a high-end CDP even though I don't play CDs any more as I prefer to use my music server, but with new players having

a digital input this would give me access to another DAC and would sound considerably better than the Oppo when guests bring over their CDs to play. Something like the Marantz SA7 Mk2 with a warm and sweet sound would suit me when listening in Class-AB.

I am also considering a separate DAC. Maybe the Chord Hugo, it's great for the money. But I've also heard the Chord QBD76 compared to the Hugo, so it'd be hard to be happy with just the Hugo now!

**TW:** *Do you have any plans to get more deeply involved in hi-res music?*

**SP:** Yes. I've dabbled a bit and had hits and misses like most people. Some sound good, but just because it's in 'hi-res' doesn't mean it's going to sound great. If there wasn't much care taken in the original recording then it really doesn't matter what you do later; the hi-res version will sound compromised. There needs to be standards set in the recording and mastering processes to ensure sound quality. I guess everything will eventually go hi-res though.

**TW:** *What's the most memorable pair of speakers (or system as a whole) you've ever heard?*



**SP:** Initially it was the B&W 801 speakers until I heard the Duntech Sovereigns on ME amps. These were up on the stage of Burwood's Westfield shopping centre playing into an open area as part of a mini hi-fi demo/promo show put on by Piramai Hi Fi in the late 80s. The sheer scale of the soundstage and the imaging the system achieved for such a large area was very much a wow moment and is still memorable for me.

These days it would be the Kyron Gaia speakers. I like things that are different—the skeletal appearance, the open baffle and the exposed drivers in the Gaia all look great. The aesthetics are important to me. And of course, they sound great too!

**TW:** *Is there any component you've owned and sold that you now regret selling?*

**SP:** Absolutely. It makes sense to me to use tracks that you really like and listen to a lot and so obviously know well, although my 'test tracks' will change to whatever I'm into at the time. I don't necessarily use audiophile records.

**TW:** *What genre of music do you listen to mostly and who are some of your favourite artists?*

**SP:** I don't really have an all-time favourite genre or artist as my musical tastes have changed over the years. There are many bands I've followed from their beginnings that I still follow and listen to today; bands such as Foo Fighters, Linkin Park, Placebo, Muse and U2 to name a few.

These days, and the older I get, I find my music choices are more about the quality and less about the noise. I am appreciating simpler styled music—the tones of

“

*I like things that are different—the skeletal appearance, the open baffle and the exposed drivers in the Gaia all look great.*

**SP:** Honestly, no. I never used to sell anything as most of my upgraded gear got used to create second and third systems for other rooms. These days with less need and less space, I have sold items to help recoup some of the money I've spent on upgrading my gear.

What I do regret is holding on to unused gear for too long—it ends up becoming worthless and with no-one willing to take it, I end up throwing out components even though they're still working. After you've moved around a few times you learn to focus on what's important to keep, and you lose that baggage.

**TW:** *Do you use the same music for comparing components as you do for listening pleasure?*

acoustical instruments and voices—so I tend to enjoy settling into the rhythms and pace of folk, singer/songwriters, blues and adult contemporary music. Some artists I'm enjoying at the moment are The Greencards, Angus and Julia Stone, Joe Bonamassa, Cowboy Junkies and The Civil Wars, but I can also chill-out on electronica such as Laki Mera and Honeyroot as well as the occasional jazz track.

**TW:** *What would be your 'desert island' music albums if you could only choose, say, three works?*

**SP:** Just for the record, I would go nuts with only three albums as I would soon get bored, but for some old school tunes it would have to be Foo Fighters' 'The Colour and the Shape' and Angus and Julia Stone's





'By the Way'. The third album would be that next new album I've just discovered and really like and need to listen to over and over again, just to keep it fresh, for a while anyway, then I'd better find some new music floating by in a bottle.

**TW:** *How would you describe the sound you're getting from your current system?*

**SP:** What I'm enjoying the most is I find my system has a great balanced sound where no particular frequency oversteps or out-shines another. The imaging and sound-stage is solid with the help of some room treatment. The ceiling treatment has helped with the stability of the centre image. The music now has nice detail, a bit on the neutral side, but when I switch to Class-A power the magic and a touch of warmth is added to all of that.

**TW:** *Have other aspects of the sound been improved by the room treatment?*

**SP:** Yes, absolutely. Imaging—particularly on vocals—is better, and there's a better sense of height and air to all recordings. It's also helped eliminate brightness.

**TW:** *In what way does music affect your life, your emotions and the way you feel?*

**SP:** Comfort and relaxation is what I want more of these days and this very much reflects the style of music I enjoy and the volume at which I play it at. To help recover from the grinds of life, I want to chill-out listening to soothing material such as folk and soft blues or anything that's sweet on the ears. Escaping to some good music is a great way for me to unwind and clear my head, while the artists that tick all the boxes for me can be a cathartic experience. With our busy lives, I think we could all do with more of that.

There are still times I like to turn the wick up on some rock and blues, though I seem to be doing that less and less these days. I'm pretty sure I exhausted my ears of loud music when I was young and stupid and had a pair of 801s. I would listen at levels that had the windows rattling and the police knocking on the door. I guess it was all about being in the moment of my favourite track back then.

**TW:** *Do you find classical music to be soothing?*

**SP:** I suppose musically it is soothing, but it's just something I can't get into, whereas folk music is something I find both soothing and interesting. Some movie soundtracks that build and take you on a journey can be more interesting to me than classical music.

**TW:** *Where do you see the high-end audio industry going in the future?*

**SP:** Unfortunately, I see it shrinking if they don't find a way to connect to the next generation of music-lovers. It won't be easy weaning them off their lossy MP3 files and ear buds that they've become accustomed to and accept as suitable sound quality. I don't see many of them transitioning to high-end audio. If Apple does eventually offer hi-res music through iTunes, and once Neil Young's Pono service comes online, then maybe the younger kids will get exposed to better sound quality. But it still depends on whether they care enough about it, and whether they hear a difference on their ear buds.

As living spaces get smaller and decors minimalise, products like the Devialet and high-quality bookshelf speakers will probably be more sought-after as high-end products. However I see many new home builders are now offering home automation and Wi-Fi

hubs in their plans so for many people they will sadly just settle on streaming music through ceiling speakers throughout the home.

**TW:** *Where would you like the audio industry to go or to evolve to?*

**SP:** I'm with a lot of others when it comes to the poor sound quality of music these days. Perhaps the audio industry could get more involved with record labels or invest in them to raise the standards. There's not much point shifting to hi-res music if the recording is poor to begin with. It will sound worse than MP3s—kind of like seeing more skin imperfections in actors' faces with high-definition video than we had seen previously with VHS/DVD. I guess the challenge will be to create WAF-friendly high-end sounding products that don't cost as much as buying a small country home or a luxury car. 

**Interview by Tom Waters**  
**President, Sydney Audio Club**  
[www.sydneyaudioclub.org.au](http://www.sydneyaudioclub.org.au)

## EQUIPMENT LIST:

### Main System

- Energy Veritas 1.8 speakers
- Plinius SA-250 Mk4 amplifier
- Classé CP-800 Preamp
- Wyred 4 Sound Music Server 2
- Oppo 95 BDP with pro mod kit
- Integra DTR-80.2 AV amplifier
- Classé 70 centre-channel amplifier
- Energy Veritas V2.0R surround speakers
- Energy C3 centre speakers
- Energy C1 rear speakers
- Energy ES 12-XL subwoofer
- Toshiba DLP 72" TV
- Popcorn Hour C300
- Panasonic BMR BW-500 PVR and Blu-ray recorder
- Belkin Pure AV PF 60 & 30
- Isotek Sirius Power Board
- Solid Tech Rack of Silence amp stand
- Nordost Frey speaker cables
- Vertere interconnects
- Analysis Plus interconnects
- Vicoustic room panels

### Office System

- KEF LS-50 speakers
- Audio GD Master 10 integrated amplifier
- Musiland MD 10 DAC
- Synology CS413J NAS

### Occasionally Used

- B&W 801 Matrix S2 speakers with North Creek crossovers



# KRIX NEUPHONIX AE40 LOUDSPEAKERS

**F**orty years ago, in a small shed out the back of a modest home in the suburbs of South Australia's capital city, a young Scott Krix built the first pair of loudspeakers to carry the Krix logo using only hand-held power tools. This year, to celebrate his eponymously-named company's 40th anniversary, Krix has designed and built forty very special pairs of loudspeakers in a state-of-the-art factory in those self-same suburbs... though this time he's had the assistance of his brothers Gary

and Ashley... indeed that of the entire Krix workforce, plus an array of state-of-the-art precision computer-controlled machines.

## THE EQUIPMENT

I was a bit confused as to why Krix called these particular speakers 'Neuphonix' at all, because the company already has a line of speakers called Neuphonix (which will continue to be available, retailing for \$3,995 per pair) and despite the similarity in names, the Neuphonix AE40 uses differ-

ent drivers, and is slightly differently voiced from the Neuphonix. But the two are very obviously related, so 'there's method in't'... as Polonius would have it.

I am eternally grateful, however, that rather than succumbing to the temptation of calling these speakers the 'Krix Neuphonix 40<sup>th</sup> Anniversary Limited Edition' model (even though this is what they actually are!), the sensible and down-to-earth Krix family has instead rather modestly named them the Neuphonix AE40.

High frequencies on the Neuphonix AE40 speakers are delivered by Scan-Speak 'Revelator' tweeters, and their appearance on this model is a first for Krix, because this famous Danish-made tweeter hasn't previously appeared on any Krix design. The Revelator 25mm ring dome diaphragm tweeter has a patented symmetrical drive neodymium motor system, a non-resonant aluminium rear chamber and a patented phase-plug design.

The Neuphonix AE40's midrange driver, on the other hand, has appeared on several previous Krix models and in fact is identical

they use the same cone and the same pressed steel chassis: the underlying motor system (that is, the voice-coil and magnet) is completely different. And, although these drivers make their first appearance on a 'Neuphonix' design, Krix does already use these drivers (on the Epicentrix).

Because the driver cones are identical to that of the midrange, their surface area is identical, however because all four drivers operate together, we need to consider the total Sd of all four. Since a single driver has an Sd of 107cm<sup>2</sup>, all four have a total Sd of 428cm<sup>2</sup>.



*Below the bass reflex port is one of the most beautiful speaker terminal plates I've ever seen...*

to the midrange driver used in the standard Neuphonix. It has a coated paper cone and a 26mm-diameter voice-coil on an alloy former and is mounted on a pressed steel frame. The magnet is 90mm in diameter and 28mm deep. As you may be able to see from the photograph accompanying this review, although the cone is a conventional circular shape, the chassis itself is oval-shaped, so it's 133mm wide and 150mm long (with a mounting hole diameter of 142mm). The moving part of the cone is 117mm in diameter but the important dimension, the Thiele-Small diameter, is 116mm. The Thiele-Small diameter (named after Australian engineer Neville Thiele and US engineer Richard Small) is what's used to give the effective surface area of the driver (Sd) which is what's used to calculate the enclosure volume behind the driver that gives the best frequency response. In the case of the Neuphonix AE40, the enclosure behind the midrange driver is fully sealed, stuffed with acoustic wool, and has a sloping rear baffle so sound is less likely to reflect from the rear of the speaker, bounce off the rear wall and return to propagate through the cone.

As for that imposing array of four identical bass drivers, although they look identical to the bass drivers used in the existing Neuphonix speakers, that's only because

This means that if Krix had wanted to use a single driver to deliver the same cone area, it would have to have had a nominal diameter of 290mm... and since the cabinet is only 225mm wide, fitting a single driver with the same area would have been impossible!

However, Krix didn't use smaller-diameter bass drivers simply so they'd fit on the front baffle. Small driver cones have less mass than larger cones, so they're easier to 'start' and 'stop' and also as a result have a more extended high-frequency response, making them easier to sonically 'meld' with a midrange driver (or a tweeter if no midrange driver is used, obviously not the case in this design). And, amazingly enough, four small drivers will deliver the same level of bass as a single driver with the same cone area. The only problem is that, despite their smaller size—and assuming equivalent manufacturing quality—four small bass drivers will always cost more than just a single bass driver... which increases manufacturing costs, and therefore final retail pricing.

