



Head first

Hunting for headphones on a budget?
Six top starter designs tested...

Black art

Well Tempered Versalex
turntable – an inspired
way to play your vinyl



Hi-Fi Choice

PASSION FOR SOUND

Issue No. 369

March 2013

£3.99

Ciao bella

Meet Sonus faber's beautiful
new Venere 2.5 loudspeaker!

Disc jockey

New Age jukebox: MCRU Music Server



Spring clean your sound

Get your system singing
with our tune-up guide!



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products reviewed
from Audio Note, IsoTek,
NAD and many more...



Metal master

Acoustic Energy 301
standmount speaker



Square deal

Pro-Ject RS pre/power amps
– compact cases, big sound

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Hi-Fi Choice

PASSION FOR SOUND

Welcome

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BADGES EXPLAINED

OUR AWARDS



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Products that we feel meet a high standard of performance



GROUP TEST WINNER:
Comparative tests can only have one winner, and this badge says it all!



Looking back to the nineteen eighties or nineties, and it's easy to identify the spirit of the age. In fashion we all remember the suits, shirts and hair we were wearing – and the colours too.

But doing the same thing for the noughties is a trickier thing. Trouble is, it's just a bit too close in time to be able to think of as 'history'. Watch the first series of that great TV drama 24 (made in 2001), and the only thing that really looks dated is Jack Bauer's smartphone...

In audio however, things have moved on faster than expected. If you beamed back to the audio world a decade ago, then the brand new SACD and DVD-A formats were great hopes for the future, confirming the apparent ubiquity of silver disc. And many hi-fi magazines were telling audiophiles that we'd all be going multichannel – as editor of a resolutely two-channel publication I remember getting stick from the industry when I dared to disagree!

So life has changed, but not *quite* in the way some futurologists predicted. Although Apple's iPod had already arrived by 2003, who'd have thought then that audiophiles would be playing high-resolution music off solid-state computer hard drives just a decade later? From the renaissance of vinyl and valve amplifiers to the move back to two-channel and the rise of network music streaming, things have progressed apace.

So it has been an interesting decade alright, but after a frenetic-but-fun ten years editing magazines – I'm moving on to spend more time with hi-fi. From next month, the charming Mr. Lee Dunkley will be sitting in the *Hi-Fi Choice* editor's chair – I wish him all the very best. Be seeing you!

David Price Editor
david.price@hifichoice.co.uk



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art loudspeakers

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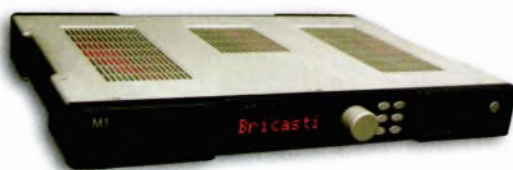
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1



2



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1

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Hey big Spendor!

When speaker designers try to improve on much-loved models, it's never easy. But Spendor seems to have pulled it off with the new D-series, says **David Price**...

PRICE: £TBA

AVAILABLE: MARCH

CONTACT: 01323 843474

WEB: SPENDORAUDIO.COM

For several years now, Spendor has happily sold its unassuming A-series to loudspeaker buyers seeking a musically satisfying but unflamboyant sound. Instead of drawing attention to themselves, as if to shout "look at me!" as many similarly priced designs do, the As just get on with making music in a relaxed and enjoyable way...

The challenge for the company was to build on the subtle charms of the A-series, while adding serious insight, grip and punch. So nicely voiced are the As that it would be easy to throw the baby out with the bath water – so to speak – in an attempt to make them better. How then do the new Ds add up?

The new 2.5 way D7 is described by Spendor as representing "a significant milestone in loudspeaker development", no less. The company has paid close attention to detail in the cabinets, which sport a rigid wall enclosure utilising Spendor's own 'dynamic damping' method to control natural cabinet resonances. Constrained damping at key energy interface points converts unwanted energy into heat, while asymmetric aperture bracing eliminates standing waves.

There's a twin-tapered venturi reflex port to eliminate turbulence and out-of-band low frequency noise; this loads the 180mm Kevlar composite bass driver, which then crosses over to a 180mm Spendor EP80 (so-called engineering polymer) midrange unit at 900Hz. Meanwhile, a Spendor 22mm linear phase hybrid soft dome tweeter takes care of treble duties over 3.2kHz. The manufacturer claims a frequency response of 29-25,000Hz, a power handling of 200W and a quoted sensitivity of 90dB/1w/1m.

The D7 comes in a range of lavish finishes, including white, cherry, light oak, black ash and dark walnut, with a black plinth to which height adjustable spike feet attach. In total, the loudspeaker weighs 21kg and measures 950x192x320mm. We have found the overall finish is excellent, with a particularly smooth gloss lacquer finish on our review samples, certainly befitting the premium price of the loudspeaker. An early audition tells us that the new Spendor D7 makes a very nice noise indeed, with the clarity and polish you'd expect – check out the April issue of *Hi-Fi Choice* magazine for a full review!





The challenge for Spendor was to build on the subtle charms of the A-series while adding real insight, grip and punch...

The Rights stuff...

REMEMBER "HOME TAPING IS KILLING MUSIC"? Paradoxically, virtually every music fan around in the early nineteen eighties does, but the vast majority ignored it completely. This much derided and oft-parodied publicity campaign by the British Phonographic Industry – the United Kingdom music business's trade association – was a response to the (then) burgeoning threat from the Compact Cassette. Many musicians and music publishers of the time obviously thought that the ability to store their wares on tape, without paying for the privilege, was depriving them of income – and thus began a long and torturous struggle between the music industry, and their customers...

Just to make life a little more confusing, the law has never really been crystal clear on the issue of 'home taping' (or illegal downloading as it's now called). In the nineteen seventies, individual music fans could purchase a licence for the right to record music for their own domestic use, although not many did. In the mid-eighties, Digital Audio Tape's launch in the UK was delayed while the music biz got clarification of the law, as the new technology was the first to offer direct 'bit for bit' digital copying, and was thought by many to be potentially ruinous to recording artists. It wasn't.

These days, the understanding is that in the UK you can copy music you've bought for your own purposes, but *not* to distribute to others. Now though, extra clarification has been added – and users will be able to copy music and ebooks between devices without breaking the law. The government has also ruled out imposing an 'iTax' on all music storage devices, despite being levied across much of Europe – in France for example, iPods currently get an extra tax of 15 euros! The change means users will be able to copy files as many times as they like for their own use, but it will still be illegal to give copies to other people.

"We feel we have struck the right balance between improving the way consumers benefit from copyright works they have legitimately paid for, boosting business opportunities and protecting the rights of creators", said business secretary Vince Cable last December. Quite right too!

Yes Canor do

Canor adds a new integrated amplifier to its hi-fi portfolio

The Canor TP134 is a new stereo integrated amplifier that uses EL34 output valves to generate a claimed 35 watts per channel. The circuitboards feature patented CMT (Canor Milling Technology), sections of which are precisely removed to give the circuit similar electrical characteristics to one direct wired with air dielectric cables.

The TP134 features a relay attenuator volume control which, says Canor, provides a more direct signal path with fewer contacts than typical volume controls leading to precise control and higher sonic performance.

All control electronics, such as input switching and volume adjustment, are

fed from a separate section of the power transformer, while double copper foil shielding is used within the transformer to prevent mains noise from affecting the performance.

Other features include what's claimed to be high capacitance anode power supply filtration, polypropylene capacitors and special custom-designed bifilar wound output transformers.

The TP134 is housed in a resonance-damped chassis with a 10mm thick aluminium front

panel and gold-plated input and output connectors. Available in black or silver and supplied with a Canor system remote control. Watch out for a review in *Hi-Fi Choice* magazine soon!



PRICE: £2,495 **CONTACT:** 01276 501392 **WEB:** CANOR-AUDIO.COM



Plug 'n' play

New digital speaker for both PC and Mac computers

KEF has announced the X300A, a hi-fi speaker system conceived to partner a PC or Mac desktop or laptop computer. Connection is via a 'distortion-free' 24-bit/96kHz USB digital input, ensuring that high definition sound is achieved throughout the system from 'source to output', says KEF.

The X300A has two Class AB audiophile-grade amps in each speaker, one for the bass and midrange, and one for treble. It's claimed that as each driver has its own amp, the tweeter is not affected when the bass/mid amp starts to reach the limit, and so the sound is much cleaner at high levels.

In addition, there is an audiophile-grade linear power supply with toroidal transformer and, says KEF, the user has the ability to switch between desk, free space and desk/wall modes, while the sound is adjusted to optimal whichever location the speaker is put in.

Desk and stand modes are selected by a switch on the rear panel of the master speaker, wall mode is selected via a foam plug for the rear mounted reflex port.

The Uni-Q driver is derived from KEF's flagship Blade speaker and a 3.5mm analogue input allows the connection of both mobile phones and MP3 players.

PRICE: £600 **AVAILABLE:** NOW **CONTACT:** 01622 672261 **WEB:** KEF.COM

COME AND SEE HI-FI CHOICE AT THE BRISTOL SOUND AND VISION SHOW – from Friday 22nd to Sunday 24th February 2013 at the Marriott City Centre Hotel in Bristol. In room 430 we'll be running a dem entitled 'The Secrets of Streaming Revealed'!

Blue tonic

THE NEW QED UPLAY PLUS IS A BLUETOOTH HI-FI RECEIVER which incorporates the latest Bluecore 5 chipset and supports advanced 'aptX' audio coding. There's a digital optical output, along with an onboard DAC, which says QED, promises less than 0.035 percent distortion, and stereo analogue outputs, making it ideally suited to connect to an existing hi-fi system, home cinema system or even the better quality iPod docks fitted with an 'Aux' or optical input socket. Available now, the uPlay Plus costs £100.

qed.co.uk



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nothing less...”



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Diva IISF Michael Fremer, *Stereophile*, January 2011

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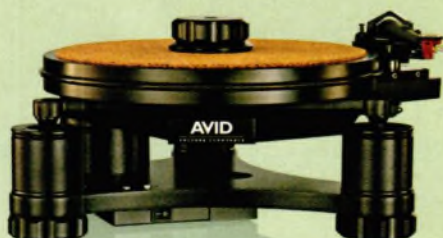
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O'Brien Hi-fi, 60 Durham Road, West Wimbledon,
London Tel: 020 8946 1528

Progressive Audio, 2 Maryland Court, Rainham, Kent,
Tel: 01634 389004

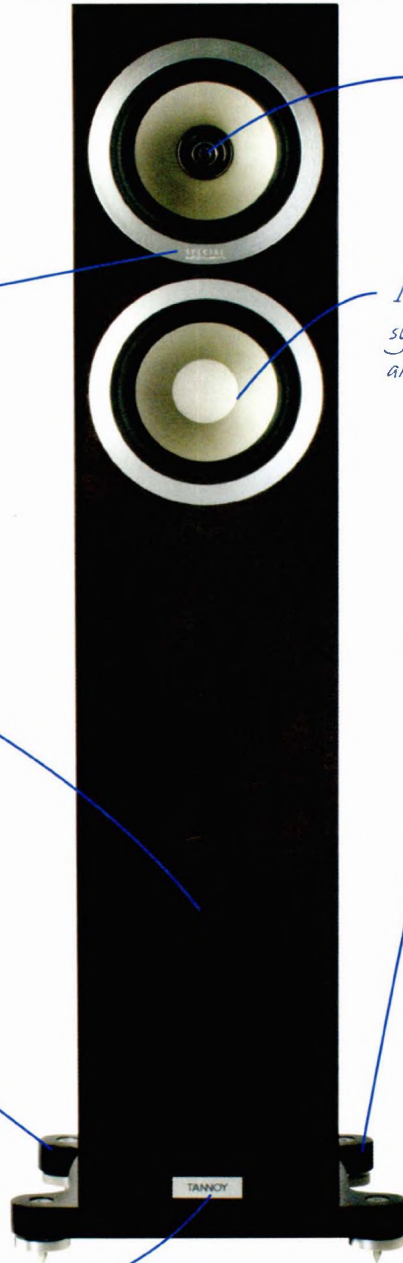
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btw ...the speaker is priced at £999 making it a bit of a special bargain.

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Naim of the game

High powered duo from Salisbury includes new DAC and power amp...

Naim's new DAC-V1 digital-to-analogue convertor is compatible with a wide range of sources, including hi-res music files played off computers via applications such as iTunes and Windows Media Player. It can be connected via USB, and is said to have jitter elimination circuitry to optimise the sound regardless of digital source selected.

The new DAC sports a built-in headphone amplifier so users can enjoy, says Naim, high quality sound while working at a computer. The DAC-V1 also has five digital inputs for connecting games consoles and DVD players, etc. It was unveiled at the Las Vegas CES show last month, alongside a new NAP 100 power amplifier, details to follow...



PRICE: £1,250 (DAC-V1), £650 (NAP 100) **AVAILABLE:** NOW **CONTACT:** 01722 426600 **WEB:** NAIMAUDIO.COM

Powerhouse duo

Integrated amplifier and CD player from T+A

The T+A FA 3000 HV integrated amplifier boasts a claimed continuous output of more than 500 watts per channel. The unit is equipped with a large number of balanced and RCA inputs catering for all requirements, while solid rhodium-plated speaker terminals accommodate any type of cable to professional standards.

The MP 3000 HV is a multi-source player with a CD mechanism, streaming client, FM tuner, DAC and FD 100 remote control with screen. It is fitted with, claims the company, the finest convertors and also provides the means for connecting and converting any kind of digital source to the very highest quality. It's rated at 1,000 watts.



PRICE: £9,900 (PA 3000), £7,900 (MP 3000 HV) **AVAILABLE:** NOW **CONTACT:** 07917 431280 **WEB:** TAELEKTROAKUSTIK.DE

Time machine

New phono stage promises superb sound

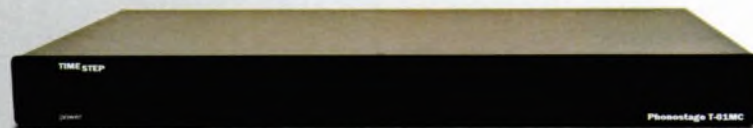
New from Timestep is the T-01MC, a competitively priced moving coil phono stage. Its minimalist design avoids, says the company, any unnecessary switching that would introduce extra contacts

and therefore noise and distortion...

Boasting "excellent performance with ninety five percent of high quality moving coil cartridges", the T-01MC has been developed and tested with a wide spectrum of pick-ups

ranging from Denon's classic DL-103 to the Clearaudio Goldfinger Statement, no less.

Custom configuration is also available to suit specific cartridges; the T-01MC can be optimised to match any moving coil.



PRICE: £995 **AVAILABLE:** NOW **CONTACT:** 01803 833366 **WEB:** TIME-STEP.COM

DAC debut

New high-end convertor to delight digital devotees!



British newcomer Computer Audio Design (CAD), is a specialist high-end audio company whose debut offering is the CAD 1543 DAC. This exotic asynchronous USB DAC is, says CAD, designed to deliver a sonic performance far beyond that of even the most luxurious CD players.

The CAD 1543 DAC has been built on an obsessive design principle that seeks to minimise components in the signal path. It's also computer-orientated in recognition of today's high-resolution digital music files and yet, says the company, has been designed to deliver the same natural, effortless sound that's inherent in the best analogue source components.

Based around a dedicated, non-magnetic acrylic chassis with proper isolation and damping, the new CAD 1543 DAC has been optimised to work with a computer and designed to minimise disruption to the incoming signal. To this end, the DAC has a single USB input, plus one set of RCA outputs.

The CAD 1543 also boasts advanced power supplies which have their own mains conditioning. Other features include extensive internal isolation; no active devices in the output and visco-elastic polymer feet with, it claims, superior damping and absorption properties. Over ninety percent of the DAC's components come from UK manufacturers, it is claimed.

PRICE: £6,900 **AVAILABLE:** NOW **CONTACT:** 0203 3970334 **WEB:** COMPUTERAUDIODESIGN.COM

World first

DYNAUDIO'S NEW XEO LOUDSPEAKER SYSTEM is claimed to be the world's first high-end wireless loudspeaker package. There's a choice of the Xeo 3 compact bookshelf speakers (£1,365) or the Xeo 5 floorstanders (£2,635). Offering wireless audio playback with full CD resolution (16-bit/48kHz) the Xeos, says Dynaudio, are compatible with any audio source via USB, optical digital or analogue stereo.

Tweeters are 27mm soft dome designs with Dynaudio's precision coating, while the long-throw 145mm mid bass units feature Dynaudio's proprietary MSP (Magnesium Silicate Polymer) cones.

According to Dynaudio founder and CEO Wilfried Ehrenholz, "This new product range exists as there has been a drastic shift in how customers are listening to music. Of course, audiophiles will always be driven by performance and absolute sound quality, but there are also customers who may not even know the audiophile market exists but are interested in quality product design, innovative technology, and better convenience in audio products."



The Xeo 3 and Xeo 5 loudspeakers receive the music signal digitally from the Xeo wireless transmitter, and process the signal digitally until amplification. They receive the most pure, unchanged music signal there is, mating this to advanced Dynaudio driver technology, the company claims. The Xeo range is said to be the first of its type to offer such wireless connectivity.

Each Xeo loudspeaker set is supplied with a Xeo transmitter and a remote control. The transmitter communicates to the internal amplifier in the speaker, with no need for any further connection to a router or LAN. Any existing digital or analogue audio source can also be connected, such as tablet, smartphone or other personal media devices. dynaudio.com

NEWS IN BRIEF

• THE ASTELL & KERN AK100 PLAYER

is said to be the first really high quality portable hi-fi audio device capable of 'Mastering Quality Sound' (MQS) playback. MQS files are sound or music files saved as a lossless format, straight from the studio mastering source.

Henry Park, CEO of iRiver, says, "music lovers will finally get the quality they have been longing for ever since the MP3 was introduced. Our mastering quality sound (MQS) is considered as the last phase of sound produced in mastering studios and uses ultra-high resolution sound quality (up to 24-bit/192kHz)."

The AK100 contains 32GB of internal memory and can be expanded via two microSD card slots, each supporting an additional 32GB microSD card, offering a total 96GB of storage. It's compatible with FLAC, WAV, WMA, MP3, Ogg, APE, AIFF and ALAC audio files. The player also offers numerous connection options,

including micro-USB, optical in/out, Bluetooth and headphone out. It's available now priced £569. airaudio.co.uk



STOP PRESS:

PRO-JECT'S BRAND NEW DAC BOX DS

is a high quality asynchronous USB-capable digital-to-analogue convertor. This £349 design supports 24-bit/192kHz hi-res music data in fully asynchronous mode, and boasts high quality Burr-Brown PCM 1792 DAC chips which the company says, "are usually only associated with far more expensive, high-end designs".

The unit provides two different filter settings ('Steep' & 'Optimum Phase') which let the user tweak the sound to his or her preference, and there's a large display which shows the selected input, incoming bit depth, sampling frequency and filter settings. For more information, click on henleydesigns.co.uk



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*'Seduces the listener with realism and a sense of scale...
The Summit X will own your heart from its first notes'*

Ken Kessler, Hi-Fi News (November 2009)

*'Reference-grade performance that you'd struggle to match
at double the price'*

Alan Sircom, Hi-Fi+ (Issue 66)

*'The Summit X is just too addictive to live without. I'm putting
my money where my mouth is and buying the review pair as
my new reference loudspeakers'*

Howard Kneller, SoundStage! (September 2009)

Nothing brings music to life like
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constrained.

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MartinLogan's latest creation: the mighty
Summit X. Key to the new speaker's extraordinary
performance are its advanced XStat™
electrostatic panel and perfectly integrated
Controlled Dispersion Powered Force™ woofer
section, effortlessly extending bass response to
subterranean depths.

Yet the Summit X never sounds heavy. On the
contrary, its performance is extraordinarily fast and
open, painting an image that dances boldly before
the listener, fully scaled and unconstrained,
a sound that's natural, effortless and startlingly real.

The pinnacle of MartinLogan's hybrid electrostatic
technology, the Summit X joins an extensive range
of speakers encompassing freestanding, on-wall
and in-wall models, from affordable hybrid designs
and standalone subwoofers to the awesome CLX
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Ciao bella!



Is Sonus faber's affordable new Venere 2.5 floorstanding loudspeaker more than just a beautiful body? **David Price** says hellooo...

Of all the world's great loudspeaker companies, there is surely none more Italian than Sonus faber? True, there aren't that many speaker makers based at the Mediterranean end of Europe – but of those that do hail from this part of the world, this company occupies a unique position. Just like Sofia Loren or Roberto Baggio, its products have their country of origin running through their very DNA. And surely that can only be a very good thing, or can it?

Of course, culture plays a part, but another vital defining characteristic of any company is who runs it, and indeed how it is run. Sonus faber isn't one of those 'committee' type companies, doing bland, lowest-common-denominator stuff. It's fair to say its loudspeakers are voiced in particular way and with a distinctive sound, one that won't appeal to all. Things could only be this way, when the founder Franco Serblin is still the chief designer for the company. Just as the company name suggests, all his speakers deliver a 'handcrafted sound', something that could only be the product of skilled people with decades of experience.

Rather than buying in proprietary drivers, Sonus faber has always paid special attention to the drive units – whose importance in the overall sonic scheme of things is often as understated as it is misunderstood. Bespoke drivers also allow the designer to follow the 'less is more' school of crossover design too (most Sf models have a simple first order design), saving a good deal of money to put into doing the best cabinet possible.

The Venere 2.5 is – as its name suggests – a 2.5 way floorstanding speaker, sporting a shape which is said to be an homage to its 'mother' speaker the Aida. Considering its £2,000 price tag, you just can't help wondering how on earth the company managed to

achieve such high levels of build and finish. This price point is a distinctly tricky niche for a big floorstander, as the larger a loudspeaker gets (and the Venere 2.5 isn't small at 1,107x340x437mm) the harder (and more expensive) it is to control.

Think of a standmounter as a nimble little Mini (the real one, not the modern genetically modified mutant) able to change direction at the blink of an eye – and then imagine trying to do the same thing in a big Bentley, with all that weight wallowing around. Speakers are the same, inasmuch as the bigger they are, the harder it is to get a grip on the physics. Floorstanders have long cabinets which can variously flex and/or store unwanted mechanical energy like a capacitor does current. Dealing with this takes careful design, something that's simply not a problem with a small standmount speaker.

The profile of this box is shaped like a Lyre, which the manufacturer

► DETAILS

PRODUCT:
Sonus faber Venere 2.5
ORIGIN:
Italy/China
TYPE:
floorstanding loudspeaker
WEIGHT:
19.45kg
DIMENSIONS:
(WxHxD mm):
340x1,107x437mm
FEATURES
• specified sensitivity: 89dB
• specified impedance: 6 ohms
• 29mm silk dome tweeter
• 180mm Curv midrange unit
• 180mm Curv bass unit
DISTRIBUTOR:
Absolute Sounds
TELEPHONE:
020 89713909
WEBSITE:
absolutesounds.com

claims ensures structural strength and control of spurious resonance. While this is true to a large extent, I have to say it was still slightly lively – or to be more accurate – 'undead'. But then the same can be said for many £5,000 floorstanders, and it's only when you get to the likes of B&W's £10,000 801Ds that the cabinet seems to be hewn from rock that reaches down to the very centre of the earth itself. So we'll say the Venere 2.5 passes the knuckle-rap test very comfortably, given its size and price.

Like Sofia Loren or Roberto Baggio, Sonus faber's country of origin is in its DNA

The piano gloss lacquer finish is superlative at its price. There is little sense of this speaker being the poor relation to the marque's higher end offerings, despite being made in China. Indeed Sonus faber has worked very closely with its far eastern partner, training its people at the Arcugnano head office in Italy, with Italian technicians and carpenters working in China too. The result is a beautiful design by Paolo Tezzon and Livio Cucuzza (engineer and stylist respectively), made to very high standards yet sold at a price that's considerably less than would otherwise have been possible closer to home.

So, the Venere 2.5 gets off to a good start in life, with a beautifully finished yet very substantial and 'quiet' cabinet, into which some high quality Sonus faber-designed drivers are bolted. The treble unit is a 29mm German DKM silk dome with no ferrofluid, claimed to go from 25kHz up top, down to 2,500Hz whereupon a 180mm driver with a composite plastic Curv cone takes care of the midrange duties. It then passes the baton to another similar driver that goes from 250Hz down to a claimed 45Hz. These are set into a curved, inclined baffle – with the bass driver loaded by a reflex port on the front. Tempered glass is set into the base and top, and the speaker sports adjustable aluminium feet.

The overall package really is quite superb – you can't help feeling you get an awful lot of speaker for your money, something that looks three times its price. It sat very happily in my largish listening room, its shiny surfaces glinting in the daylight.



The Venere 2.5 is, as the name suggests, a two-and-a-half way design...

Q&A

Mauro Grange
Sonus Faber, CEO



DP: What's the aim of the new Venere series of speakers?

MG: To address the music and cinema lovers' desires and needs doing this with an 'audiophile attitude', with a strong design concept, with a natural and 'easy' and 'happy' sound performance and with a very good overall value for money ratio. It represents the enter door into the Sonus faber word and it really aims to be suitable for everyone.