At first glance, the cabinet of the Neuphonix AE40 model looks similar to that of the standard Neuphonix and indeed it shares almost the same dimensions, being 225mm wide, 410mm deep and 1047mm high. However, there are subtle differences: the front baffle is angled to help time-align

the drivers, and there's a scallop either side of the tweeter to enhance dispersion and improve the head-on 'visuals'. The crossover network, which splits the incoming audio signals three ways to make the Neuphonix AE40 a true three-way, six-driver design, is fixed to the inside base of the speaker and is enormous, extending the complete depth of the loudspeaker. This is partially to ensure that the magnetic fields of the six inductors it uses cannot interact with each other, but also because of the sheer number of components that have to be accommodated on it: 25 in total including a brace of very large MKP Krix-branded capacitors, all of which are hard-wired and hand-soldered.

At the rear of the Neuphonix AE40 is one of the largest bass reflex ports I have ever seen. It has an effective diameter of 106mm and is 82mm in length. And below this port is one of the most beautiful speaker terminal plates I've ever seen.

It has three pairs of (+ / -) binding posts, so you can tri-wire the AE40s if you like, or use three stereo amplifiers and tri-amplify them.

## NEUPHONIX AE40 LOUDSPEAKERS

**Brand:** Krix  
**Model:** AE40  
**Category:** Floorstanding Speakers  
**RRP:** \$6,595  
**Warranty:** Five Years  
**Distributor:** Krix Loudspeakers Pty Ltd  
**Address:** 14 Chapman Road  
 Hackham SA 5163  
**T:** 1300 005 749  
**T:** (08) 8384 3433  
**E:** info@krix.com.au  
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Stability

LAB REPORT: Turn to page 84  
Test results apply to review sample only.

(Or bi-amp, or bi-wire... or pretty much operate them whichever way you think best.) The terminals are extremely high-quality and connected via solid brass busbars. All three pairs are fitted to a highly polished stainless steel plate that gives technical information and also shows which of the 40 pairs in the Limited Edition series it is.

Not surprisingly, the Neuphonix AE40 has been on the drawing board for a long time. In the beginning, Krix planned to release it in only a single finish, a ruby-coloured real wood veneer made from the Australian red gum tree, on the basis that the gem most-often used to celebrate 40th anniversaries is the ruby. However, just before the AE40 went into production, the company had a change of heart (so to speak!) and Krix now offers this model in four finishes: Blackwood, Spotted Gum, Red Gum and Black Ash. The pair loaned to us for this review was finished in Blackwood.

Although this review pair was numbered '1 of 40' (it being the first of a 'Limited Edition' run) they were actually the 'Reference' version used for production and also the exact same speakers that were demonstrated in Krix's room at the Australian Audio and AV Show at the Rialto Hotel in Melbourne (so if you saw these speakers looking a bit damaged in Krix's room at the show, it's all true... the small dents in the cabinet and front baffle were down to us.) Because of this 'review speaker/demo speaker' history, Gary Krix told us that the '1 of 40' badge would be removed from this particular pair and instead affixed to a freshly minted pair hot off the production line (and thus totally unblemished and completely unused).

## IN USE AND LISTENING SESSIONS

Despite the amount of weight concentrated towards the base of the Neuphonix AE40 model, due to the location of the bass drivers low on the front baffle, the weight of the enormous inductors in the crossover network and the weight of a thick black steel plate that is fixed to the base of the cabinet, the small 'footprint' of the design, combined with the high centre-of-gravity (COG) mean that it's moderately easy to tip these speakers over if you accidentally give them a good push from either side, so you'll need to place them away from trafficked areas, fix them to the ground, or attach outrigger feet. Fortunately, as I was to find, the speakers work

really well when they're positioned close to a wall, and therefore out of the way... though this positioning does result in an increase in their low-bass output, about which more later...

About which more later because I spent an awfully long time auditioning the Neuphonix AE40s using just the one album—one that's more notable for (other than the music on it) its midrange. That album is Damien Rice's 'O', which I seem to have been the last person in the world to discover.



*Sit in the sweet spot, close your eyes, and you'll be transported to wherever whatever you're listening to took place*

Indeed I'd never heard of Rice until I saw the movie 'Closer' (directed by Mike Nichols and starring Julia Roberts, Jude Law, Natalie Portman and Clive Owen.) I liked the movie, but absolutely loved the soundtrack, particularly *The Blower's Daughter*, so I sat through the interminable credits to discover who played it. 'O' is a completely mesmerising album... so captivating that if it were on vinyl, I would have worn it out already.

Listening to it using the Neuphonix AE40s, I might have even worn out a CD, because 'O' and the AE40s are a match made in heaven... beautifully complementary. Everything—but most particularly the midrange—sounded so luscious that I really don't know where to start: at how realistic Rice's sparsely-recorded vocals are delivered; at the sweetness of Vyvienne Long's cello, the plaintiveness of Lisa Hannigan's backing vocals, Tom Osander's sensitive percussion... and behind everything the stringy sounds of Rice's superbly recorded and beautifully-toned acoustic guitar (a Lowden, according to guitarageek.com). So when you audition the Neuphonix AE40s for yourself, grab a copy of 'O' to play, and don't be surprised when you come to the track *Cold Water* to find that it sounds familiar: It was used in the movie 'The Girl in the Café', starring Bill Nighy. The only sonic niggles I have with 'O' are that Shane Fitzsimons' bass is recorded a touch too hot in the mix for me, (so don't blame the Neuphonix AE40s for that) and the run-out of *I Remember* (deliberately distorted) makes me wince.

(BTW, there are two hidden tracks on this album, *Prague*—which should have stayed hidden—and *Silent Night*—which makes a gorgeous *a capella* demo track, from the same mould as Tracy Chapman's *Last Night*.)

As for that bass balance I mentioned earlier, I found the AE40's balance was absolutely spot-on when the speakers were positioned two metres or more from rear walls. However, as I moved the speakers closer to the wall behind them, the level of low bass gradually and slightly increased, which my better half

actually preferred, so do do experiment with positioning!

High-frequency performance was exceptionally good. In the wrong designer's hands, the Revelator tweeter can be a bit 'spitty', but in the Neuphonix AE40s it sounds silky-smooth, super-airy and ultra-extended. The 'air' in the acoustic of live recordings is presented so palpably it's as if you're in the room and the harmonics of high-frequency instruments are rendered exactly: pitched perfectly and at precise levels.

But wait, it gets better... because the physical size of the Neuphonix AE40s, and the quasi 'line-array' of the bass drivers, when combined with the linearity and extension of these speakers, means the presentation of the soundstage is big... really BIG... and surroundingly so! Sit in the sweet spot, close your eyes and you'll be transported to wherever whatever you're listening to took place, whether it's a smoky New York jazz club, the Sydney Opera House, or a huge outdoor arena.

## CONCLUSION

With only forty pairs on offer I'd recommend being quick, because my bet is that the first forty people to hear the Neuphonix AE40s will snap them up simply for their sound quality: they sound that good. At least I hope they do it for that reason. I don't like the idea that someone would buy them just so they could own a piece of hi-fi history, or because these models could easily become collectable.  greg borrowman

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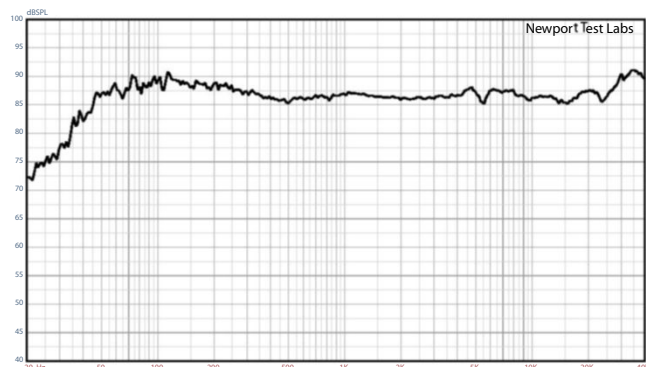
## LABORATORY TEST REPORT

Graph 1 shows the frequency response of the Neuphonix AE40 as measured by *Newport Test Labs*. Overall, the  $\pm 3\text{dB}$  frequency response extended from 45Hz to 40kHz, which is an astoundingly good result, however, between 200Hz and 20kHz, it was even better again, varying by only  $\pm 1.5\text{dB}$  between these two frequencies. This is a superbly flat response. As you can see it's also linear, so that the response doesn't 'tilt' in such a way that it favours either the bass or the treble. There is,

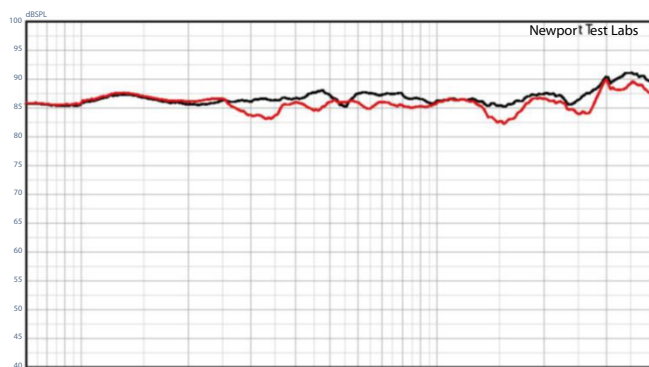
however, a slight lift in the low frequencies that puts the bass at around 100Hz around 1.7dB higher than the midrange. This has the effect of extending the low-frequencies somewhat, which means that although the bass response of the Neuphonix AE40 is 1.5dB down at 45Hz, there's useful output right down to 35Hz. At high frequencies, the Neuphonix AE40's tweeter is virtually flat out to 20kHz, after which its output rises to peak at +3dB at 35kHz, before rolling off to the measurement limit of 40kHz (this frequency being the limit of

the measuring microphone's calibration, rather than the upper limit of the tweeter itself).

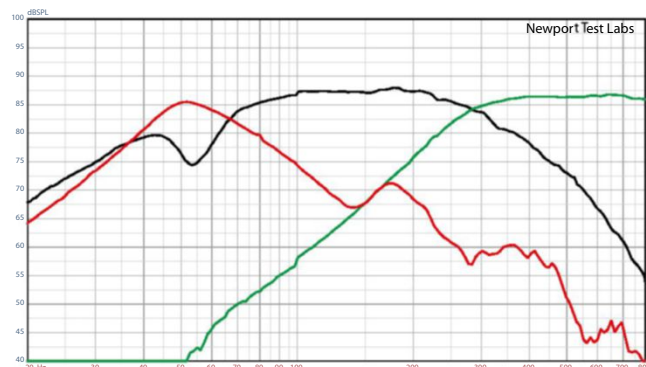
The high-frequency response of the Neuphonix AE40 is shown in greater detail in Graph 2, by virtue of 'stretching' the graph and starting the response at 700Hz. This serves only to reinforce the picture of the superb flatness of the AE40's high-frequency response. The slight dip at 5.5kHz without the grille fitted **would be** completely inaudible, as would the slight dip in response at 15kHz when the grille is in place.



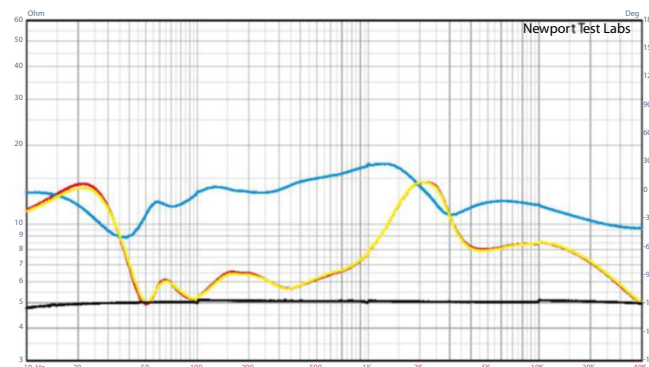
Graph 1. Frequency response. Trace below 2.5kHz is the averaged result of nine individual frequency sweeps measured at three metres, with the central grid point on-axis with the tweeter using pink noise test stimulus with capture unsmoothed. This has been manually spliced (at 2.5Hz) to the gated high-frequency response, an expanded view of which is shown in Graph 2. [Krix Neuphonix 40th Anniversary Limited Edition Loudspeaker]



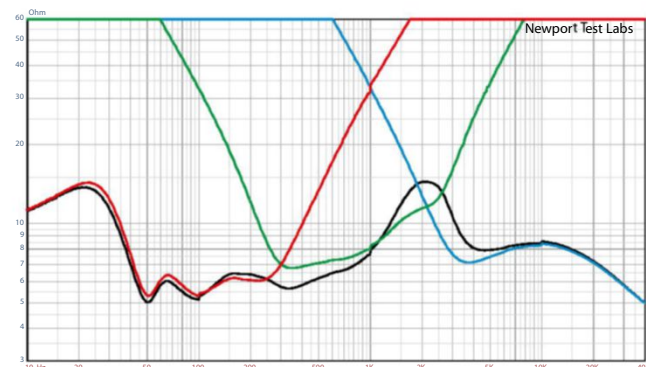
Graph 2. High-frequency response, expanded view, with grille in place (black trace) and with grille removed (red trace). Test stimulus gated sine. Microphone placed at one metre on-axis with dome tweeter. Lower measurement limit 700Hz. [Krix Neuphonix 40th Ann Limited Edition Loudspeaker]



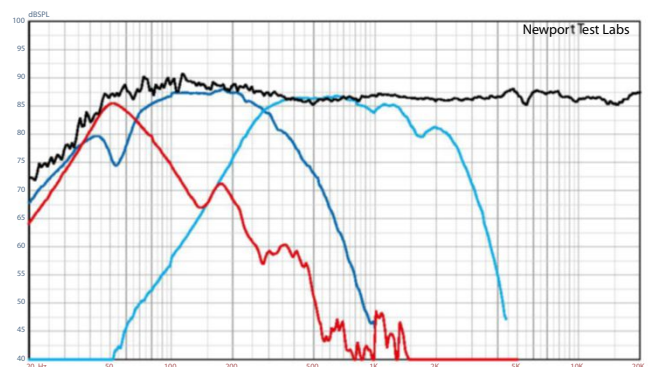
Graph 3. Low frequency response of front-firing bass reflex port (red trace), woofer(s) (black trace) and midrange driver (green trace). Nearfield acquisition. Port/woofer/mid levels not compensated for differences in radiating areas. [Krix Neuphonix 40th Ann Limited Edition Loudspeaker]



Graph 4. Impedance modulus of left (red trace) and right (yellow trace) speakers plus phase (blue trace). Black trace under is reference 5 ohm calibration resistor. [Krix Neuphonix 40th Ann LE]



Graph 5. Impedance modulus showing individual impedances of low-frequency (red trace), midrange (green trace) and high-frequency (light blue trace) plus overall impedance (black trace) of left-channel speaker only (from Graph 4). [Krix Neuphonix 40th Anniversary Limited Edition.]



Graph 6. Composite response plot. Red trace is output of bass reflex port. Dark blue trace is anechoic response of bass driver. Light blue trace is sine response of midrange driver. Black trace above 2.5kHz is the gated anechoic response, and below 2.5kHz the averaged in-room pink noise response. [Krix Neuphonix 40th Anniversary Limited Edition Loudspeaker]

As noted underneath the graph, the two traces show the response with the grille in place (red trace) and without it (black trace). There's no doubt that the Neuphonix AE40's response is considerably more linear without the grille. Attaching it introduces an overall average reduction in high-frequency output of around 1.5dB between 3kHz and 10kHz and more small suck-outs. I don't think any of these would be audible, even in a direct A-B comparison, but if you want to be assured of the most accurate response, my advice would be to remove the grilles for serious listening and replace them when the speakers are either being used for casual listening, or not being used at all.

Bass response, measured with a near-field technique that mirrors what would be measured in an anechoic chamber, shows that the port's output has been deliberately tuned slightly low, to enhance the deep bass, and that the bass drivers' response is very linear, rolling off only below 70Hz. The midrange driver (green trace) is rolled on at 18dB/octave for what appears to be an acoustic crossover at around 300Hz.


The port's high-frequency output is well-controlled, with no high-frequency output, because the midrange is in a separate enclosure. There is some unwanted output at around 170Hz, but since the port is backwards-facing, it would not be audible.

Graph 4 shows one reason for the linearity of the Krix Neuphonix AE40's frequency response, because it would appear that there's quite a bit of level compensation going on in the crossover, presumably to keep the four bass drivers under control, as well as to tame the inherent high-frequency resonance peak of the Scan-Speak tweeter. The result is an impedance modulus that drops to 5Ω at around 50Hz and 100Hz but otherwise hovers mostly between around 6–16Ω. The phase angle is extremely well-controlled within an envelope of around  $\pm 30^\circ$ . The left/right speaker matching (indicated by how closely the red and yellow traces overlay each other) is outstandingly good, which is indicative both of driver quality and overall manufacturing QC processes. I'd put the 'nominal' impedance of the Neuphonix AE40 at a very amplifier-friendly 6Ω.

I do note, however, that the impedance drops from 8Ω at 15kHz linearly until it's 5Ω at 40kHz. All things being equal I would have preferred the impedance to be rising above 15kHz.

Graph 5 shows the electrical crossover points of the Neuphonix AE40 occur at 300Hz and 2.2kHz, though because of differing driver sensitivities, the acoustic crossover points are slightly different. You can see from the overall impedance trace that there are no cabinet resonances, which is an excellent result.

Newport Test Labs measured the sensitivity of the Neuphonix AE40 as being 87dB SPL at a distance of one metre, using NTL's standard very stringent test methodology, meaning that the speaker is of average sensitivity, so you won't need a mega-powerful amplifier. However, to extract the best performance, I'd recommend using an amplifier rated as being able to deliver at least 80-watts per channel into 8Ω.

Excellent design work from the engineers at Krix: the company certainly isn't resting on its laurels.  **Steve Holding**

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**GRYPHON  
PENDRAGON**  
LOUDSPEAKER  
SYSTEM



“

*The soundstage is immense in all directions... it's a generous open window to the music!*



**S**tart with big, black, breathtaking industrial design. Then add in awesome sound and being darn hot and heavy! That's the parlance when talking Gryphon amplifiers. And some years back, it was these beasts—mirroring the imagined graceful power of a mythical creature said to be part eagle, part lion—which catapulted the-then budding Danish company to the world stage in a storm of acclaim.

Later, Gryphon expanded its portfolio to include digital products—standalone reference level CD players and DACs—cables and even audio rack systems all on par with the excellence of their amplification brethren. So, having enjoyed extraordinary international success with the Gryphon line

of electronics and accessories, what next for a growing business rich in engineering talent and with a charismatic owner with a keen sense of design aesthetics in Flemming E. Rasmussen at the helm? Well, in order to complete the chain and offer the full stable of gear required to run a high-end system, Gryphon embarked on an ambitious program that would, over a relatively short period of just a few years, see a developing line of outstanding speaker designs, introduced by the over-performing and somewhat underrated Cantata standmount. Since that formidable beginning Gryphon has followed with a number of designs at several price points and featuring varied driver, crossover and enclosure technolo-

gies. This steady progression informed the Pendragon, an imposing four-tower design that is as ambitious as it is technically impressive and now the company's flagship loudspeaker model.

The Pendragon features two towers per side in a three-way configuration. Each high/mid tower houses four Air Motion Transformer 'super-tweeters' and a two-metre tall dipolar planar magnetic thin-film ribbon transducer handling the mid-range. The second tower is home to eight custom-designed 203mm woofers driven by bespoke Gryphon Class-A/B amplifiers rated at 1,000-watts continuous and said to be capable of 4,000-watts on peaks. And just as an aside, the in-built amplifiers are no garden-variety plate amps, they're Gryphon designed marvels with a capacitor bank totalling over 200,000 micro-farads, 18 high-current bipolar output transistors, zero global negative feedback and a massive Holmgren magnetically shielded transformer.

## SCALES OF POWER

The imposing stature and construction of the Pendragon does nothing but inspire confidence. And further reinforcement of the design talent is provided by some clever electronics that allow the large design—with its potential room-related issues—to better fit into a variety of acoustic environments. The system features a remote control (a nice solid aluminium piece) that allows a number of adjustments, namely the setting of the bass system's Q, the low-cut point, system mute and, very usefully, overall bass level trimming which can all be performed on the fly.



Settings are displayed on a small vacuum fluorescent screen panel with clear and large characters so, when placed ideally at the foot of one of the towers, it can easily be seen.

The drivers are a *tour-de-force* of transducer design and have been specifically chosen to deliver high output and low distortion. Starting up top, frequency-wise, we have four Air Motion Transformer tweeters. This is a superb high frequency driver that has been around for decades (invented by Dr Oskar Heil) but its contemporary incarnation has been refined via benefits brought about by modern materials and magnet technologies. The foil is suspended between

powerful magnets and acts much as a ribbon tweeter does except for featuring a folded—or pleated—diaphragm rather than a ribbon's flat membrane. This arrangement allows increased air movement for less foil excursion—it contracts and expands accordion-like, moving far more air than a standard flat foil ribbon. The AMT array can be level-adjusted via a +1dB level control.

The midrange is catered for via a two-metre-tall wide-band, dipolar line source ribbon driver fixed to a massively-stiff self-reinforced three-layer steel enclosure. The large surface area of the ribbon is conducive to efficient thermal dissipation for high power handling and low distortion.

The second tower features an array of eight active high output 203mm bass drivers with massive triple magnet systems. Superb control, depth and power are promised via the aforementioned built-in amplification. The foot of the bass tower—which is stabilised by steel outriggers—serves as the location for the external crossover which is housed in a gloss black enclosure and features Gryphon custom binding posts. On the rear panel you'll find controls which replicate the remote's own. Further, there are connections for XLR/RCA inputs and outputs (switchable), a pro-style multi-pin remote display connector, a 12V remote socket, D-Sub data connector, IEC socket and an on/off switch.



*Listening becomes an experience and analytics are set aside as the speaker seduces and astonishes*

### SHOWROOM SESSIONS

With remote in hand and a whole stack of familiar music tracks on silver disc, I was given free reign for an extended music session in Gryphon distributor Kedcorp's large auditioning room. As a speaker system of this calibre demands, the ancillary equipment for the audition was of the highest order. Sources were the Metronome T5 Signature and C8 CD player/DAC, briefly a CEC USB DAC, the Gryphon Mirage preamplifier, Gryphon Mephisto amplifier (for the mid/highs towers) and all-Gryphon guideline and PSC reference cables. The listening environment was a large open carpeted area with a somewhat low ceiling. This last element is not so crucial given the line source nature of the design. Of more importance is the speaker-to-wall positioning given the dipole configuration of the midrange ribbon. Here, there was a good clearance of around two metres.

Let's start with the first things that will hit you (almost quite literally) once you start listening—scale and dynamic impact. The Pendragon speakers are among the most dynamic I've heard and join a select few designs I would call the best available. Some large designs have a very powerful and dynamic bass but the mids and highs may seem tame, or of lesser visceral power, in comparison. Others are the converse. The Pendragon is consistently devastating across the board from its 16Hz depths to its soaring upper limits at 32kHz. And if you dial the bass just right to suit your room (easily done via the bass settings) the sound remains formidably coherent and tonally consistent throughout the spectrum. It's an effortless dynamic envelope that would seemingly extend to the listener's cognitive limits. Very telling at the audition was the fact that given the large space in which I was listening—far larger than any likely private room—the bass was fully adjustable to my particular taste (which leans towards the moderate) so dialling the low-end down a tad made it just right for me. For bass heads, the platter is overabundant should you wish to indulge.


Also abounding is the sense of scale; play an orchestral piece and psychoacous-

tics fool you into just about *believing* you're in the concert hall. This is no mean feat and only a handful of designs, in my experience, are able to convey that level of majesty and, consequently, drama.

Of course, given the largess of the presentation, the soundstage is immense in all directions—width, depth and height. And the musical layers are peeled, nuances are expressed fluently—it's a generous open window to music. The Pendragon handles demanding transients in its stride while being true in tone, exact with detail and honest to recording and ancillaries. Listening becomes an experience and analytics are set aside as the speaker seduces and astonishes. Pendragon *communicates* the music.

### AUDITIONING SCARS

Throughout my career as a professional reviewer I have had the privilege of hearing some remarkable audio systems at shows, at distributors' and retailers' auditioning rooms, at fellow audiophiles' homes and, of course, in my own listening environment.