How do you solve the classic problem of getting a large floorstander's cabinet to be stiff?

In the most traditional Sonus faber way, by using a curved side instead of a straight one which is now to be stronger and stiffer than a straight one and adding inside a proper amount of sub-structural ribs to stiffen and reinforce the structure.

Why did you choose reflex loading on this big cabinet?

Generally speaking it means better extension to the low frequencies when compared to a closed box design having the same dimensions. Another important reason is related to the drive units, there's a wide choice of types for reflex loaded boxes.

Why did you choose silk for the tweeter material, and why doesn't it have ferrofluid cooling?

Silk material has been chosen simply because it sounds the way we like, and the silk diaphragm is produced by the best European components manufacturer. Ferrofluid badly affects the transient response so we did not use it.

Why does Sonus faber use its plastic Curv material for the midrange and bass units?

This thermo-moulded polypropylene textile material performs much better in terms of detail resolution than a standard injected polypropylene cone – and offers better sound per pound. The addition of a paper-coated dustcap confers on them a very nice, natural and warm sound.

Sound quality

The great thing about a speaker of this size is that it's possible to make it usefully efficient – and so the Venere 2.5 proved. With a quoted sensitivity of 89dB, you don't need a direct feed to Didcot power station to tickle its transducers. I auditioned it with two amplifiers – the new solid-state Musical Fidelity M6 500 integrated and a not-so new World Audio K5881 tube amp fed direct from the variable output of an Audiolab M-DAC. In both instances, these speakers were well able to communicate the relative differences in sonic character between the amps (and there sure is a difference), telling me that they weren't interfering too much with the signal sent to them. This can only be a good thing...

The speaker proved relatively easy to set-up, with no strange rituals required. It certainly wasn't anywhere as sensitive to toe-in as some of the other speakers I've had in my listening room recently, such as the MartinLogan Montis, for example. Just a few degrees of angling towards 'the couch of revelation' (i.e. my sofa upon which I do the listening) saw them imaging very nicely indeed. The only issue (if that's not too strong a term) was the distance from the rear wall, which needed to be a little more than many floorstanders I audition in my room. The Venere 2.5 needed to come out a good 25cm, lest its bass wasn't boomy – many speakers I've tried work closer to the back wall, I've found.

Properly set up, the Venere 2.5 gives a wide, smooth and spacious sound. As you'd expect at the price (and considering its junior status in a very prestigious range which spans up to the heavens, in pricing terms), it's not quite as delicate, incisive and subtle as its bigger brothers, but it still retains very large amounts

of Sonus faber character in the way it behaves. This of course is no bad thing. Feed this speaker some pulsating pop, and it dives into it with the aplomb of something that's had an energy drink or three too many – there's plenty of emotion and brio. Yet hit it with some contemplative classical and it steps back respectfully and quietly decants the sherry, as if it's aware of the deference it needs to show such programme material. Clever, that.

Tonally it is generally closer to the deep, dark, sultry school of speaker design that a great many modern boxes. You'd never call it dull, but neither is it from the 'blow your wig off' school of speaker design. The tweeter is a nice delicate device; inferior treble units have an amazing ability to spoil things lower down the frequency spectrum and lop the bite from the leading edges of instruments – but this does not. Ride cymbals on Caravan's *Nine Feet Underground* track were very well carried indeed, although there's a little less top end sparkle and nuance than you'd get from a speaker with a good ribbon such as Monitor Audio's GX200.

All three drivers integrate well – it's a two-and-a-half-way design but it gives the impression of being cast from solid. This means that while the speaker is able to tell you all about the vivid attack transients from the steel guitar strumming on – for example – Tears for Fears' *Pale Shelter*, it doesn't lacerate your eardrums, leaving you dripping blood on the carpet. And moving to valve amplification smoothed things even more of course, making for a magically mellow listening experience, even with shouty modern digital remasters.

Although the Venere 2.5 is a peppy loudspeaker, it gets its speed not from an artificially edgy tonal balance, but from high

IN SIGHT

ON TEST

Sonus faber claims 89dB sensitivity for the Venere 2.5, which is about 1dB optimistic according to our pink noise measurement of 88.2dB, averaged for the review pair. The specified nominal impedance of 6 ohms is also somewhat high given our measured minimum modulus of 3.5 ohms, which indicates that a 4 ohm rating would be more appropriate. But the Venere 2.5 is nonetheless a relatively easy load to drive with a minimum EPDR (equivalent peak dissipation resistance, which also takes into account impedance phase angle) of 2.2 ohms at 90Hz. Frequency response errors 200Hz-20kHz, measured on the tweeter axis, were a little high at ±6.4dB and ±6.6dB respectively, principally because of a narrow notch in output between 6kHz and 9kHz, but careful selection of listening height may reduce this. Otherwise the overall response trend is quite flat before a 3dB

- 1 29mm silk dometweeter gives a smooth sound
- 2 180mm Curv polypropylene mid driver integrates nicely
- 3 180mm Curvwoofergives plenty of bass heft
- 4 bi-wireable bindingposts are beautifully finished
- 5 front mounted slot type reflex port moves a lot of air
- 6 internally ribbed, curved cabinet is superbly finished

plateau in the last audible octave. Bass extension is commendable at 30Hz for -6dB ref 200Hz, explaining the modest sensitivity figure. Pair matching was a little disappointing at ±1.4dB. The cumulative spectral decay waterfall shows fast initial energy decay with only some low-level resonances at treble frequencies. KH



Cabinet detailing is lovely – even the binding posts are finished like jewellery

quality drive units – which are faster than a Britney Spears wedding and held back very little by those capacious cabinets. For this reason, these loudspeakers excell through the midband. True, they're not totally transparent – you'd never confuse them for a MartinLogan CLX for example – but you can forgive the very slight opacity of those Curv drivers lend to the sound because they are basically accurate and consistent. This makes it easy for the ear to tune in to them, and for the brain to tune them out. Kate Bush's *The Big Sky* is relatively compressed, but really gets going as she gives her lyrics both barrels towards the end of the song. The Venere 2.5 proved well able to impart the subtle dynamic contrasts in the song, hanging things together beautifully as the song progressively gets more complex, without descending into any hint of hardness or muddle.

Indeed detailing was generally very good, the Sonus fabers proving well able to spotlight Johnny Marr's deft rhythm guitar work on The Smiths' *Headmaster Ritual*. And they scythed through the mix to throw up plenty of detail about the backing guitar tracks. I also found myself very pleased with the way they handled vocals, showing not a sign of nasality or edge – they were nicely balanced and let the emotion in Morrissey's plaintive voice shine through. The result was an engaging, sometimes mesmeric performance that totally belied the fact that I was listening to a mid-priced pair of loudspeakers.

It's a very mature performer at a price where many rivals all too easily betray a lack of breeding...

I'm sure those elaborately shaped and angled cabinets play at least some part in the success the Venere 2.5s have with imaging. Again, they're not up with electrostatic panels in their ability to hang voices or instruments in space like specific stars in the night sky, but still proved very handy at articulating a coherent stereo image and ramming it out into the room with no apologies made. Jazz is of course a great test for this, so I donned my black polo neck and sparked up a Silk Cut for John Coltrane and Johnny Hartman's *My One and Only Love* – a seminal early sixties Impulse offering if you're of the goatee bearded, Jack Kerouac reading persuasion. These boxes sure got on this track on the road; the saxophone sound was sublime, the vocals arresting and the piano a joy.

None of this would have been possible of course without a powerful yet disciplined bass performance. You'd never call it light – even when carefully positioned the low frequencies announced their presence on everything I played – but it was always enjoyable. There was a physicality to the proceedings that suited rock and jazz really rather well, but you might find it a little



THE PRINCELY SUM OF £2,300 BUYS YOU MONITOR AUDIO'S SUPERB GX200. This is one of the closest price rivals of the Sonus faber Venere 2.5, but you'd never know it listening to the two together...

They're as different as an Aston Martin DB5 and a Ferrari Daytona, the Italian speaker sounding more exuberant emotionally, a little more expressive and generally a more engagingly emotional experience.

The British box is an altogether more measured affair, and if truth be told a good deal more accurate. Bass is more even and slightly tighter; midband offers a touch more detail (although the soundstaging can't quite match that of the Italian), and that gorgeous tweeter gives the sort of high frequency insight that you just can't get from something sporting a cloth dome.

Annoyingly though, just simply can't ascribe an outright win to either. They're simply different, the Monitor Audio being a calming, dry Earl Grey tea to the sweet frothy Cappuccino that is the Sonus faber. That's exactly why – yes that's right – you need to find a good dealer and go and listen for yourself, preferably with your own amplifier and ancillaries. Either way, you'll end up a happy customer.

overpowering in smaller listening rooms, or if you like the sort of anechoic chamber bass which is ultra damped. In my room it was great – sumptuous and extended right down to the bottom octaves.

So many floorstanders of this size and price seem to slur the leading edges of new notes and cling on to the fading remains of the old ones, but you could never say that about these Sonus fabers. But neither does the low bass stop and start with the speed of a light emitting diode. Instead it always feels weighty, and this tends to push the song along very enjoyably. Grace Jones' *Slave to the Rhythm* proved wonderfully fulsome and powerful sounding, but there was just the *teeniest* sense of overhang on those bigger bass notes.

The only other mark on an otherwise squeaky-clean copybook was the very slight compression you get when the volume is turned up in anger. At high levels, the dynamic accenting on hard hit snare drums isn't quite as explicit as, say, on a similarly priced PMC. Generally this is pretty hard to spot, it's just when the drummer gives it ten tenths the Venere 2.5 doesn't *quite* go the extra mile. Again however, as soon as you remember the price, such criticisms seem churlish...

Sound quality

Although not *quite* the most forensic or revealing at the price, this speaker boasts a wonderfully smooth and sumptuous balance that's delightful to set ears on, yet still exhaustively imparts the music embedded in any recording. It's a very mature performer in a way that's frankly unexpected at the price – one where many rivals all too easily betray their lack of breeding. Factor in the superlative build, styling, finish and pedigree – and Sonus faber's new Venere 2.5 floorstanding speaker is pretty hard not to love. ●

Mi-Fi Choice

OUR VERDICT

SOUND QUALITY



LIKE: Smooth, polished tonal balance; expansive soundstaging; overall musicality; superlative build and styling

VALUE FOR MONEY



BUILD QUALITY



DISLIKE: Bass prominent, especially in smaller rooms

EASE OF DRIVE



WE SAY: Beautifully presented, great sounding affordable floorstander

OVERALL



M2 SERIES



Technology, Design & Emotion

The multi-award winning Caspian M2 Series of high-fidelity electronics from Roksan Audio are an engineering marvel. The Integrated Amplifier has been meticulously designed to ensure it uncovers even the most delicate detail and presents it majestically. The CD Player's decoupled laser mechanism, super precision master clock and multiple independent circuits create a seamless, harmonic musical experience that is second to none. The more recent addition of a two-channel stereo power amplifier completes the much-desired system by adding further control and musicality.

ROKSAN

Roksan Audio is exclusively distributed in the UK by Henley Designs Ltd.
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How we test

Hi-Fi Choice employs a highly rigorous test and measurement regime. Here's how it is done...

HOW WE TEST

Unique group tests

This month's special headphone group test is backed up by a comprehensive set of lab tests, explains **Keith Howard**...

GROUP TESTS

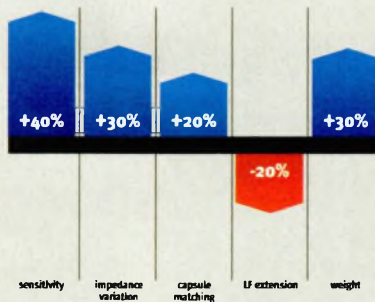
REVIEWING HEADPHONES properly isn't easy, which is why few hi-fi magazines try. Anyone can don a pair of headphones, play some music and pronounce on their sound quality – but to back up the listening experience with empirical evidence you have to perform acoustic measurements. With headphones that requires costly specialist equipment, experience and custom-written processing software...

The most important item is an artificial ear – one that doesn't just provide the same acoustic conditions as a real human ear but which also imitates the mechanical properties of the outer ear (pinna), so that any physical distortion of the ear caused by wearing the headphone is mimicked in the measurement. That's why we use an artificial pinna modelled on real ears.

Once you have the right artificial ear you need to know how to use it properly. You have to make sure every time you perform a frequency response measurement that the headphone is correctly sealed to the artificial ear, otherwise low frequencies will be lost. And you have to take account of the fact that each time you remove, replace and re-measure a headphone, its response changes because the capsule is positioned slightly differently.