There has been a plethora of sonic experiences accumulated over the years but the Pendragon system has irrefutably ploughed an indelibly scarring impression. It joins a very select group and makes an extraordinarily profound mark on a landscape sparsely populated by the very best available today as current loudspeaker technology stands. And that is a precious and rare experience indeed...  Edgar Kramer

### GRYPHON PENDRAGON LOUDSPEAKER SYSTEM

**Brand:** Gryphon  
**Model:** Pendragon  
**RRP:** \$259,995  
**Warranty:** Two Years  
**Distributor:** Kedcorp Pty Ltd  
**Address:** Unit 8, 509 – 529  
 Parramatta Road  
 Leichhardt NSW 2040  
**P:** 02 9561 0799  
**E:** info@kedcorp.com.au  
**W:** www.kedcorp.com.au

Specifications are as impressive as you'd expect at this level. Frequency response is a very wide 16Hz to 32kHz within a  $\pm 3$ dB envelope depending on Q setting. The Duelund topology crossover hands the bass drivers over to the mid ribbon at 250Hz which in turn hands over to the AMT array at 18kHz—yes, nigh on super-tweeter territory. Having such a wide bandwidth for the midrange promises continuity in tonal balance and reduced crossover artefacts.

The Pendragon is unashamedly a luxury item. Construction, fit-and-finish, application of technologies; everything about it—and I mean *everything*—is just pure excellence in manufacturing and industrial design. The Pendragon is attractive (in that black Gothic Gryphon style), even if it's imposing, but a modicum of marital harmony is granted by the 'virtually unlimited' number of finish options offered for the bass enclosures' side panels.

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# Focal Spirit Pro

## HEADPHONES

The 'Pro' badge here is no token addendum — Focal is calling these 'studio' and 'monitoring' headphones, appellations that come with some pretty firm requirements. They should be a closed design (tick). They must be fully over the ear (tick, just). And most important of all, they must be utterly flat in their frequency response. If you're mastering music, you can't use headphones which have bumps and dips, otherwise your recordings will emerge with precisely the opposite holes and peaks.

Such professional headphones are usually bling-free zones—but perhaps Focal's French penchant for high fashion couldn't resist adding an unusual finish to the headshells and band, a not entirely successful stipple effect that resembles randomly splashed water; this catches the light and glitters.

Pro headphones usually also come with curly cords, and a four-metre curly is included but also a 1.4-metre straight cable with an inline remote and microphone which can pause music (though not control volume) and answer calls. So Focal presumably sees these Spirit Pros doubling up as streetwear—even though flat response is not currently *à la mode dans la rue*.

Well it should be. The Spirit Pros are wonderful headphones for the daily commute. Their memory-foam ear-cushions do a good job of passive noise isolation in both directions, comfortable through the ability to swivel slightly side to side and to adjust for height through the expansion band, and exerting only enough inward pressure to keep them well sealed, my only note being that the leatherette can start to get slightly sweaty on our more sweltering Australian days. The headshells fold inward as well for somewhat easier storage—only a soft bag is provided for transportation.

And the sound is near faultless for a closed design, with everything in its place—excellent detail and zero peakiness up top, a richly


presented midrange and a real, solid and fast bass. They do lack the sparkling openness of 'open' headphones, but those would satisfy neither street nor recording use.

Even difficult recordings get proper treatment—Ian Dury's vocal on *What A Waste* can get thin and spitty on lesser 'phones, but Focal's 40mm Mylar/titanium-membrane diaphragms deliver this correctly, projecting the vocal over a busy mix. Lower down, the three gigantic rotating bass notes that open Bjork's *Hyperballad* (Radio Edit) were thrillingly resonant and entirely bloat-free, while the Focal's clarity also made obvious the slight change in vocal tone (and soundstage position) between verse and chorus, indicating a different take or even a different session and/or microphone. These are just the variations any producer needs highlighted rather than glossed over.

Male and female spoken voices were highly accurately presented, a simple but often tricky test of tonal neutrality.

All these delights gain additional solidity when provided with the power of a decent headphone amp. I ran them from a Lehmann Audio headphone amp and from the output of a ProTools MBox (for home recording), and they confirmed the Focals' credentials for delivering the requisite analysis of a mix. In this they are hardly alone, but their 32 Ω friendliness and the ability to switch cables for road use do offer something rare.

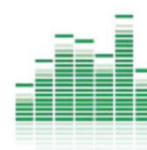
I loved the Focal Spirit Pros. They're not cheap at \$500, yet for me, they make all the right decisions (except perhaps that textured

finish, and the lack of remote volume control on the non-curly cable). One final note: if you get a chance to audition them, listen as long as possible—the very first impression may be that they are lacking in impact, precisely because they have such a flat unemphasised response. Stay with them. Chances are you'll like it flat, too.  Jez Ford

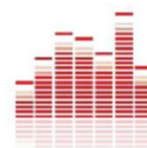


### FOCAL SPIRIT PRO HEADPHONES

**Brand:** Focal  
**Model:** Spirit Pro  
**Category:** Headphones  
**RRP:** \$499  
**Warranty:** Two Years  
**Distributor:** Audio Marketing Pty Ltd  
**Address:** Unit 14L, 175 Lower Gibbes Street Chatswood NSW 2067  
**☎ (02) 9882 3877**  
**✉ info@audiomarketing.com.au**  
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- Textured finish
- Slightly sweaty
- No volume control on non-curly cable

## LABORATORY TEST RESULTS

First, unless otherwise noted, all tests were performed at the CD standard (44.1kHz/16-bit) using either a test disc or the SPDIF input. Perhaps the most telling indication of the effectiveness of Denon's AL32 technique are the two oscillograms showing the DCD-1520AE's performance with a pulse and with a 1kHz square wave. Almost all CD players show pre-ringing on pulses, along with significant post-ringing. As you can see, the pulse reproduced by the DCD-1520AE is close

to perfect. The same is true of its square wave reproduction, which shows only a very tiny overshoot on the leading edge.

The frequency response, again measured using a test CD, was just 1.4dB down at 2Hz and 0.201dB down at 20kHz, which is outstandingly good (Graph 10). Measured using an SACD test disc, the Denon's high-frequency response was only 0.5dB down at 30kHz, 1.1dB down at 40kHz, 2.17dB down at 50kHz and 4dB down at 60kHz (it ended up 18dB down at 100kHz). Measured using

a 96kHz/24-bit digital input, frequency response was almost identical to that from SACD. All these results are state-of-the-art. Channel separation was mostly better than 104dB, but dropped to around 90dB at 20kHz. Channel balance was excellent at 0.0745dB and channel phase error was almost non-existent, hovering around 0.02° across the majority of the audio band, and still only 0.061° at 20kHz. Group delay was typical of an oversampling delta-sigma DAC, so still room for improvement here, as with all such DACs.

Signal-to-noise ratios were excellent, at 111dB A-weighted with a CD standard signal, improving to around 117dB with 48kHz/24-bit AES-17 standard test signals.

Harmonic distortion at 0dB is shown in Graph 1, and you can see that the second harmonic is at -100dB (0.001%) with the third harmonic a little lower down. Most of the higher-order harmonics are more than 120dB down, or 0.0001% THD. You can also see on this graph (a standard CD) that the noise floor is close to 140dB down across most of the audio band: it's only at low frequencies that the noise floor rises (this low-frequency noise is the 'blip' at the extreme left of the graph).

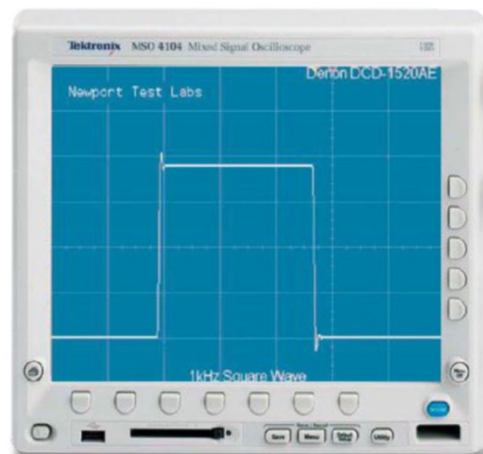
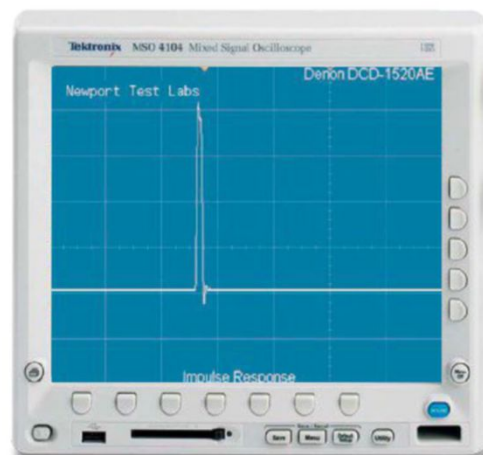
At -20dB recorded level, which is more

### Denon DCD-1520AE Test (AES-17 Standard using 48kHz/24-Bit)

Digital Section	Result	Units/Comment
Out of Band Spurious Components	-116.220dB	
Suppression of Imaging Components	-106.069dB	(Worst Case)
Level Dependent Logarithmic Gain	-0.028dB	
Intermodulation Distortion (1)	-89.664dB	18kHz/20kHz 1:1 Ratio
Intermodulation Distortion (2)	-105.111dB	41Hz/7993Hz 4:1 Ratio
Low Level Noise Modulation	+6.414dB	Worst Case
Idle Channel Noise	-117.36dB	CCIR-RMS weighting
Signal-to-Noise Ratio	-117.25dB	CCIR-RMS weighting
Power Line Products	-119.133dB	50Hz
Non-Linear Interchannel Crosstalk (a)	-120.547dB	3kHz (2nd-order ref 17kHz/20kHz)
Non-Linear Interchannel Crosstalk (b)	-121.245dB	6kHz (3rd-order ref 17kHz/20kHz)
Non-Linear Interchannel Crosstalk (c)	-106.040dB	10.040kHz (2nd re 40Hz/10kHz)
Non-Linear Interchannel Crosstalk (d)	-106.988dB	10.080kHz (3rd re 40Hz/10kHz)
Absolute Phase	Non-Inverting	Normal/Inverted

### Denon DCD-1520AE SACD Player – Laboratory Test Results

Analogue Section	Result	Units/Comment
Output Voltage	2.2820 / 2.2625	volts (Left Ch/ Right Ch)
Frequency Response	+0.0 / -0.201	dB (20Hz - 20kHz)
Channel Separation	104 / 104 / 89	dB at 16Hz / 1kHz / 20kHz
THD+N	0.0015%	@ 1kHz @ 0dBFS
Channel Balance	0.0745dB	@ 1kHz @ 0dBFS
Channel Phase	0.02 / 0.03 / 0.61	degrees at 16Hz / 1kHz / 20kHz
Group Delay	2.64 / 5.4	degrees (1-20kHz / 20-1kHz)
Signal-to-Noise Ratio (No Pre-emph)	96 / 111	dB (unweighted/weighted)
De-Emphasis Error	0.000 / 0.005 / 0.061	at 1kHz / 4kHz / 16kHz
Linearity Error @ -60.00dB / -70.00dB	0.00 / 0.08	dB (Test Signal Not Dithered)
Linearity Error @ -80.59dB / -85.24dB	0.07 / 0.16	dB (Test Signal Not Dithered)
Linearity Error @ -89.46dB / -91.24dB	0.69 / 0.21	dB (Test Signal Not Dithered)
Linearity Error @ -80.70dB / -90.31dB	0.17 / 0.02	dB (Test Signal Dithered)
Power Consumption	0.24 / 22.36	watts (Standby / On)
Mains Voltage During Testing	241 - 250 volts	(Minimum - Maximum)
Digital Section	Result	Units/Comment
Digital Carrier Amplitude	83mV	Audioband
Digital Carrier Amplitude	1.2V / 713mV	Differential / Common Mode
Audioband Jitter	1.8 / 0.009	nS (p-p) / UI (p-p)
Data Jitter	1.2 / 0.006	nS (p-p) / UI (p-p)
Deviation	4.8	ppm
Frame Rate	44100.212	
Eye-Narrowing (Zero Cross)	0.0 / 0.000	nS (p-p) / UI (p-p)
Eye-Narrowing (200mV)	5.3 / 0.031	nS (p-p) / UI (p-p)
Absolute Phase	Normal	Normal / Inverted
Bit Activity at Digital O/P	16	Where Fitted