To account for this we perform multiple measurements on each capsule to generate an averaged response – and use special processing software to analyse where in the frequency range the largest differences occur. More custom software then adjusts the averaged capsule responses to produce a corrected response that better represents what you actually hear.

RESULTS AT A GLANCE



SENSITIVITY

This determines how loud the music is at a given volume control setting. We measure the sound pressure level achieved on our artificial ear for an input of 1V rms at a frequency of 1kHz, averaged for the two channels.

IMPEDANCE VARIATION

Most headphones have an input impedance that varies with frequency across the audible range, which modifies the frequency response according to the source impedance of the headphone outlet. This figure represents the change in frequency response, 20Hz-20kHz, with a source impedance of 10 ohms.

CAPSULE MATCHING

No two headphone capsules have the same frequency response, and any disparity can result in shifts in the stereo image. Response also varies according to the placement on the ear, so we perform ten separate measurements on each capsule and average the results to determine their disparity from 40Hz to 30kHz.

BASS EXTENSION

Headphones, like loudspeakers, differ markedly in the depth of bass they can deliver. We derive this figure by averaging the -6dB frequency ref 200Hz of both capsules, taking great care to ensure effective sealing to the artificial ear measuring device.

WEIGHT

The weight of a headphone isn't the only issue which determines its comfort, but is a key factor. We weigh the complete headset, including the connecting cable with quarter-inch jack plug (which often involves the fitment of a supplied adaptor).



THE ARTIFICIAL EAR:

This eerie-looking item is the artificial ear we use for headphone testing. Key elements of the GRAS 43AG ear and cheek simulator are fitted within a laminated MDF block which provides the means to mount the headphones on the artificial ear as on a real head.

REFERENCE SYSTEM

Source:

- IBM Thinkpad/Songbird (FLAC)

Headphone amplifier:

- Furutech ADL Cruise

TEST MUSIC

KINGS OF LEON

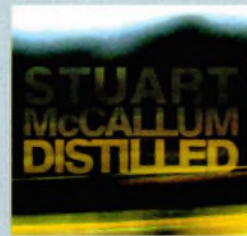
KING OF THE RODEO



MARTHA TILSTON STAGS BELLOW



STUART MCCALLUM VITAL SPACE



HYBRID EVERY WORD



Group test

HEADPHONES £100-£140

Phone home

Can compact portable headphones rival the sound of larger hi-fi designs purposed for lounge listening?

Ed Selley finds out...

DRIVEN BY THE EXPLOSION in sales of smartphones and tablets, headphones have been a growth area of late and this has encouraged existing brands to introduce new products as well as encouraging new manufacturers to enter the fray. If you're looking for a pair of cans under £150, then you have a wider choice of designs than there has ever been before...

The tablet market has driven a requirement for over-ear designs that are still portable enough to be suitable for use on the move. The result is a new type of headphone that promises good performance at home or when you're out and about. But can these smaller designs really offer a performance that's able to keep up with larger and more dedicated home headphones?

To find out, we've pitched two of these smaller 'hybrid' designs against four larger and more home-oriented models. These make use of features like open back earpads and considerably larger drivers that make them less fun to

walk around with, but rather better to kick back and listen to...

Of course, all of these designs are sensitive enough to run from a portable device and all of them are fitted with a 3.5mm jack to allow this (all are supplied with a quarter inch adaptor).

If you're looking for a pair of cans for under £150, you have a wider choice than ever before...

For the purposes of the test, the sextet were used in a decidedly 21st century testing setup. A laptop running Songbird audio playback software capable of playing lossless and high resolution audio was connected to Furutech's sumptuous ADL Cruise headphone amplifier and all listening was carried out and level matched on this compact rig. So, can humble portables take the fight to the home headphone? Read to find out...

ON TEST



Audio Technica ATH-AD500
£100 p25

The largest model in the test, the Audio Technica is one of the company's more affordable models, but still features some of the design trademarks of the brand that are designed to increase user comfort and sound quality.



Beyerdynamic DT-440
£140 p27

German brand Beyerdynamic has a strong background in pro audio and the DT440 has many of these traits. A closed back design, the DT440 is a headphone with one eye on home use and another on easy portability.



German Maestro GMP 240
£116 p29

A new arrival in the UK but better known in its home market, the GMP240 is one of the less expensive models in the German Maestro range. It includes some of the features and design points used in more expensive models.



Grado SR60i
£105 p31

An upgraded version of a long running member of the Grado range, the SR60i is the same classic design as the other models and features the same open back design and vented diaphragm that appears on more expensive versions.



Klipsch Image One
£130 p33

Klipsch has moved into headphones and earphones with good effect. The Image One includes a remote control for your iDevice, and also claims to be up to the job of delivering a good sound with your home system...



Sennheiser PX 360
£119 p35

Industry stalwarts Sennheiser also make full size phones at this price point, but the PX360 is a slightly smaller design that is intended to be more suitable for use on the move. A closed back model, it should keep your sounds to yourself.



Performance Promotions



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The GET bit: A new Akurate DS - DSM with 1. a 500g Mac Mini 2. 50 24bit Albums loaded 3. £50 music voucher to spend or a Klimax DS - DSM with 1. a 500g Mac Mini 2. 100 24bit Albums loaded 3. £100 music voucher to spend (worth up to 2.5K)

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Audio Technica ATH-AD500 **£100**

Big isn't always beautiful with headphones, but this has sizeable strengths...

DETAILS

ORIGIN: Japan/China
TYPE: open-back
WEIGHT: 260g
FEATURES:
• 53mm drivers
• 'Wing Support' headband
• 3.5mm adaptor
DISTRIBUTOR: Audio Technica
TELEPHONE: 0113 2771441
WEBSITE: eu.audio-technica.com

This is one of the more affordable members of the company's open-backed range, but this won't be immediately apparent when you unbox them. The silver finish on the back of the earpad is a bit sudden and the decision to terminate the hinge in a sort of spike is a little curious, but overall fit and finish is very good.

Another nice touch is the use of the company's trademark 'wing' mount. Instead of a conventional headband, the ATH-AD500 has a pair of wire hoops that give the necessary structure with a pair of independently sprung pads that are fitted below. These form the contact point to your head and mean you could have a head like Sloth from *The Goonies* movie and still get a good fit.



The ATH-AD500 deploys a pair of 53mm drivers with neodymium magnets. This is a reasonably large driver by the standards of the test and should serve up reasonable bass extension. The large earpad means that the driver is set a good distance from the ear and in use I found the headphone easy to wear, although of all the designs here this is probably the one least suited to moving around with. As an open-backed design, noise leakage is understandably high.

Sound quality

The Audio Technica proved to be reasonably sensitive and didn't require a huge amount of power to reach the listening test level. Having done so, the first impression was that the top end detail is extremely good, almost to point of being slightly bright with the rough and ready Kings of Leon recording, but the overall presentation is open and airy, aided by the open-back design and space between ear and driver.

The rather more artfully recorded Martha Tilston piece moved the Audio-Technica's top end to a more refined setting. This is a very open and engaging performer that manages to make voices and instruments sound both real and extremely engaging. Tilston's vocals are captured with a fantastic sense of energy and are clearly defined from the supporting instruments.

Of all the designs here, it has a great sense of the performance, and there's an impressive feel for the soundstage that the recording has. The sculpted instrumentals of Stuart McCallum sound larger and more cohesive than they do on most of the other designs in the test. The sense of decay from instruments and their relationship to one another is also especially impressive.

Where the ATH-AD500 is undermined slightly is in the bass response. The low end is not necessarily limited – there is plenty of energy to the Hybrid recording, but it is never completely consistent and can seem a little languid in terms of timing. This never tips



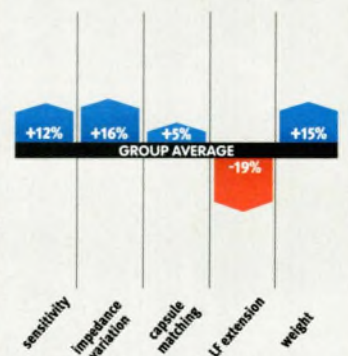
over to the ATH-AD500 sounding sluggish, but the Grado and Sennheiser in particular, are capable of providing more spark and attack with this piece.

Overall however, this is a very likeable headphone with a number of highly appealing features. It is comfortable, sensitive and easy to use for long periods of time, and if your musical choices tend toward acoustic or orchestral pieces, then it's worth seeking out over many of the others here. A most impressive product at the price, then.

ON TEST

As the second most sensitive headphone in this group, the Audio Technica ATH-AD500 gives plenty of output for modest signal voltage. It also provided good capsule matching for a headphone, with ± 5.5 dB error from 40Hz to 10kHz. Bass extension is nothing to write home about, though, with -6dB ref 200Hz arriving at a high-ish 50Hz. Impedance variation of 63.1 to 86.3 ohms over the audible frequency range gives rise to just 0.33dB response error, although this will increase for source resistances higher than 10 ohms. At 342g, the AD500 is one of the heavier – and larger – models here. Diffuse-field corrected frequency response suggests that the perceived tonal balance will be flat below 1kHz before the bass roll-off, but that the presence band is suppressed, so the sound may appear to lack vibrancy and detail in comparison with others in the group. KH

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

SOUND QUALITY ★★★★★ **LIKE:** Comfortable, well built with excellent soundstage and tonality
VALUE FOR MONEY ★★★★★ **DISLIKE:** Bass response rather restrained
BUILD QUALITY ★★★★★ **WESAY:** A clever and well thought out design that has some excellent sonic traits, but can sound a tad relaxed
SENSITIVITY ★★★★★

OVERALL



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Beyerdynamic DT-440 **£140**

The most expensive headphone in the test goes a long way to justifying its price tag...

DETAILS

ORIGIN: Germany
TYPE: open-back
WEIGHT: 320g
FEATURES:
 • folding design
 • replacement fabric earpads available
 • 3.5mm adaptor
DISTRIBUTOR: Polar Audio
TELEPHONE: 01444 258258
WEBSITE: europe.beyerdynamic.com

The DT-440 is the entry-level model of the DT series and although it is the most expensive model here, it is competitively priced – if you're prepared to shop around. An open-back design, it's in keeping with the rest of the DT series and the relatively large earpad completely covers the ear. Unlike some of the open designs here noise leakage is relatively low and the Beyerdynamic has a more aggressive amount of traction to the headband than some of the other models in the test. This means that they will stay planted to your head when pretty much everything else in the test has fallen off. Combined with the relatively high weight this does mean that you are more aware of wearing them than some of the other headphones in this test, but it would be a stretch to call them uncomfortable.

Unlike the other full-size designs it also folds up, which makes it more portable than some of the others on offer here. This will be an important feature for many modern iPad toting headphone listeners! Another nice touch is the availability of replacement fabric earpads if you wear the first set out. Beyerdynamic are curiously tight-lipped about the drivers used, but do acknowledge the presence of a neodymium magnet. Overall build quality is very good, it doesn't feel like a cheap headphone.

Sound quality

The Beyerdynamic proved to be acceptably sensitive and from the outset demonstrated some consistent traits across all the test pieces. The tonality is slightly dark and this means that the DT-440 rarely sounds bright or forward, but neither is it especially warm. There is also an impressive sense of drive and timing with uptempo music and the Kings of Leon was delivered with real bite.

This timing is present even on the more relaxed Martha Tilston and Stuart McCallum pieces as well. The headphone doesn't force these slower pieces, but they have a spontaneity and sense of liveliness that is very endearing. Everything starts and stops with an assurance and deftness that is very satisfying.

What is less appealing is that the Beyerdynamic has a presentation that is rather more closed in than some of the other models here. The presentation of Stuart McCallum's usually vast *Vital Space* is rather constrained and has a slightly left/right effect to it. This reduction in scale is not always noticeable in isolation, but if you switch to the Audio-Technica or Grado, or even the closed-back Sennheiser, you become aware that the DT-440 always sounds constrained. This is a shame because the tonality across all four pieces was excellent and the DT-440 rarely sounded anything other than detailed and believable. Tilston's vocals in particular are wonderfully involving.

Bass is also fairly impressive and the Beyerdynamic managed to find

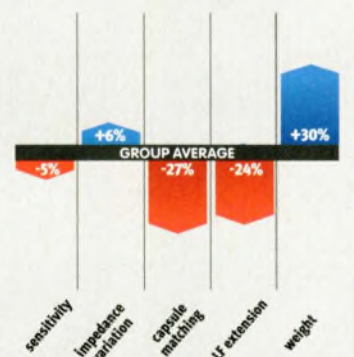
some genuine low end punch with the Hybrid piece, as well as tautly defined bass with Martha Tilston.

The DT-440 is an extremely capable headphone, one that's assembled to a very high standard too. It is able to handle a wide variety of musical styles with impressive assurance and it rarely sounds anything less than lively and convincing. The somewhat closed-in nature of the performance and the slight lack of top end sparkle rob it of the top spot in this keenly contested pack, but it is surely way too good to ignore.

ON TEST

Beyerdynamic's well-established DT 440 offers just below average sensitivity for the group but still generates plenty of output for little input voltage. Capsule matching error was well above the group average at $\pm 10.6\text{dB}$, but with a previous DT 440 I measured the matching was much tighter. Bass extension of 60Hz for -6dB ref 200Hz is the least impressive of the group but the impedance variation across the audible frequency range is modest, from 30.9 ohms to 38.3 ohms, so response error for a 10 ohms source impedance is close to the group average at 0.42dB. At 394g, the DT 440 is the heaviest headphone in the group by a margin of 52g. Clearly designed to provide a close to flat diffuse-field corrected response, the DT 440 should provide a very even tonal balance except for its early bass roll-off and a narrow band of excess energy around 6kHz. KH

RESULTS AT A GLANCE



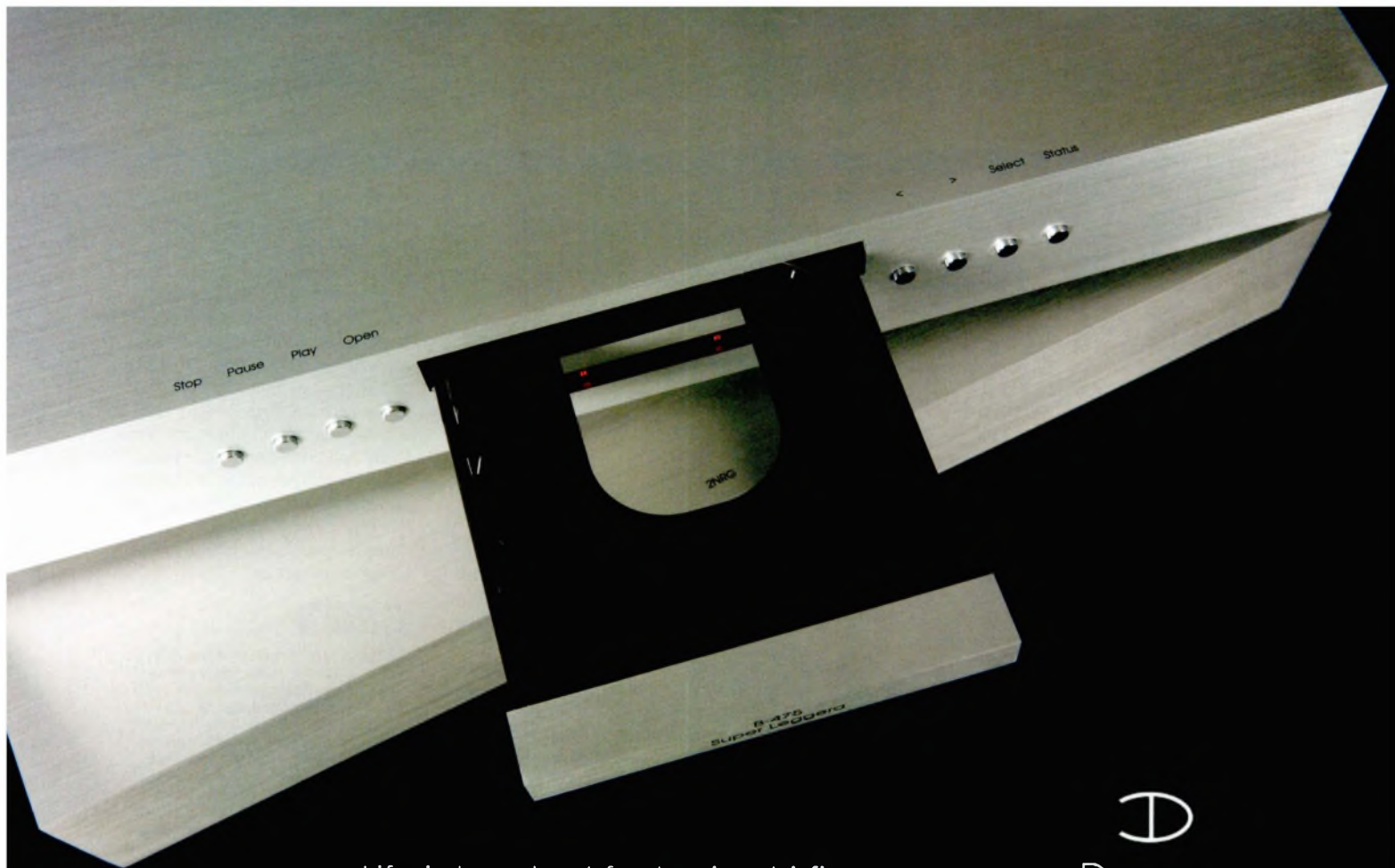
Hi-Fi Choice

OUR VERDICT

SOUND QUALITY ★★★★★ **LIKE:** Excellent build, detailed sound and good timing
VALUE FOR MONEY ★★★★★ **DISLIKE:** Quite heavy, and lack of top end sparkle
BUILD QUALITY ★★★★★ **WE SAY:** A performer with excellent build and strong sonics, while lacking only a slight sense of space
SENSITIVITY ★★★★★

OVERALL





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German Maestro GMP 240 **£115**

A relative newcomer to the UK market, this enigmatic design proves a distinctive performer...

DETAILS

ORIGIN: Germany
TYPE: open-back
WEIGHT: 220g
FEATURES:
• coiled headphone cable
• 'cardamatic suspension'
• 3.5/6.3mm jackplug
DISTRIBUTOR: German Maestro
TELEPHONE: +49 0 62 61/6 38-0
WEBSITE: german-maestro.de

German Maestro is one of those surprisingly large companies whose existence was largely unknown in the UK until recently. As well as headphones, it produces a complete range of headsets, conventional loudspeakers, car audio and specialised marine audio equipment. The GMP 240 however, is towards the lower end of its range of open-back models.

Unlike any of the other headphones here, the GMP 240 has the terminal point of the right hand cable covered with a red surround allowing you to know at a glance which side is which. The cable is looped like an old telephone cable, which means that although the length of the GMP 240 lead is quite short, you don't have to

have a vast coil of it about your person. Some might think this is a great idea, but the cable itself can exert some force on the head, which some may find annoying. The amount of pressure on either side of your head is apparently three Newtons (unit of force) and in reality this means that the GMP 240 tends to stay where it is, but doesn't dig into your skull while it does so. German Maestro is also another brand that is secretive about the drivers used, but they appear relatively substantial.

Sound quality

This headphone proved to be less sensitive than some of the other designs, but still didn't require *too* much effort from the Furutech to hit the test level. The GMP 240 has some very distinctive performance traits and it will be down to whether you like these as to whether it's the headphone for you.

Like the Audio-Technica, the large earpads with relatively well set back drivers gives the GMP 240 a sound that is spacious and open. The result is that it has a sense of scale and proportion that is extremely effective. Where the GMP 240 is less assured is the coherence from top to bottom. The bass is strong and reasonably well defined, but it does tend to rather dominate the upper registers and the Kings of Leon found themselves sounding somewhat muffled in comparison to some of the other designs in the test.

This imbalance persisted across the other tracks and even with the less bass-heavy McCallum piece, there is still a sense that the upper registers are somewhat withdrawn from the overall performance. A shame because recessed or not, tonality is natural and composed and voices are well handled.

Timing is also slightly inconsistent. It managed to sound fairly deft with the Tilston and McCallum pieces, but a little leaden with the more uptempo Hybrid and Kings of Leon pieces. Putting a finger on why this the case is tricky as the bass itself is reasonably agile, but because it tends to dominate proceedings it is

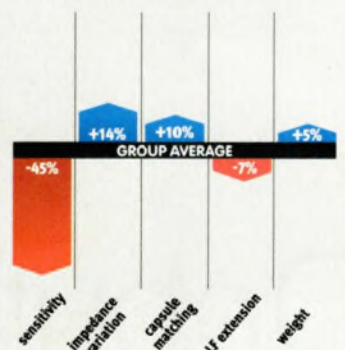
more noticeable if there are any problems with it.

The GMP 240 is well constructed and has some welcome design features that makes it comfortable and easy to use. It's capable of a consistently open and spacious sound, if not quite the best in the group. The uneven balance top to bottom and slight lack of assurance in timing count against it, and you'd never describe it as attractively styled either. Overall, an interesting design, but one that struggles against this competition.

ON TEST

The least sensitive model in the group, the GMP 240 needs driving harder to achieve a given sound pressure level but will still be useable with most headphone outlets. Capsule matching was good for a headphone at ± 4.8 dB from 40Hz to 10kHz but bass extension of 46Hz fell short of the group average. The impedance variation of 97.9 ohms minimum to 164.9 ohms maximum, 20Hz-20kHz, results in a below group average response error of 0.34dB for a source impedance of 10 ohms. At 316g the GMP 240 is lightest of the large circumaural models here but still 43g above the group average. Diffuse-field correction of the frequency response shows a rising trend below 1kHz to a peak of 10.5dB at 100Hz and a shortfall in presence band energy, suggesting that the tonal balance will be dominated by too much upper bass and that the sound will lack vitality and detail. KH

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

SOUND QUALITY ★★★★★ **LIKE:** Thoughtful design; excellent build; spacious sound
VALUE FOR MONEY ★★★★★ **DISLIKE:** Bass tends to dominate the performance...
BUILD QUALITY ★★★★★ **WE SAY:** A rugged and well thought out headphone with some pleasing sonic traits
SENSITIVITY ★★★★★

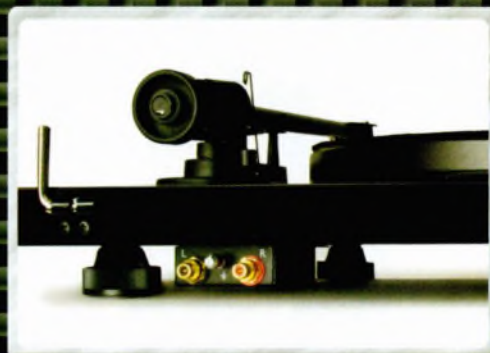
OVERALL



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Grado

SR60i **£105**

One of the elder statesmen of the group, this can still teach the others a trick or two...



DETAILS

ORIGIN: USA
TYPE: open-back
WEIGHT: 125g
FEATURES:
 • vented diaphragm
 • non resonant air chamber
 • copper voice coil wire
DISTRIBUTOR: ArmourHome
TELEPHONE: 01279 501111
WEBSITE: gradolabs.com

Grado has been producing its range of distinctively styled, and arguably rather idiosyncratic headphones for a number of years now, and the SR60i – which itself has been around for quite a while – is an update of the even older SR60.

It is the least expensive of the full-size Grado headphone range, but the basic features of the rest of the range are here in embryonic form. The SR60i is an open-backed design that makes use of an unusual perforated plastic side to the earpad that gives the drivers space to breathe. This does mean that of all the designs here, the Grado is the one that both leaks the most noise and is, in turn, the most sensitive to outside noise. As a result, although they are the smallest of the 'home' headphones, they are perhaps the

least suited to use out and about. Something to remember, iPod kids!

Fit and finish of the Grado is extremely good for the price, and it generally feels very solid and substantial. A minor gripe is that the sprung tension of the headband is fairly high. This means that although it tends to stay put on your head, those with larger heads may find that it becomes a tad uncomfortable after a while. Still, at least the foam earpads aren't sweaty unlike the vinyl of some rivals here...

Sound quality

You will tend to ignore any discomfort for as long as you can, because the Grado is a mightily fine listen. It required relatively little amplifier power to reach the test level and then proceeded to put in an extremely consistent performance across the four test pieces.

The most immediately apparent reason for this, is the extremely even tonal balance from top to bottom. The SR60i put in the best performance of the group with the difficult Kings of Leon track, and extracted midrange detail in particular, that nothing else in the group could find. When given something with rather better recording quality like the Tilston and McCallum pieces, it simply digs deeper into the mix than the other designs.

Voices are beautifully handled and packed full of detail and emotion. Their relationship to their supporting instruments is convincing as well, and the effect is never less than entirely believable. Bass response is also a very happy balance of weight and agility and it nicely complements the upper registers rather than competing with them.

With the complex low end of the Hybrid piece, the SR60i finds the detail and relays all of it while keeping the whole piece motoring along with a sense of timing and drive that is extremely likeable. This timing is easily appreciated with livelier pieces, but avoids adding any sense of relentlessness to more relaxed pieces.