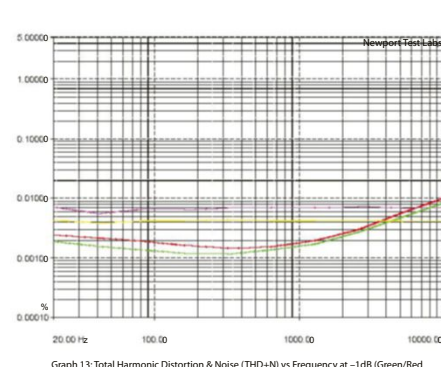
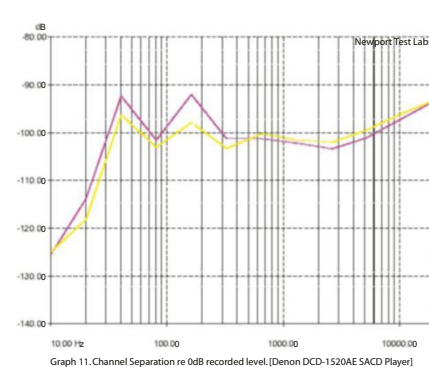
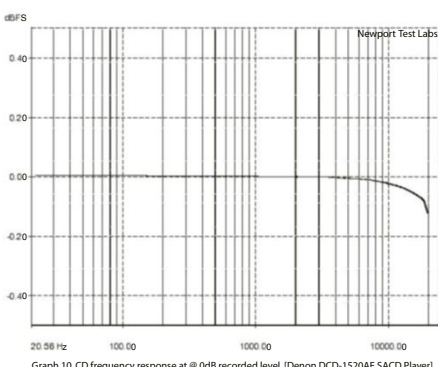
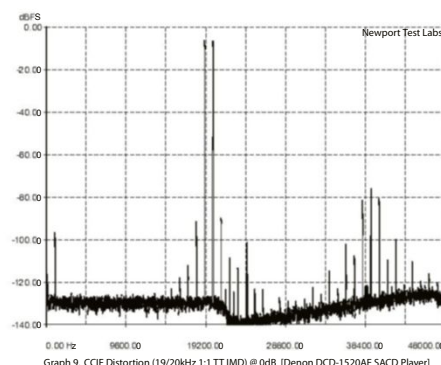
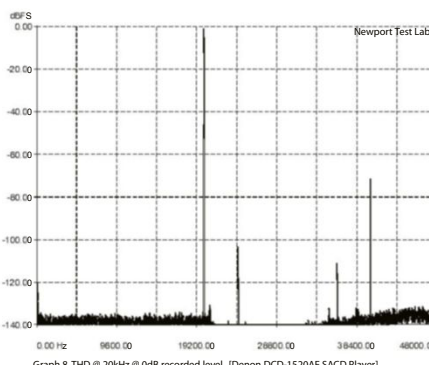
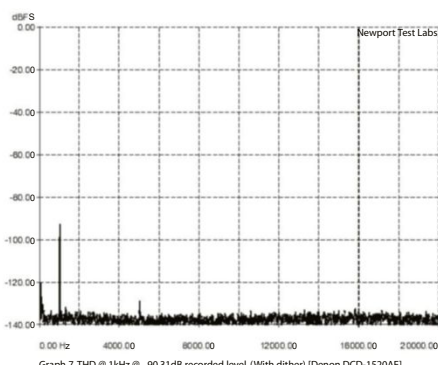
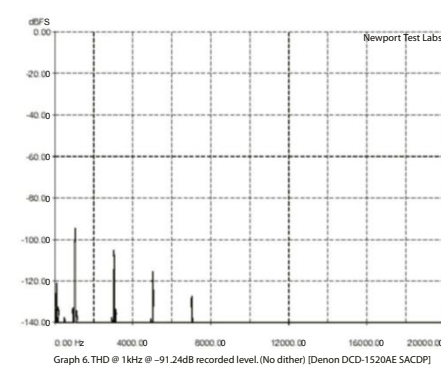
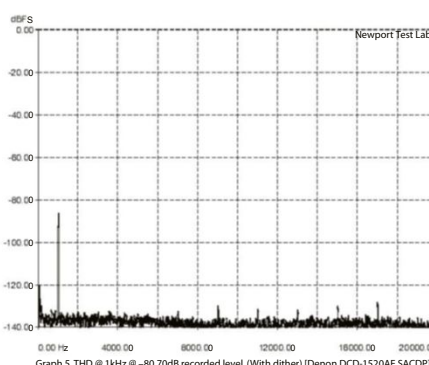
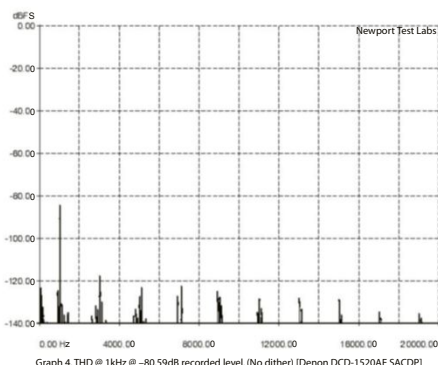
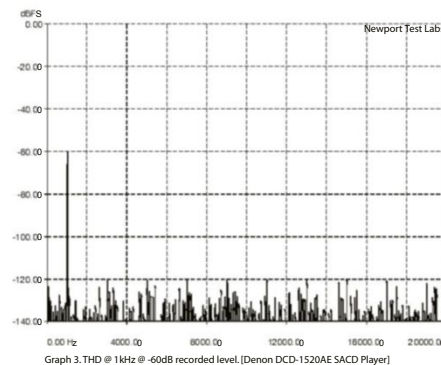
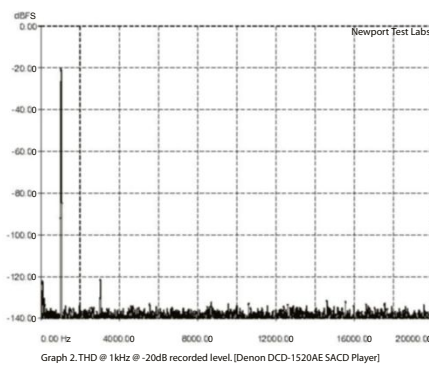
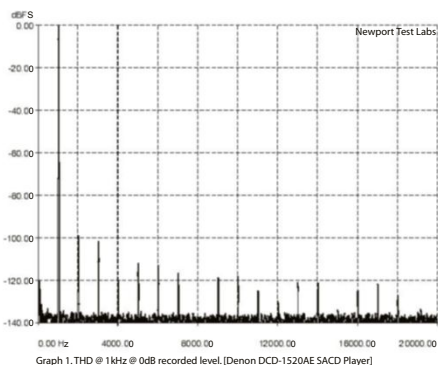


typical of what would be found on a standard music disc, there is almost no harmonically-related distortion in the Denon DCD-1520AE's output: a single third harmonic component at  $-122\text{dB}$  ( $0.00007\%$ ) is about the extent of it. The noise floor has crept up a little, but is still (except at very low frequencies) mostly still hovering down at

$-140\text{dB}$ . At  $-60\text{dB}$  the noise floor is now mostly noise caused by quantisation errors, but it's all more than  $120\text{dB}$  down. The same is true at a recorded level of  $-80.59\text{dB}$  (Graph 4). In Graph 5, the test signal has been dithered, which eliminates quantisation errors, and you can see the quantisation noise has disappeared and although the noise floor

has risen, it's still down around  $-140\text{dB}$ . The same pattern is repeated in Graphs 6 and 7, which show distortion down around  $-91\text{dB}$  with an undithered signal (Graph 6) and one that's dithered (Graph 7). Distortion is incredibly low in both tests.

Intermodulation distortion is shown in Graph 9, for a CCIF test signal (equal levels



at 19kHz and 20kHz) and you can see a regenerated signal at 1kHz that's around 96dB down (0.0015%), plus sidebands at 18kHz and 21kHz that are 90dB down (0.0031%) plus a few more down around -110dB (0.00031%).


Linearity error was negligible, with even the greatest errors (down at around -90dB and with undithered test signals) coming in at less than 1dB... and around these same levels, less than 0.2dB with dithered signals. Excellent performance!

Looking at the digital section, jitter was incredibly low, at less than 2nS for both jitter types, while there was absolutely no eye-narrowing of the digital signal at zero cross: the Denon is the first player that's achieved a perfect score in this test.

Power consumption was only 0.24-watts in standby, and around 22-watts when the DCD-1520AE is operating.

Not too many years ago, no-one would have believed it was possible to extract this level of performance from compact discs, and the performance with SACDs raises the bar even higher.

Technically, the Denon DCD-1520AE is an outstanding machine in every respect.

 **Steve Holding**

**■ Not too many years ago, no-one would have believed it was possible to extract this level of performance from compact discs, and SACD raises the bar even higher!**



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# KEF: 50 Years of Innovation in Sound

By Ken Kessler and Dr Andrew Watson

Published By: GP Acoustics International Limited

ISBN 978-988-15427-4-8

Price: \$99.99

Availability: Advance Audio

(02) 9561 0799

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

and Amazon

There have been many great loudspeakers built since the dawn of high fidelity and more than a few great loudspeaker manufacturers. But only one could truly be called legendary, and that's KEF. And that's because KEF established the foundations for modern loudspeakers: the ones we all listen to today. It did so by operating at the forefront of technology, developing materials and manufacturing techniques that would be copied by its competitors right around the world; and by investing huge amounts of money not only into materials research and automation, but also into fundamental loudspeaker design and measurement science. It also became famous for employing engineers who were (or would become) household (and hallowed) names in the world of loudspeaker design and research: designers such as Laurie Fincham, Mike Gough, Andrew Jones, Richard Small, and Andrew Watson to name but a few. But the most famous person at KEF was none other than its founder, Raymond Cooke, OBE (1925–95), because without his vision for the future of loudspeaker technology, and his unswerving dedication to pursuing it, KEF would not be the company it is today.


Given the importance of Cooke in KEF's history, it's significant that this enormous (it's 305×305mm and 22mm thick) and very handsome coffee-table book, which traces the history of KEF from even before its beginning in 1961 through to its 50<sup>th</sup> anniversary in 2011, does not have Cooke as its focus. Instead co-authors Ken Kessler and Andrew Watson concentrate on the people who worked at KEF, from the women who wound voice-coils (initially by hand) to the engineers who hand-coded programs when KEF became the first company in the world to use computers in the design process. Later, it would be the

first manufacturer to use computers to measure the performance of finished loudspeakers. KEF was also certainly the first to use materials other than paper as cone material. At times, the company was so far ahead of the game that it was ahead even of itself, with Mark Burdett recalling that after realising the significance of computer-aided drafting in production, Cooke had invested in a 3D CAD modelling program so advanced that no-one in the company knew how to use it. 'I started teaching myself during my lunch hour,' Burdett recalls.

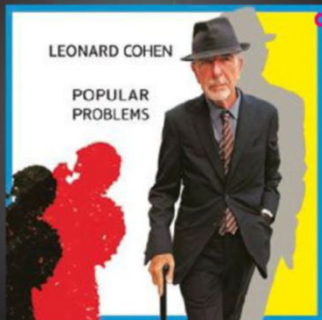
For me, the true beauty of this book is that despite its emphasis on the technicalities and *minutiae* of loudspeaker design and manufacturing, it reveals why—despite all the technology that's available to assist today's loudspeaker designers—loudspeaker design remains an art even to this day. It accomplishes this by means of extensive (and highly readable... though sometimes highly technical) interviews with dozens of designers

“

*The true beauty of this book is that it reveals why loudspeaker design remains an art ... even to this day*

and engineers who worked for KEF, some of whom still work there, as well as interviews with the 'hands-on' employees who were, in the end, responsible for building the speakers on the production line. The book also reveals the industrial espionage that went on in the industry (and probably still does). Of course it's also a true reference work, containing, as it does, comprehensive data about every finished loudspeaker KEF ever made, as well as every drive unit. Extensively illustrated, it contains photographs of every one of KEF's most famous hi-fi loudspeaker systems, right up to the famous Blade. My only criticism could be of the rather dull 'black on black' book cover, which doesn't give any idea of how exciting a book it really is.  Jutta Dziwnik





## Leonard Cohen | Popular Problems

There's no fat in these songs, each wrapping up as soon as Cohen completes his craft, combining his carefully constructed lyrics with stage-band-simple arrangements driven by bass and keyboard or piano under producer/collaborator Patrick Leonard, and with every track enhanced by the sublime backing vocals of Charlean Carmon and Dana Glover, whose angelic harmonies set off the ever-

massive presence of the master. If there are some odd choices, such as laying beats and Arabic vocals over *Nevermind* or the bizarre juxtaposition of emotion-laden verses with pacey bluegrass choruses on *Did I Ever Love You*, the bulk of this 37-minute album is laden with gold, with upbeat crowd-pleasers *Slow* and *My Oh My*, a minor masterpiece in *Almost Like the Blues*, and the infinitely deep *Born in Chains*, a decades-in-the-making confession of wandering Judaism.