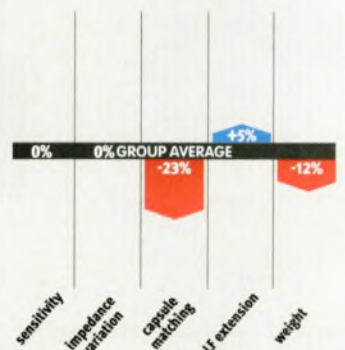
It isn't perfect – the soundstage is slightly confined compared to some of the other models here. It is cohesive and makes good sense of the material and rarely sounds anything other than accurate, but where the Audio-Technica manages to extend the sound beyond the earpad, the Grado remains confined with them.

Despite being almost the least expensive here, its build, design and sound are all absolutely top notch. There's an assurance and cohesion that's rarely found at the price.

ON TEST

Of only just below average sensitivity for the group, the Grado should produce ample sound pressure level from any headphone outlet it is used with. Capsule matching was second-worst in the group at 210.4dB, 40Hz to 10kHz, but the bass extension slightly bettered the group average at 34Hz for -6dB ref 200Hz. Impedance variation from a minimum of 30.5 ohms to a maximum of 38.5 ohms, 20Hz-20kHz, results in a larger than average, but still small, response error of 0.45dB with a source impedance of 10 ohms. Supra-aural earpads help keep the SR60i's weight down to 228g, well below the group average. Diffuse-field correction of the frequency response shows a gentle rise in output below 1kHz to a peak of about 5dB at 100Hz and there is excess energy in the presence band, suggesting that there may be a hint of boom and tizz to the SR60i's sound quality. KH

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

SOUND QUALITY ★★★★★ **LIKE:** Excellent sound balance and detail retrieval; solid build

VALUE FOR MONEY ★★★★★ **DISLIKE:** Considerable noise leakage

BUILD QUALITY ★★★★★ **WE SAY:** An excellent balance of sonic ability across all musical types combined with solid construction

OVERALL



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Klipsch Image One **£130**

Designed for life on the move, the sleek Klipsch faces a tougher challenge at home...

DETAILS

ORIGIN: USA/China
TYPE: closed-back
WEIGHT: 138.3g
FEATURES:
 • 40mm KG150 transducers
 • folding design
 • iPod remote control
DISTRIBUTOR: Klipsch UK
TELEPHONE: 08450 800578
WEBSITE: klipsch.co.uk

There's a trend for famous speaker manufacturers to produce their own headphones right now, and along with Focal, Klipsch is a perfect example of this. The new Image One is the smallest design here (although it must be said that the Sennheiser and Grado are not significantly larger) and is also equipped to fold away into a neat and rather useful carrying case. There are a number of other nods to portable use as well. The cord is a flat ribbon rather than a circular type and this helps prevent tangling when folding away. The Klipsch is also the only model here with an inline remote for controlling your iPhone or iPad – which will be seen as the mark of Satan to hi-fi purists here! Build is a little inconsistent. The headband feels impressively solid

and the brushed steel effect on the rear of the earpads is very attractive. The hinges at the earpad feel less substantial though, as they have a very wide axis of movement but don't feel hugely secure while they do so. The earpads are also slightly unpleasant as well, but do prove pretty comfortable in use. A bit of a mixed bag then, but you can't deny that they're basically a very handsome looking design, which counts a lot at this price, regrettably enough...

Sound quality

The Image One is reasonably sensitive, but for a headphone that is designed to be used with portable devices it required more power to hit the test level than you might expect. Once there, it did show some likeable features.

This is a lively and energetic sounding headphone that has some real attack with more uptempo music. Both the Kings of Leon and Hybrid are propelled along with a head nodding sense of drive and purpose and the Klipsch will generally find any rhythm and latch onto it with some enthusiasm.

Unfortunately the tonal balance is heavily biased in favour of the low end and the more considered and relaxed pieces in the test that required more detail and top-to-bottom cohesion were less well served. It also suffers from a recessed midrange, which means that voices and instruments tend to be lost against the bass output. Treble levels are somewhat more convincing, but still lose out to the bass output.

This has an obvious effect on the overall tonality and realism that the Klipsch is capable of generating. Voices are handled with reasonable accuracy, but the entirely instrumental *Vital Space* sounded somewhat thin and artificial, and it was harder to perceive individual instruments with the Image One than with the other designs here. It gives some sense of the placement of musicians, but the presentation is strictly left/right and never seems to achieve the scale of the similarly sized Sennheiser.

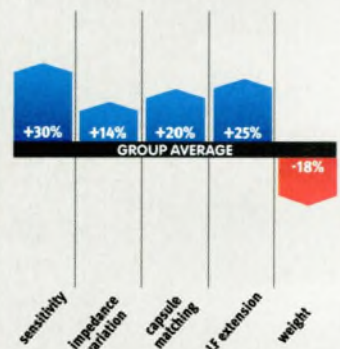
Used on the move the boost to the top and bottom of the frequency range becomes less noticeable and more effective at keeping the outside world at bay. But at home the uneven balance becomes more noticeable again, and far from ideal.

The Image One is well designed for use on the move and is supplied with some very useful accessories to make it effective in this role, and build quality is decent too. But for home use it is flawed, with a tonal imbalance that's too problematic to unconditionally recommend.

ON TEST

The most sensitive headphone here, the Image One needs little signal voltage to generate high levels of sound. It also displayed the tightest capsule matching of the group at $\pm 3.7\text{dB}$, 40Hz to 10kHz – an excellent result for a headphone – and the best bass extension, the response falling to -6dB ref 200Hz at something below 10Hz. Impedance variation of 33.7 ohms minimum to 40.6 ohms maximum, 20Hz-20kHz, is also small enough to result in a below group average response error of 0.34dB for a source impedance of 10 ohms. At just 180g, the Image One is also one of the lightest models in the group. Less encouraging is the diffuse-field corrected frequency response which shows a rising trend below 1kHz to a plateau of about +13dB below 100Hz and a shortfall in presence band output, suggesting that this Klipsch will sound very bass heavy and lacking in zip. KH

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

SOUND QUALITY ★★★★★ **LIKE:** Nice portable design; good sense of pace and timing
VALUE FOR MONEY ★★★★★ **DISLIKE:** Uneven tonal balance and limited soundstage
BUILD QUALITY ★★★★★ **WESAY:** A clever package, but it trades absolute sonic ability for portable effectiveness
SENSITIVITY ★★★★★

OVERALL



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Sennheiser

PX 360 **£119**

Unsurprisingly for this company perhaps, this phone proves a capable all-rounder...



DETAILS

ORIGIN:
Germany/Ireland

TYPE:
closed-back

WEIGHT:
163g

FEATURES:

- Duofoil drivers
- Neodymium magnets
- folding design

DISTRIBUTOR:
Sennheiser

TELEPHONE:
01494 551551

WEBSITE:
sennheiser.com

Sennheiser has a range of headphones and earphones that makes 'extensive' look a little inadequate. At the test price point it makes some conventional full size home headphones, but has also been getting into smaller designs that are able to work on the move too. The PX 360 is one of these models and is also available in a Bluetooth variant. The PX prefix is from the portable line, but the design is more in keeping with the HD range.

This design intention means that the PX 360 is one of the smaller designs here. As well as rotating flat, the earpads can be folded up into the headband and reduce space further. This does give the PX 360 a rather

unusual shape – it almost looks 'bow legged' from the front as the widest point of the headphone is the hinge above the earpad. The pads themselves are closed-back types that sit slightly awkwardly between covering the ear and sitting on it. That said the PX 360 is comfortable in use. It employs a pair of Duofol diaphragms with the obligatory Neodymium magnets for drivers. Fit and finish are extremely good, but the cord is a little on the thin side and terminates at the right hand earpad which confusingly is the opposite to everyone else.

Sound quality

The most distinct impression you get from listening to the PX 360 is that the sound is similar to the Grado, in that it is extremely cohesive from top to bottom with no frequency either recessed or over emphasised. This gave the Kings of Leon an extremely listenable quality that found the charm of the recording without exposing the weak points. The handling of vocals in particular was extremely good and this headphone managed a truly stirring performance with Martha Tilston. Detail proved excellent without tripping over into brightness or harshness, and the supporting instrumentation complements the performance extremely well.

Like the Grado, the soundstage is more confined than some of the other designs in the test, but there is still a convincing sense of the performance, as well as a strong sense of timing. There isn't *quite* the same bounce and attack to Hybrid and the Kings of Leon as the Grado can manage, but this is still a very lively and assured performer that can still do justice to more relaxed pieces of music and not force them. The Sennheiser also has to yield to the Grado in terms of bass. There is plenty of it and it starts and stops commendably fast, but there isn't the last ounce of detail that the Grado finds in the same pieces.

The closed-back design and relatively compact dimensions of the PX 360 does mean that it is an

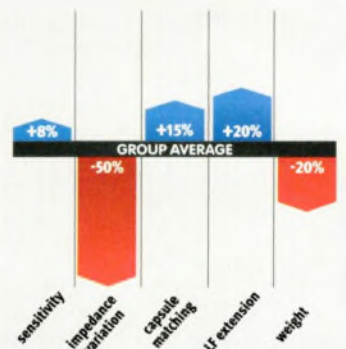
excellent headphone to use on the move though. The isolation is excellent and even in noisy spaces the Sennheiser does a good job of keeping the outside world at bay.

As an all-rounder then, the Sennheiser is equally at home with your main system as it is on the move – which is a harder trick to pull off than you'd think. It's fair to say that this is not quite the best headphone here, but it certainly is a very fine sounding and comfortable design that offers a great deal of real-world flexibility.

ON TEST

With a sensitivity that's 2dB higher than the group average, the PX 360 should deliver ample sound level from any headphone outlet. Capsule matching was excellent at 24.0dB, 40Hz to 10kHz, and so too was the bass extension with -6dB ref 200Hz occurring at a low 14Hz. But to achieve this the capsules had to be pressed against the artificial ear by hand during testing, despite a headband clamping force which is already quite high. Impedance variation of 34.6 ohms to 48.5 ohms, 20Hz-20kHz, gives the highest response variation of the group of 0.59dB for a source impedance of 10 ohms, so use with a low impedance source is advisable. At 178g the Sennheiser is the lightest headphone of the group. Diffuse-field correction of the frequency response shows a rise in output to 4.5dB above 1kHz at 80Hz and alternate excess and shortfall in the presence band. KH

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

SOUND QUALITY
★★★★★ **LIKE:** Highly cohesive and enjoyable sound; compact and well built

VALUE FOR MONEY
★★★★★ **DISLIKE:** Slight lack of bass detail, thin cord

BUILD QUALITY
★★★★★ **WE SAY:** A strong sonic performer that works at home or on the move – it represents very good value for money indeed

SENSITIVITY
★★★★★

OVERALL



Listening test verdict

Ed Selley puts this month's group testing into context. How do the contenders fare in the great scheme of things?

This was an interesting test as it showed that even at this relatively sane price point, high performance is available. As one of the more expensive models in the test it is something of a shame that the Klipsch Image One could not produce the sonic performance to match the clever design and useful features. As a portable headphone it is a nice design, but the sonic imbalances affect use at home.

The German Maestro GMP 240 is less seriously affected by similar issues. This is a well built if somewhat prosaic headphone with a pleasantly spacious performance, but the dominant and slightly sluggish bass

prevent it from being placed higher as this rather overwhelms the good work the GMP 240 does in the upper registers.

The Beyerdynamic DT-440 is a more impressive performer offering a well balanced sound and impressive isolation combined with excellent build quality and even a reasonable stab at a degree of portability. The limited soundstage and highest list price in the test deny it a placing further up the list, but it is a good performing headphone nonetheless.

The Audio Technica AD500 on the other hand puts in a fine performance for the least expensive headphone here. In many respects it has the best top end performance and most

convincing soundstaging, and fine build and impressive comfort levels mean that this is a headphone well worth auditioning – even if the looks are a little sudden.

This test asked the question if any of the more compact headphones being developed for use on the move could also cut it as a high performance home headphone? The Sennheiser PX 360 answers this question with an emphatic yes. This is a headphone that rewards listeners with an extremely lively, cohesive and enjoyable performance. Throw in the solid build, impressive levels of user comfort and you have a headphone that very nearly claims the top spot in this test...



The Grado SR60i takes the gong and, unlike the Sennheiser, this is very definitely a home headphone. No other product here combines the same exceptional tonality, detail retrieval and sense of timing, and when you consider the excellent build, as well as the fact that this is the second cheapest design in the test, you have an unqualified winner.