## Rowland S Howard | Six Strings That Drew Blood



A must-have compilation for those who will shout 'Genius!' at the mention of Howard and his writing of the iconic *Shivers* when aged only 16, but there's also plenty here for a Rowland newbie... at least once acclimatised to the unrelentingly dark drawl and finger-bleeding guitar that span the years from The Boys Next Door *aka* the Birthday Party through These Immortal Souls and closing with most of

his 2009 solo album, released only two months before his untimely death, aged 50. The later songs are richly recorded, and even the early material scrubs up impressively crunchily; the 2009 material is interspersed with songs from 1999, and you'd not easily pick the decade of difference. One fine inclusion is the 2007 track *Summer High* recorded with Magic Dirt, trading verses with Adalita Srsen and richly produced by Dean Turner just before his own death. This is a welcome anthology for those who knew his work, an education for those who didn't.

## U2 | Songs of Innocence



Whatever you think of the Cupertino cash grab that made this album available free to iTunes account holders, there's no criticising the production of Brian 'Danger Mouse' Burton in lifting the energy levels as the pre-eminent Irish pop-rockers proffer their predictable parade of stadium-ready fare. The Clayton/Mullen rhythm section is in fine form, with especially bonkers bass on *Iris* (*Hold*

*Me Close*) but, with the sole exception of closing song *The Troubles*, it's the Bono/Edge axis that lacks any amazeballs, turning no fresh soil, as if deciding to abandon experimentation and instead just knock one out under the excuse of referencing early influences such as The Clash, Joey Ramone and, err, earlier U2. It leaves a nagging notion of self-reference in their desire to reclaim the status of 'best band in the world' has left them now sounding like Coldplay did back when Coldplay were trying to sound like U2.

## Daniel Lanois | Flesh and Machine



Erstwhile U2 producer Lanois' own material is never predictable, but this album of sonic experimentation is utterly unexpected. Entirely instrumental, though with vocal and natural sounds within electronic landscapes, the tracks shift ceaselessly from one foot to the other, for the most part eschewing discernable structure, the first substantial piece (*The End*) being the most unbearable

for this lack of shape, wailing guitars and crashing drums flailing in overlapping sequences like a prog band trapped in a middle-eight that never ends. It's an off-putting start for this collection of soundscapes pitched partway between mentor Eno's ambient catalogue and Trent Reznor's brand of hard-nailed electronica, yet offering too much action to work ambiently, not enough purpose to command full attention. One hopes Lanois will now take these wonderful noises and apply them to someone with something to say.

## Queen | Live At The Rainbow '74




Endless late live Queen performances are available, but the remastering of two Rainbow performances from 1974 is something special. At the time of the first, in March, they had yet to break big, so that on the back of just one lucky Top of the Pops performance they were defying the odds booking such a large venue. The idea was for producer Roy Thomas Baker to record it as their first live album, but with

their songwriting skills now in full flight the release was shelved in favour of the studio 'Sheer Heart Attack', which broke both the UK and US while adding monsters such as *Now I'm Here* and *Killer Queen* for their blistering return gig in November. Both gigs are released on audio (only the latter on the DVD and SD Blu-ray)—41 tracks over two hours 24 minutes—and it's electrifying stuff, showcasing their early energy and confidence, especially on that triumphant if more thumpily recorded November return.

## Robert Plant | Lullaby and... The Ceaseless Roar



Cock-a-hoop with current band The Sensational Shape Shifters, cock o' the walk Percy doesn't grant them cover credits but does acknowledge them co-writers on all songs bar the opener *Little Maggie*, a bluegrass standard (the B-side of *Duelling Banjos*) delivered here with an Afro-Celtic vibe via the eclectic stringed instruments of the brilliant Justin Adams and Gambia's ebullient Juldeh Camara on jiti fiddle, further enriched by an underlying

pumping of trance synth. Captured on a large canvas courtesy of, among others, Peter Gabriel's Real World Studios, the first half is dominated by drum-led grooves, the second by more light and shade where the emptiness is effective, and the final four fabulous: *Poor Howard* is a joyful folk-romping relative of Zep's *Poor Tom* with a Page/Plant *Wah Wah* moment at its fade; the closing transcultural-Crimsonesque *Arbaden* would be welcome at 10 minutes rather than its 2:45 fade here. Worthy, for once.  **Jez Ford**



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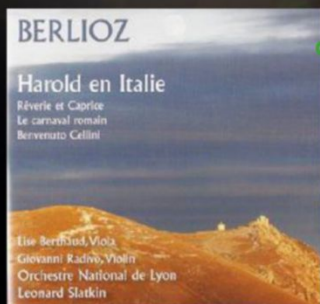
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**Louis Vierne** | Symp No. 5 & 6 | Hans-Eberhard Ross, St Martin Organ | Audite SACD 92.676

At the time of composition of these works, Vierne was in a serious funk of loneliness and illness. The second half of his life was full of adversities and struggles. The 5<sup>th</sup> is in five movements and he departed completely from the exuberance and romantic idiom of his earlier symphonies and made increased use of dissonances and atonal moments. Composed 1923–24, it opens with a slow movement, the second movement has a powerful nightmare-like conclusion, and the last

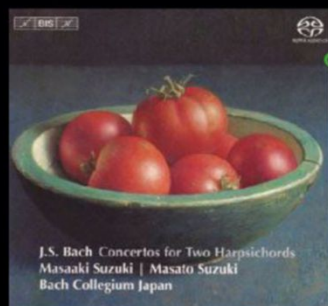
movement was described by a reviewer at the time as the ‘torture of a soul in desperation.’ Composed six years later, Vierne’s 6<sup>th</sup> has a more relaxed atmosphere and although he eschewed the 12-tone system, some of its first movement themes comprise all twelve tones of the chromatic scale within a narrow space. The second movement is jazz-like, while the Scherzo is grotesque and diabolical.



**Berlioz** | Harold in Italy + | Naxos Pure Audio Blu-ray NBD0042 (96/24, 5.1 & 2.0)

Berlioz originally intended Harold in Italy for the great violinist-composer Paganini, and its complete subtitle is Symphony in Four Parts for Viola Obbligato. Berlioz said the solo viola would be involved in a series of orchestral scenes while retaining its own character: that of a sort of melancholy dreamer during its poetic wanderings. It represents the character of Harold. The fourth movement, Orgy of the Brigands, is a favourite of audiophiles.

There is a great clarity and detail in this Blu-ray: the sonics are hugely better than any CD version. However, Berthaud’s viola doesn’t have the bite and forward thrust of William Primrose’s on the RCA Living Stereo three-channel SACD from BMG. Also one gets only two of the colourful Berlioz overtures, though probably the best ones. On the Living Stereo SACD we get four of them, and at a bargain price.



**Bach** | Concertos for Two Harpsichords | Masaaki & Masato Suzuki | BIS MC SACD BIS-2051

Masaaki Suzuki and his Bach Collegium Japan are known worldwide for their excellent series of Bach Cantata recordings as well as all the large Bach choral works, but this is one of their instrumental-only recordings. Harpsichordist, organist, conductor, and composer Masato is Masaaki’s son. The backing for the two harpsichords is a string quintet from the Collegium. BWV 1062 was probably adapted from a now-lost double violin

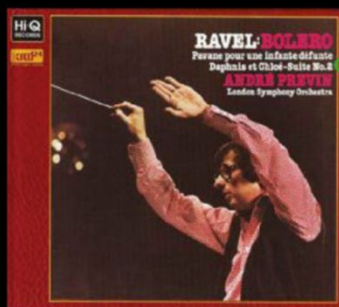
concerto; BWV 1061 exists in two versions: one without and one with (this one) string accompaniment. Masato did the arrangement of the Orchestral Suite No. 1. BWV 1060 is thought to be a transcription of a lost concerto for violin and oboe. BIS’s multichannel recordings are terrific since its switch to 96/24 PCM, which has improved sound quality, and the performances are at a very high level.



**Dr Chesky’s SFSA Binaural Show** | Chesky/HDTracks FLAC stereo download (192/24)

The 18 musical true binaural samples (here EQ’d for speaker playback) are mostly complete selections, and include rock, folk, Arabic music, Bach’s Toccata and Fugue on pipe organ, a drum solo, two Mozart selections (the second one had a low bass distortion on my AKG headphones), some flute and drum selections and The West New York Spiritual Choir singing *This Little Light of Mine*. Then there follow eight tracks of audio tests, including lower-end scales

played on the electric bass and pipe organ. The last two tracks have someone giving the dummy binaural head both a haircut and a shave—a standard binaural demonstration because it’s so realistic. The pipe organ track struck me as the best demonstration, but be advised that just as about 5 per cent of viewers cannot see 3D movies; a similarly small percentage cannot hear the effect of a binaural recording.



**Ravel** | Bolero; Daphnis et Chloé; + | Resonance Recordings | Hi-Q xrcd24

The question for many collectors will be ‘Is it worth \$53?’ Maybe if you have a super system and a high-end player, but no matter what the promotional literature says about the xrcd process, this is still just a standard 44.1k/16-bit CD, NOT a hi-res format. I’m only reviewing it in this column because it sounds so good. These original 1979 recordings are amazingly enthusiastic and colourful, both in the excellent

performances and superb sonic quality of the disc—with the last word in careful and complex mastering and pressing carried out at by JVC. It illustrates that the proper attention to detail in converting the original recording to the final optical disc is perhaps more important than the sampling details of the original digital recording or the quality of the original analog tape.



**Count Basie Plays, Joe Williams Sings Standards (1957)** | HDTT DVD-Audio (192/24)

Joe Williams might be thought of as the last of the great big band singers. His baritone voice rejuvenated the Count Basie Orchestra and he also recorded with Ella Fitzgerald, Frank Sinatra and Oscar Peterson. These dozen treatments of standards from the Great American Songbook are a fine alternate to the usual pop singers and still stand up very well, especially considering the ultimate fidelity of these transfers. Williams’ fine voice had a wonderful believable quality that sounded so natural

and intimate, and with the swinging backing of the Basie Band it’s a fabulous combination. HDTT offers downloads in DSD64, DSD128, 192/24, 96/24, or standard 44.1k/16-bit. HDTT started out using only 2-track and 4-track copies of 15 ips master tapes but now sometimes uses LPs as sources. This one was from pre-recorded open reel quarter-track tape at 7.5 ips.

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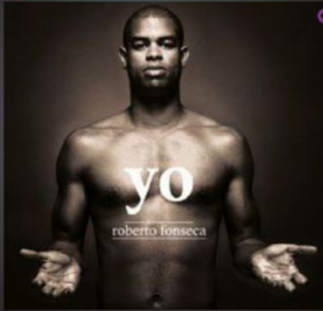
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**Roberto Fonseca** | Yo | Montuno SP 9570005

The opening *80's* comes blasting from the speakers in a tumult of African percussion, Cuban percussion and drums, setting the trend for a succession of mostly dense pieces, although with a widely shifting array of textures. *Bibisa*, for instance, takes us to Mali, with its dialogue between kora and n'goni as well as Fatoumata Diawara's exhilarating singing. The density—sometimes bordering on muddiness—comes from thickets of percussion, blazes of

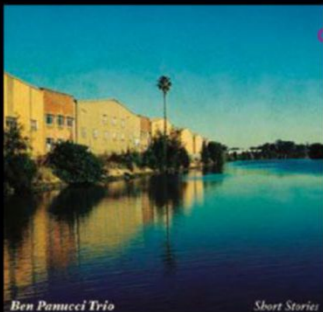
singing, and Roberto Fonseca's adding another keyboard to his piano. The music, therefore, is generally less overtly jazzy than on the last two studio albums, instead carrying more of Africa and of hip hop. But always the piano comes slicing through the thickets, machete-sharp and instantly arresting, as Fonseca unleashes each dazzling, engulfing rush of melodic clarity, drama and contagious rhythm.



**The Claudia Quintet** | September | Cuneiform RUNE 377

The relationship between silence and music is like that between a virgin coastline and the threat of residential development. Just as some buildings blend and others obliterate, some music embraces the silence on which it is painted, and some seeks to expunge all traces. For a sense of air around the notes vibraphone is king. Accordion and clarinet are good, too, and these three colours are central to the aerated sound of the Claudia

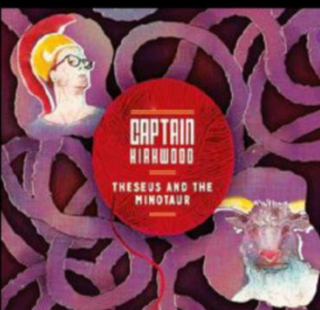
Quintet, the New York band that realises the unique sonic dreams of drummer John Hollenbeck. Hollenbeck writes cosmopolitan melodies that are by turns charming and wistful, sometimes underpinning them with surprisingly knotty rhythms, given that the end music is seldom dense—although clarinetist Chris Speed can play storming tenor saxophone when required.



**Ben Panucci Trio** | Short Stories | [www.benpanucci.com](http://www.benpanucci.com)

Ben Panucci's ringing guitar sound can speak either of effervescent optimism or pretty wistfulness, depending on context. He can also darken it with an edge of distortion or double-track it, as he does for a chiming effect on *Lethargy Blues*, which has the staggering gait of a drunk who somehow stays upright at 4 a.m. His trio is completed by bassist Alex Boneham and drummer James Waples. Already distinctive, his

compositions become compelling narratives thanks to each player's keen feel for mood, partly defined by the astute use of space. Panucci's lines, meanwhile, set him apart from the hordes of other guitarists—no mean feat! There is virtually no glib soloing for him, but rather improvisations that focus on colouring and enriching his compositions, and imbuing them with splashes of surprise.



**Captain Kirkwood** | Theseus and the Minotaur | [www.captainkirkwood.com](http://www.captainkirkwood.com)

Ellen Kirkwood's achievement in creating this musical retelling of the Greek myth of Theseus and the Minotaur may not quite match that of Theseus in conquering the dreaded Minotaur, but it's close. Like Theseus, the odds were stacked heavily against her, the chances of a stilted outcome being huge. But Kirkwood's deep understanding of the tale, as well as her abilities as a composer and band-leader, proved more than a

match for the pitfalls. Her trumpet is joined by Paul Cutlan's brilliantly evocative clarinets and saxophone, Alon Ilisar's drums, Tom Botting's bass and Glenn Doig's piano. Their music creates contexts for Ketan Joshi's delivery of a concise version of the text, fleshing it out with colour and drama, as well as putting our imaginations to work with sonic realisations of some of the action.



**Tim Clarkson Trio** | Land of Free Men | Dangerous Music DMR0002

Tim Clarkson's title is explained in his liner notes as a reference to his pondering on the eternal tug-of-war between the freedoms of the individual and the demands of the collective society. It is a fertile area of philosophy for an improvising musician, given that the creative needs of a player and the ensemble must be similarly in balance. But where society necessarily abrogates some individual freedoms, a good band like this

one can actually enhance them, with each person's imagination and ideas stimulating and liberating those of the others. So Alex Boneham's bass and Cameron Reid's drums are very much equal voices with Clarkson's tenor saxophone, which often twists itself into the knotty rhythms rather than flying above them; rhythms made even more sinewy by Boneham's singular vigour.



**The Vampires** | Tiro | Earshift ear009

The Vampires' combination of bouncing, reggae-fuelled grooves and laid-back, sun-soaked tunes makes their music easy to like. Then there are the sounds. Nick Garbett's trumpet has an insouciance that sugar-coats any more daring melodic leaps, and for this, the band's fourth album, Jeremy Rose has added the brawnier sound of tenor saxophone and some splashes of clarinet to his usual sprightly alto sax. As well as penning

the pieces, these two musicians share a rare depth of rapport, so their interaction brims with a playfulness that suits the prevailing mood. As ever the bounce comes courtesy bassist Alex Boneham and drummer Alex Masso, who drop happy pills into the music beat by beat, and make it all feel like a cruise in the Bahamas. Listen in a deck-chair.

**John Shand** [[www.johnshand.com.au](http://www.johnshand.com.au)]

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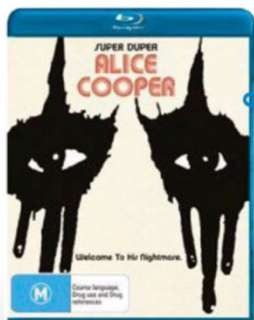


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## Super Duper Alice Cooper 2014

**Director:** Sam Dunn/Reginald Harkema/  
Scot McFadyen

**Starring:** Alice Cooper, Sheryl Cooper,  
Dennis Dunaway, Robert Ezrin, Ella  
Furnier, Shep Gordon, Elton John, John  
Lydon, Iggy Pop, Neal Smith, Dee Snider  
and Bernie Taupin

In a recent interview James Randi, the magician and sceptic, spoke of how he travelled for a year with Alice Cooper in the early 70s. He developed the guillotine and many of the other effects for the show. He revealed how, at one point, the band's manager Shep Gordon was horrified: the Mayor of Baltimore had offered the keys to the city to Alice Cooper. The last thing they wanted was respectability. They needed 'the parents' to hate them.

I was oblivious to all that. A friend of mine introduced me to high fidelity and Alice Cooper at the same time — *Killer* was our favourite — and I knew nothing of transgression or rebellion. I just loved the music. Has there ever been a better constructed ballad than *Desperado*? And in *Dead Babies*, *Halo of Flies*, and *Killer*, there's a musical sophistication at odds with the subject matter and titles. Cooper was being decapitated all over the world thanks to Randi's illusions, while I was gaining a musical education.

*Super Duper Alice Cooper* is focused about equally on the showman, on the man, and on the music. Inevitably the band (the name referred to both the man and the band up to and including *Muscle of Love*) is also big in the early part of this documentary.

Made by Sam Dunn and some of his collaborators on 'Metal Evolution', it consists entirely of period footage, old photos turned into diorama-style 3D and scenes from the 1920 silent flick, *Dr Jekyll and Mr Hyde*.

It is wonderfully effective, with accompaniment by lyrically appropriate songs from the Cooper catalogue.

If you're interested in the material in this documentary, you'll want to avail yourself of the 21 minutes of deleted scenes.

And even if you're not interested in Alice Cooper as such, the evocation of the time and place — LA as the 60s approached then became the 70s, and the struggle of bands to succeed — is engrossing. Spoiler alert: Alice Cooper failed... but then found a home in Detroit.

The picture is delivered at the regular Blu-ray 1080p24 with a generous bit rate and in a 1.85:1 aspect ratio, filling most of a regular screen. You get a choice of 24-bit stereo LPCM or 24-bit DTS-HD MA 5.1 (both at 48kHz), and they've done a decent job in making some surround out of inherently two-channel material. The core of the DTS-HD is DTS at the half-bitrate 768kbps.

### FEATURES

Running time: 87 minutes

Picture: 1.85:1, 1080p24, MPEG4 AVC @ 28.10Mbps

Sound: English: LPCM 24/48 2/0.0 @ 2304kbps; DTS-HD Master Audio 24/48 3/2.1 @ 3786kbps (core: DTS 24/48 3/2.1 @ 768kbps)

Subtitles: English, German, Spanish, French

Extras: Deleted Scenes (1080p24 - 21 mins); Rare Footage (1080p24 - 11 mins); Additional Interviews (1080p24 - 12 mins); 12 page booklet

Restrictions: Rated M, Region Free

Movie: A | Picture: A | Sound: A | Extras: B

## What's Going On 1971

**Director:** Marvin Gaye



Marvin Gaye was another of those hard-working Motown singers, pumping out album after album through the 1960s. Towards the end of the decade he was depressed by the illness of a singing partner, and of being under the thumb of the studio, so he insisted on artistic control of this, his eleventh studio album, and produced one of the greats in period soul and R&B.


The music delivery is in three forms of stereo, from which you may choose according to your preference. All are 24-bit/96k, but the formats are LPCM, DTS-HD Master Audio and Dolby TrueHD. I was a little surprised by the bitrates. Typically DTS-HD MA requires more bits for a given bit of audio than Dolby TrueHD since the latter is slightly more efficient (although on Blu-ray its efficiency is squandered due to the need to embed a backwards-compatible Dolby Digital stream). With this disc, the TrueHD track had a significantly higher bit rate than the DTS-HD track. I have tools to rip LPCM and TrueHD, but unfortunately none for DTS-HD MA. I would have loved to examine its contents closely.

The frequency spectrum (I examined the LPCM version) of these tracks induced puzzlement in me. For each and every track, and at every point I cared to sample, there was the kind of HF extension you'd expect to see if the music were recorded today using high quality 96kHz digital sampling. There's a smooth reduction in output level from around 15kHz all the way up to 44kHz. It's impressive indeed!

But studio recorders didn't capture that kind of high-end back in 1971, much as we would have liked them to. Did Universal employ some kind of enhancement, perhaps regenerating high frequency harmonics that might have been presumed to exist in the original? Hard to tell. That's always going to be a puzzle with high definition re-releases of older material.

Even if there were any kind of shenanigans with HF processing, the audible results are impressive. Mostly the recording is clean and smooth, although not remarkably 'natural'. Clearly there has been lots of layering of different audio elements. Sometimes this results in tape hiss at noticeable levels, such as during the reprise of *What's Going On?* at the end of the disc. The version of the same song which opens the disc is a touch crunchy, with a little distortion and breakup on Gaye's voice.

I'd hazard a guess that any complaints here apply as much to the original source tapes as to this representation of them.

For the most part though, the presentation is every bit as smooth as the music itself.  **Stephen Dawson** [www.hifi-writer.com]

### FEATURES

Running time: 36 minutes

Picture: 1.78:1, 1080p24, MPEG4 AVC @ 5.00Mbps (largely static content)

Sound: English: LPCM 24/96 2/0.0 @ 4608kbps; English: DTS-HD Master Audio 24/96 2/0.0 @ 2919kbps (core: DTS 24/96 2/0.0 @ 1509kbps); English: Dolby TrueHD 24/96 2/0.0 @ 3237bps (embedded: Dolby Digital 2/0.0 @ 640kbps)