RESULTS AT A GLANCE



| Make/model | Audio Technica ATH-AD500 | Beyerdynamic DT-440 | German Maestro GMP 240 | Grado SR60i | Klipsch Image One | Sennheiser PX 360 |
|------------------|--|--|---|--|---|--|
| Price | £100 | £140 | £115 | £105 | £130 | £119 |
| Sound | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ |
| Value | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ |
| Build | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ |
| Sensitivity | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ |
| Conclusion | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ |
| Key features | Comfortable to wear, finely put together and a sound that's expansive and tonally true | Detailed, precise sound with fine timing – factor in the super construction quality and it's a bargain | Spacious soundstaging and solid build quality, but may prove too bass-heavy for some... | Fizzing with enthusiasm and energy, this is the greatest music maker here; well made too | Great styling, portable design and packaging, but this misses the spot sonically, sadly | Taut, tight, clean sound that's all in perfect proportion; superb build also |
| closed back | No | No | No | No | Yes | Yes |
| open back | Yes | Yes | Yes | Yes | No | No |
| detachable cable | No | No | No | No | No | Yes |
| folding design | No | No | No | No | Yes | Yes |
| minijack adaptor | Yes | Yes | Yes | Yes | Yes | Yes |

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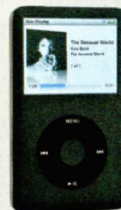
CD PLAYER: Pioneer PD-50 £500

If you seek a serious silver disc spinner on a budget, this will give you strong performance with standard CDs, and really sings with SACD. Build quality is excellent, and it has a vast range of features at the price, too – including built-in DAC functionality.



PORTABLE: Apple iPod Classic 160GB £199

While not the very best sounding digital portable, the big iPod has several things going for it. First, its headphone output stage is a little beefier than other iPods, and second it has a massive hard drive that lets you store a lifetime's worth of music in uncompressed .WAV format. For something so quaint, it still packs a not inconsiderable punch.



HEADPHONE AMPLIFIER: Musical Fidelity V-Can 2 £119

No prizes for sumptuous styling or fancy cases, but the spartan V-Can 2 delivers in the sonic stakes, with a very clean and open sound that never descends into harshness. Very low output impedance means it will drive pretty much any headphone, too!



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Clean up

Richard Black expounds on spring-cleaning hi-fi systems. Now there's no excuse not to get your sound back on track!



Dust is the enemy of your hi-fi, so get yourself a brush!

We in the hi-fi community are not always very good at maintenance jobs. Well, I could probably point the finger at most of Western civilisation on that score with some justification. Increasingly, we expect machines to go on and on with no input from us beyond a source of energy (electricity, petrol of what have you) and possibly the odd obviously wearing-out part like tyres or blades. It wasn't always thus – speak to anyone who remembers driving in the first fifty years of the twentieth century, or who owns a

scope for routine maintenance if one wants to keep things working in tip-top condition. Which are the critical areas to look after in a full hi-fi 'spring clean', and what's best to do with them?

Keeping in contact

Probably the most important item in a typical domestic audio system is the connectors. Metal-on-metal electrical connectors are funny things and they don't take well to corrosion. If you've ever used a torch you've probably noticed that

especially Deoxit D5, of which I keep a large can handy. You can drive yourself nuts reading catalogues from firms like Caig (Kontakt Chemie is another major manufacturer of similar stuff) trying to work out which cleaner to use for which application, but I've had nothing but success with D5, or at the very worst, no change (probably because the connector was perfectly okay before treatment). Kontakt is excellent too.

Mains connectors are also worth cleaning, but unless you've equipped your system with fancy gold- or rhodium-plated ones they usually have solid brass contacts which are best cleaned with very fine (1200 grit) emery paper. Incidentally, there is some pretty solid science behind this: years ago I worked in a laboratory where we tested electronic equipment for interference, and corroded mains connectors were a clear source of radio-frequency interference (RFI). Not a lot of it, but some, and that alone is justification for cleaning mains plugs. DO NOT try to clean the sockets though! If you think they are knackered, get an electrician to change them. It's cheaper and less aggro than electrocuting yourself or burning the house down...



Keep your contacts clean and your system will love you!

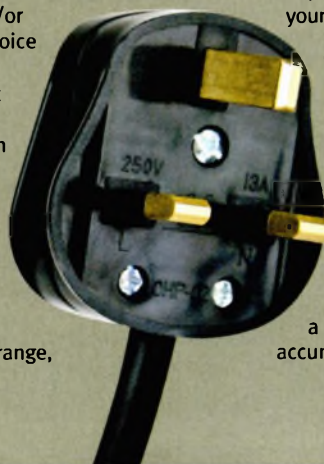
hi-fi of that vintage, and they'll tell you all about maintenance and repair jobs!

Indeed, until quite recently most professional audio facilities made a big deal of scheduled maintenance. An analogue mixing desk has hundreds of level and tone controls and just as many switches, and once in a while they would all get checked and/or cleaned – ditto the several dozen connectors round at the back. When several hundred of the local currency per hour are riding on it, you don't want the client to hear crackles every time a knob is touched...

Digital technology has changed a lot, and the reduction in the number of mechanical contacts within electronic products is on the whole most welcome. But that still leaves quite a lot of

the fiddling with the switch can increase the brightness when the battery starts to run flat, and that's because at low voltage the resistance of the contact seems to vary. New contacts, with fresh and corrosion-free surfaces, don't do that. The effects seem to be much less with AC signals (like any audio) but it still makes sense to keep connectors clean and shiny.

Simply unplugging and replugging connectors does a lot to shift thin layers of surface corrosion, but for best effect one can use abrasive and/or chemical cleaners. The choice of which to use depends on the type of contact, but since practically all audio connectors are plated with nickel, silver or gold the answer will be chemical. Abrasives will simply remove the plating. All sorts of chemical cleaners are available and I've tried lots of them. Personally, I like the Caig range,



The vinyl frontier

If you keep an LP turntable in your system, this is another strong candidate for tender loving care. Every aspect of the performance of vinyl disc replay depends strongly on the equipment being in good nick, and the good news is that it's really not hard to do the basics. You probably already make a point of keeping the stylus clean, as accumulated dirt here rapidly gives rise to

gross distortion. For day-to-day fluff removal, a soft brush does perfectly, but over time you can get more resilient deposits of caked-on gunge, which are best removed with a wet stylus cleaner such as the LAST cleaner. It's important only to use fluids specifically sold for stylus cleaning, though, as alcohol and other solvents are said to be bad for the suspension of most cartridges, and with a decent cartridge costing what it does, who wants to run that risk?

The other item that needs cleaning, maybe less often, is the drivetrain – the belt and the pulleys it runs over. Ideally, wear cotton gloves for this, to avoid getting grease from your skin on the drive surfaces. Failing that, wash your hands directly before working. The belt can be cleaned very effectively with 'Pledge' furniture polish, believe it or not – it's practically the same stuff as 'Servisol Foaming Cleanser' and easier to find. Just spray a little on some kitchen towel, gently grasp the belt through the towel and pull it through a few times. Then use the same stuff on a cotton-wool bud to clean the pulleys, checking by eye for the final result.

There's a lot of scope for routine maintenance if you want to keep things in tip-top condition...

Bearings on a turntable are worth a check once in a while, too. Most platter bearings should have some oil in them (you may remember putting oil in when installing the turntable, or the manual may mention it – if in doubt, contact your dealer or the manufacturer) and if they look dry a drop or two of oil will reduce bearing noise. If you can't find out for sure what sort of oil, full (ester) synthetic car engine oil is a great bet. Arm bearings are not usually user serviceable and are pretty hard to check, but with a sensitive finger one can feel for stickiness. If you think anything is wrong, get the deck along to a dealer for adjustment unless you're in the happy position of being a competent precision engineer!

Speaking of which...

At the other end of the chain, loudspeakers are less obviously amenable to tweaking up, but there are a few things that can benefit their performance. First, if you have connected them using bare cable ends under screw-down clamps, give those clamps a good hard tweak. They always seem to manage to work a little loose (it must be all that vibration!) and tightening is beneficial. Second, very carefully clean the drive units (if they are accessible) with a soft microfibre cloth. Especially on tweeters you need hardly use more pressure than the weight of the cloth, but removing dust can have a surprisingly marked effect!



Use a microfibre cloth to remove dust on drivers

There's another thing you can do that can benefit most loudspeakers, and that's to give them a bit of stretching exercise. Over time, the suspension can tighten up and, in addition, dust can get into the voice coil and cause very slight rubbing noises as the cone moves. A bit of stretching can help with both of these, and it's very easily done by applying a subsonic tone to the loudspeaker. There's a slight risk involved in this in that if you turn the level up too high you could do the speaker a power of no good, but it's really not hard to keep things sensible. Because subsonic test tones aren't easy to come by I've uploaded some to YouTube: just search for 'Loudspeaker shakedown'. Most test and burn-in tones don't react well to YouTube's AAC audio encoding, but subsonic signals work just fine. There's a simple level-setting routine included, and instructions are displayed to make it all straightforward.

Room for manoeuvre

One aspect of audio spring cleaning that doesn't get much attention is the listening room, but objects and furniture in the room can suddenly start to buzz and rattle and annoy people to distraction, with no apparent reason – many a time I've wasted valuable recording session minutes trying to trace random buzzes. Again, a suitable test signal makes life easier, and so I've put one on YouTube too, filed under 'listening room shakedown'. It's just a slow sweep tone which should excite most resonances which could in principle colour your music replay, play it at just below normal listening volume and use your ears to locate the rattles...

It's the software, stupid

No article like this would be complete without mention of the benefits to be obtained by cleaning discs, especially LP. Some kind of wet cleaner (Knosti, Spin Clean, Moth and others even more expensive) can seriously transform elderly discs that may have been carelessly handled, and CD cleaning (ReVeel etc.) is no bad thing once in a while. But don't try to do your whole collection in one hit. I'd suggest just a dozen or two now and then to avoid that curious Chinese Water Torture feeling.

Feel the burn

Most other specific hi-fi components don't need special attention (some folks like to use a CD lens cleaner regularly, I prefer to avoid these unless and until disc misreading is suspected), but there is of course the option of using a suitable test disc to conduct a system burn-in and demagnetisation. This is still somewhat controversial but the fact is that a large number of people around the world have found benefits from spinning a demagnetisation disc from time to time. There are a few available, with the IsoTek 'Full System Enhancer' being probably the most widely distributed in the UK – we certainly think it does a good job.

Finally, don't overlook perhaps the most pleasing benefit of hi-fi spring cleaning – that feeling one gets of having done a tedious but necessary job, and thereby earned a glass of something and a nice sit-down with some favourite music.



THE SCIENCE OF IT

When almost any kind of hi-fi tweak is mentioned, there's always the odd voice that pipes up, 'but can you measure it?' In some cases, the honest answer is 'no - not yet'. Fair play: any audiophile will occasionally have fallen for self-deception, but there's still plenty we can hear but not yet consistently measure. However, many of the cleaning routines mentioned above can be quantified scientifically, using a test I stumbled on a few years ago. I noticed that a constant-level sinusoidal test signal, after passing through some equipment, developed a very slight random variation in level. By 'slight' I mean thousandths of a dB. Since the threshold of perception for level change is generally reckoned to be not much less than 1dB, that doesn't look like a problem, but in fact it causes very similar effects to noisy jitter: effectively, low-level noise but only in the presence of a signal. Conventional harmonic distortion tests don't pick this up at all.

It turns out that one of the chief causes of this distortion, which is technically called 'shimmer' (at least, that's the term used by radio astronomers, who seem to be the only people who regularly deal with it), is poor contact both in connectors and in devices like volume controls that rely on point contacts to pass electricity. What's more, it can be worsened by mechanical vibration, such as that due to sound produced by the loudspeakers. Indeed, it's quite a useful diagnostic test to see if equipment could do with a service, as long as one has a comparison done when the equipment was new. It can be distinguished from jitter because the latter looks worse when one uses a high-frequency test tone. As most audio folks don't know about shimmer, I wonder how many other undocumented distortions lurk unsuspected?



Old turntable bearings will love a (synthetic) oil change...



Square deal

Hot on the heels of the talented RS Phono comes an affordable, petite pre-power duo from Pro-Ject. **Ed Selley** listens in...

The Phonobox RS from Pro-Ject was probably the single most surprising product I tested in 2012. I had no doubt, given Pro-Ject's experience in the field, that it would be perfectly capable, but I wasn't expecting something built like a tank, fitted with options rarely seen at three times the price and capable of producing a very grown up sound. So when I was offered the chance to audition the partnering pre-power amplifiers, I was keener than a particularly large dollop of mustard...