Subtitles: Nil

Features: 12 page booklet; downloadable MP3 version

Restrictions: Rated N/A, Region Free

Movie: N/A | Picture: N/A | Sound: A | Extras: B

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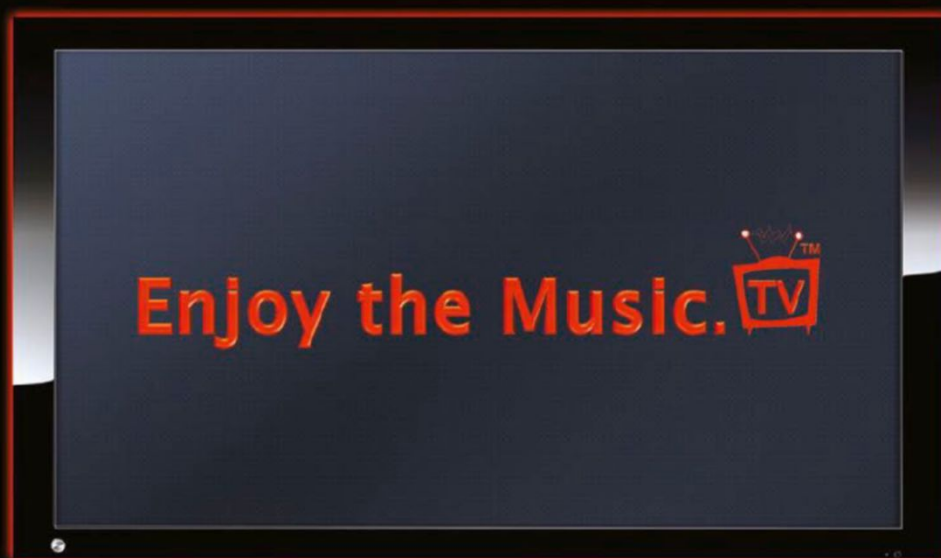
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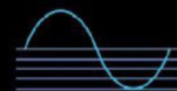
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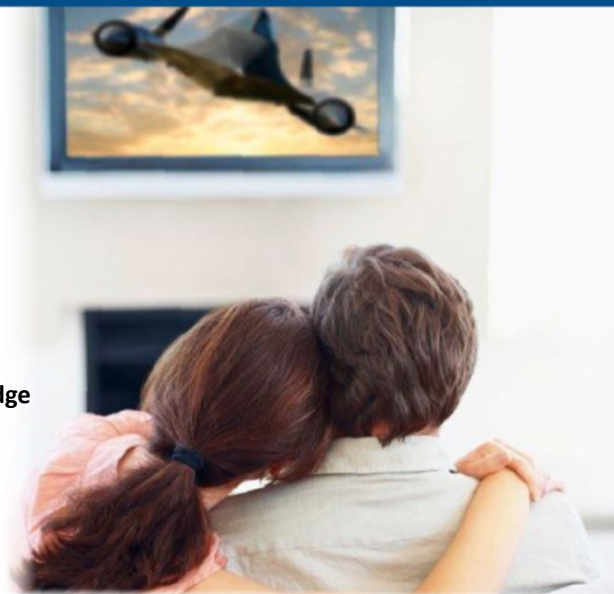
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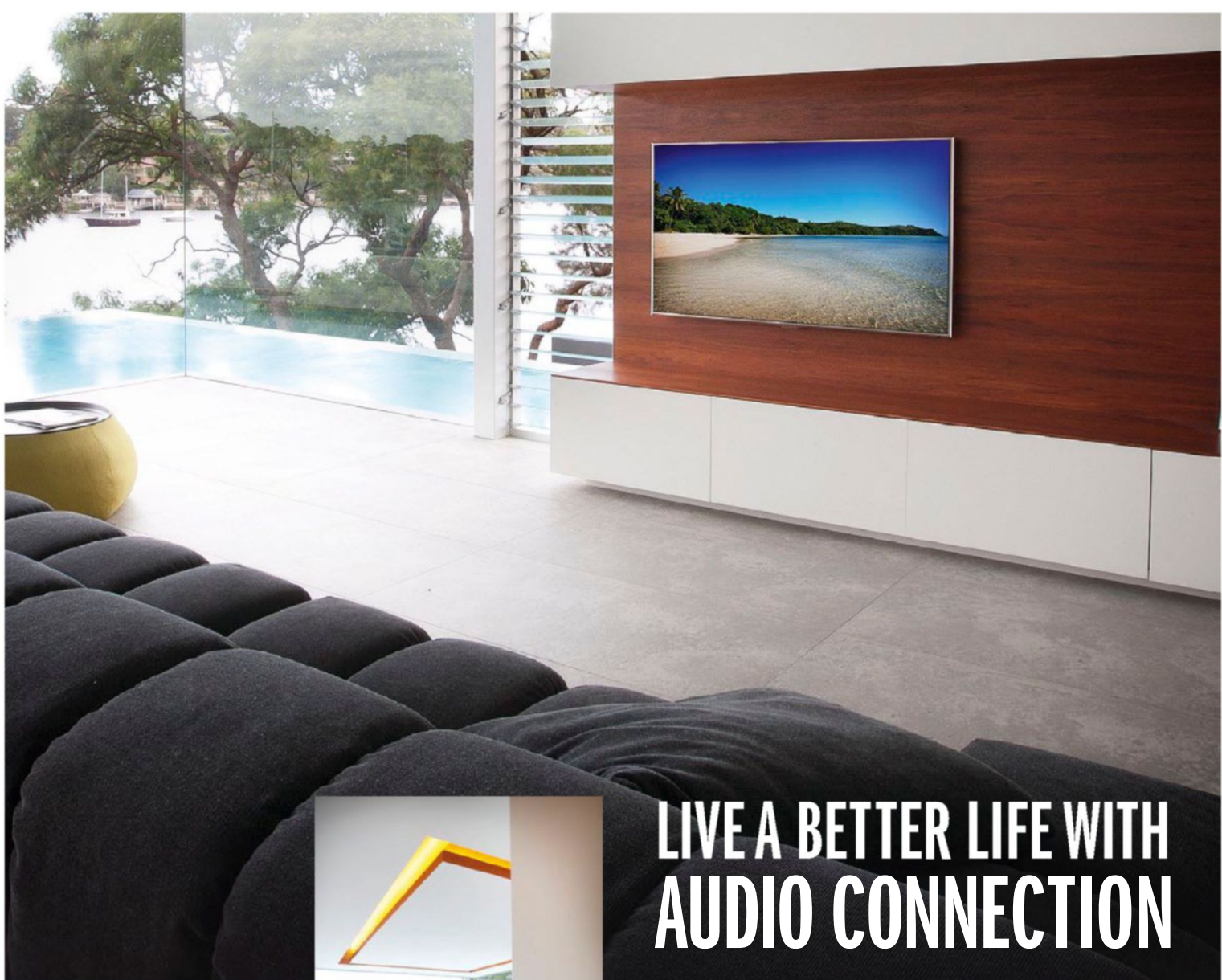
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### INTEGRATED AMPLIFIER

Audiolab 8000S	\$599
Copland CSA 8	\$990

### DIGITAL SOURCE

CEC TL51X CD Transport	\$850
Mark Levinson No.37 CD Transport	\$2,900
Mark Levinson 360S DAC	\$3,300

### SPEAKERS

Elac FS-210A	\$4,500
JM Lab Micro Utopia Be	\$4,500
JM Lab Diva Utopia Be	\$7,500

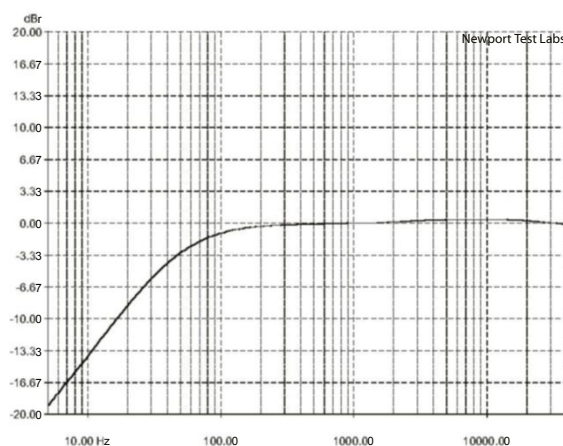
www.classaudio.com.au T: 03 8555 0735  
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Sales@classaudio.com.au



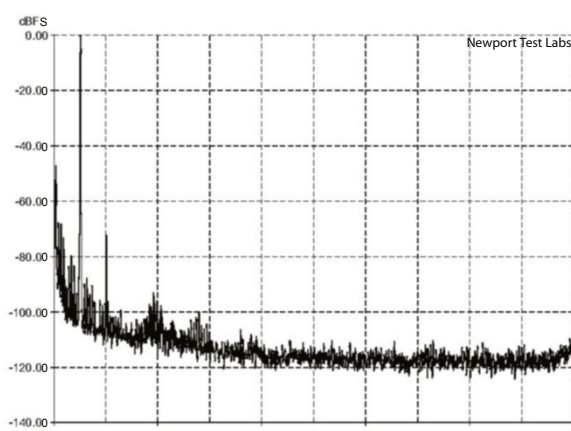
## LABORATORY TEST RESULTS

The frequency response of the Allnic H-1201 Phono EQ Amplifier is shown in Graph 1. Note that *Newport Test Labs* has used an inverse RIAA network to compensate for the Allnic's own internal RIAA curve. As you can see, the response is incredibly flat above 400Hz, extending up beyond 30kHz within  $\pm 0.05\text{dB}$ . The response rolls off very slowly below 400Hz, to be 3dB down at 50Hz and 6dB down at 30Hz, which puts the overall response at 30Hz to 30kHz  $\pm 3\text{dB}$ . This falls somewhat short of the 20Hz to 20kHz  $\pm 0.3\text{dB}$  specification, but since the roll-off really affects only the deepest bass, this will have the beneficial effect of ensuring that inevitable unwanted low-frequency sounds of a turntable (motor and bearing rumble) will be attenuated. Also, contrary to popular belief, very few LPs—even so-called 'audiophile' ones—contain any musical information below 30Hz.

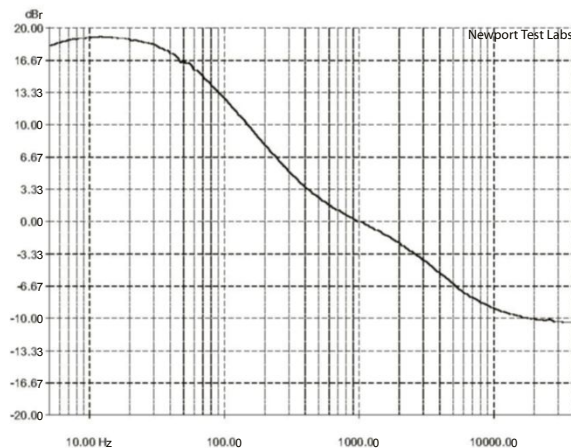
Channel separation was excellent, being measured by *Newport Test Labs* at 95dB at 1kHz, and channel balance was equally outstanding, with only a 0.047dB difference between the left and right channels at 1kHz. At this same test frequency, inter-channel phase was an exceptionally good  $0.1^\circ$ . The marked gain settings on the transformers varied from being a perfect match with the calibrated settings (at 32dB, the gain was exactly 32dB), to being very slightly different (29dB for the 28dB setting, 25.6dB for the 26dB setting and 21dB for the 22dB setting). More importantly, the gain matching between the channels for each of these settings was outstanding: always within measurement error of the 0.047dB that's shown in the tabulated chart below.



Graph 1. Frequency response using inverse RIAA filter. [Allnic H-1201 Phono EQ Amplifier]



Graph 2. Total Harmonic Distortion (THD) at 1kHz. [Allnic H-1201 Phono EQ Amplifier]




Graph 3. Freq. response showing RIAA Equalisation curve. [Allnic H-1201 Phono EQ Amp]

## The Allnic H-1201 Phono EQ Amp performed superbly on Newport Test Labs' test bench

Signal-to-noise ratio was measured at 43dB unweighted, which increased to 68dB with 'A'-weighting, which is a perfect numerical match with Allnic's own specification of 68dB, even though the company uses CCIR weighting, rather than 'A' weighting. This excellent figure will ensure the noise floor of the H-1201 is well below that of any vinyl it will be used to reproduce.

Harmonic distortion is shown in Graph 2, for a 1kHz test signal. You can see that the only significant harmonic distortion component is the second harmonic, which is 'way down at -73dB (0.022% THD). That it's only second harmonic is also significant because the second is a 'good-sounding' harmonic because it's perceived by the human ear not as 'distortion' but as added 'richness', since musically-speaking, the second harmonic is the octave above the fundamental. You can also see from this graph that over almost all the audio band the noise floor is more than 100dB down: it's only at very low frequencies that the noise floor rises to get closer to the signal. Overall THD, which Allnic specifies as being 'less than 0.3%' was measured by *Newport Test Labs* at 0.09%, a difference so small it could be the result of minor differences in measuring techniques and/or the input/output levels used for reference.

Power consumption is very low, despite the use of valves and the lack of a stand-by mode, so the Allnic H-1201 consumes only a little more than 30-watts when operating. It also runs relatively cool.

Overall, the Allnic Audio H-1201 Phono EQ Amplifier performed superbly on *Newport Test Labs'* test bench, meeting or exceeding its manufacturer's specifications in nearly all measurements.  **Steve Holding**

REFERENCES: <http://www3.alcatel-lucent.com/bstj/vol02-1923/articles/bstj2-3-101.pdf>

## Allnic H-1201 Phono EQ Amplifier - Laboratory Test Results

Test	Measured Result	Units/Comment
Frequency Response @ 5mV o/p	See Graph	-1dB
Channel Separation (dB)	95dB	@ 1kHz
Channel Balance	0.047	dB @ 1kHz
Interchannel Phase	0.01	degrees (1kHz)
THD+N	0.09%	@ 5mV output
Signal-to-Noise (unwghted/wghted)	43dB / 68dB	dB referred to 5mV output
Muting Function	26dB	
Power Consumption	N/A / 31.89	watts (Standby / On)
Mains Voltage Variation during Test	238 - 256	Minimum - Maximum

The Krix logo, featuring the word "KRIX" in a bold, white, sans-serif font on a blue background.

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