The Pre Box RS and Amp Box RS both weigh in at £599, which is exactly the same price as the aforementioned Phonobox. The range is completed by an interesting looking media streamer, which we hope to review soon. Black and silver finishes are available, usefully. While phono stages are familiar ground for a turntable manufacturer, pre and power amplifiers are rather more *chiffiste* and at £1,200 all up, this Pro-Ject duo finds itself facing some stiff competition from various one and two box units.

► DETAILS

PRODUCT:
Pro-Ject Pre Box RS
and Amp Box RS

ORIGIN:
Czech Republic

TYPE:
preamplifier and
power amplifier

DIMENSIONS:
(WxHxD)
206x72x200mm
(210with sockets)

WEIGHT:
1.95kg without
power supply

FEATURES:
• line-level inputs
3 pairs XLR and 3
pairs RCA/phono
sockets
• outputs: 1 pre-out
(XLR), 1x rec-Out (RCA)

DISTRIBUTOR:
Henley Designs

TELEPHONE:
01235 511166

WEBSITE:
henleydesigns.co.uk

First impressions are very positive. The Pre RS takes after the Phonobox RS and has a thoroughly impressive specification for the price. For £600 Pro-Ject is offering a fully balanced, Class A, dual mono preamplifier with no negative feedback and a pair of ECC88 valves. Other niceties include an ALPS Blue volume pot and the same exceptionally solid casework as the Phonobox RS. Despite being a half width design, the Pre RS offers six inputs, three of which are balanced. This is an impressive number of XLR connections but has potentially been done at the expense of unbalanced, ones as three inputs are slightly limited in this regard. Juice comes courtesy of an offboard wall wart-type power supply.

The matching Amp Box RS is a 110W power amplifier fitted with a matching set of balanced and unbalanced inputs to make full use of the Pre Box. The most interesting part of the design is what happens between those inputs and the actual amp. The Amp Box also uses valves, in this case a 'tube buffer' comprising another pair of ECC88s that process the signal before amplification.

This is a decidedly unusual fitment, and not one I've encountered before. Matching a valve preamplifier with a solid-state power amp is far from unheard of and external tube buffers have been sold to sit between sources and amps, but building what is effectively a solid-state power amplifier with a valve 'signal processor' is something a little different...

The other features are more logical. A single pair of reasonably high quality speaker terminals provides the output and like the Pre RS it uses an external power supply. In this case, in order to deliver 110 watts, the power supply is a rather larger affair with a screw-in type connector on the rear panel and a hefty mains block at the other end that has a conventional IEC socket. When placing the Amp Box RS in a rack, you will need to take this into account.

The overall effect is an impressive looking duo although there are a few cosmetic and user niggles. The volume control might be a high quality pot, but it feels very stiff in use and the gearing is somewhat abrupt – the difference between no output and very loud is rather less than a centimetre. Input selection on the Pre RS is also a little curious. Instead of a series of buttons or a rotary selector there is a toggle switch that you press multiple times to select the input of your choice. This is novel but depending on how many sources you have, potentially rather annoying. The small plastic remote is also not something to get too excited about, then again is excusable at the price.

Sound quality

Connected to a Musical Fidelity CLiC and a pair of Neat Momentum 4is, the Pro-Jects do a reasonable job of persuading you to give the benefit of the doubt about any foibles in their ergonomics. This is a lively and energetic duo that generally imparts a welcome sense of life to most music that they are asked to play.

Part of this liveliness stems from the considerable bass heft that this pairing seems to have. The Pro-Jects are able to generate an impressively visceral low end when asked to so that with appropriately burly speakers is felt as much as heard. This considerable low end grunt is in turn possessed of impressive agility and speed which gives the Pro-Ject's a liveliness that is hard not to like. As a pairing they are usually able to get the head nodding along to the beat.

The rest of the frequency response is accomplished too. The high resolution FLAC of Mark Knopfler's *Understated Privateering* manages to sound rich, full and believable. Knopfler's guitar has an appealingly natural and relaxed presentation. The decay of notes and the sense of fingers moving on strings is effortless – unforced and absolutely packed full of detail. Vocals have the same relaxed excellence to them and the effect is commendably similar to the way that the Phono RS goes about its business.

What is harder to pin down in all of this is anything identifiably to do with the tube buffer or valves in the preamp. Nothing in

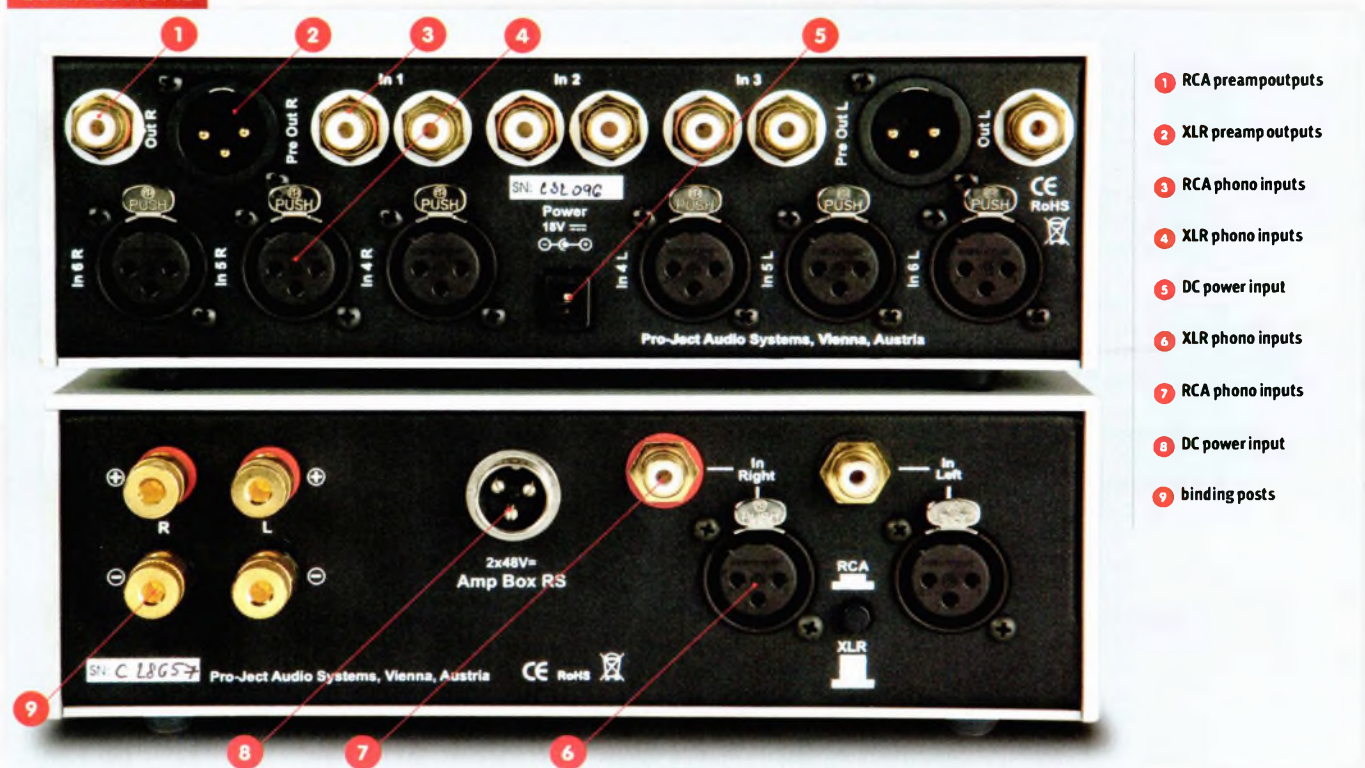
the RS's presentation is so obviously the result of a vacuum tube that you'd automatically assume there were any of them present in the system. For me personally, this is a good thing – I like a great deal of valve equipment and I like a great deal of solid-state equipment, but I've rarely been as enthused about hybrids. For anyone looking for a 'valve amp with power' this probably isn't it, but neither should anyone fear it coming across as warm or soft.

A lively and energetic duo that imparts a welcome sense of life to the music it plays...

The only significant criticism I have of the Pre Box RS and Amp Box RS is that the soundstage is somewhat limited. The placement of musicians and instruments is good and smaller scale work like the Knopfler album are generally convincing. Switch to the rather larger *The Cinematic Orchestra Presents In Motion Vol 1*, the spellbinding *Manhatta* is left lacking some of the air and space that a full orchestra needs to really shine.

Removing the Pre RS from the system and connecting the CLiC directly to the Amp Box RS seems to keep this behaviour in place, whereas connecting the CLiC and the Pre RS to Cambridge Audio's 851A acting as a

CONNECTIONS



- 1 RCA preamp outputs
- 2 XLR preamp outputs
- 3 RCA phono inputs
- 4 XLR phono inputs
- 5 DC power input
- 6 XLR phono inputs
- 7 RCA phono inputs
- 8 DC power input
- 9 binding posts

Q&A

Heinz Lichtenegger
Pro-Ject CEO



ES: The RS Phono is an entirely solid-state design whereas both of these products make use of valves. Was the decision to use valves done on a product by product basis or is there a 'bigger picture' to the design intent?

HL: We really tried to get a tube output stage in the Phono Box RS, yet we also wanted to make a product that would hit the market for under 1,000 Euro. In order to include a tube output stage worthy of the rest of our technology, we would drift above this threshold. So with our desire to hit a very competitive price point in mind we decided to bring the Phono Box RS out with only solid-state technology. Having said that, we are intending to announce a second phono stage in our RS series with tube technology included. We will also soon be announcing a linear power supply, which will work as an upgrade for the Phono Box RS.

Are there any plans for a DAC or indeed any other models in the RS range?

We want to introduce a DAC with tube output stage, top-loading CD transport and integrated amplifier to the RS range in the near future. Again, the plan for all future products is that they will all be balanced, and where possible they will make use of tubes.

Pro-Ject now has electronics to match the great majority of its turntable range, is the RS range as far as you intend to go?

There is no plan to go further than RS at the moment. We see our electronics ranges as a great complement to our turntables.

Were there any particular speakers that Pro-Ject used during the development of the RS series that they feel would be good partners?

We have been designing the products mainly by testing with the following speakers: Sonus faber Venere line (for their beautiful homogenous sound, with rich colours), Triangle Magelan (super fast, super open, but always musical, with a wonderful clear soundstage), Tannoy DC line (for their super powerful yet still audiophile sound).

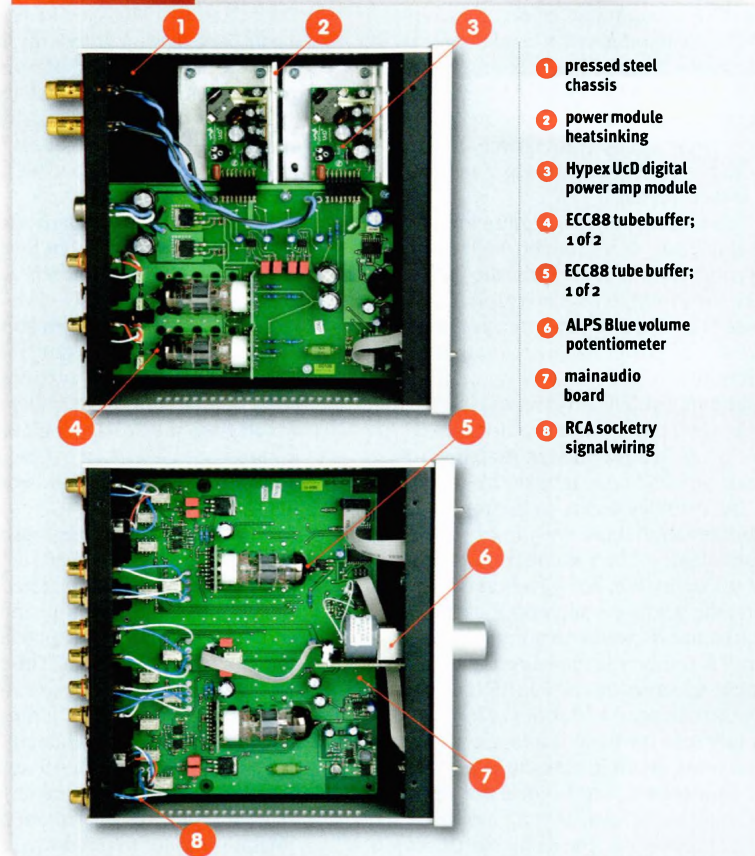
HOW IT COMPARES

£1,200 PREAMP/POWER AMPLIFIER combinations are not that common so the Pro-Ject duo doesn't face a great many two-box competitors, but Musical Fidelity's M1HPA (£500) and M1PWR (£800) is there to keep things honest. This British designed combo gives a marginally cleaner and more detailed sound, but lacks some of the romance of the Pro-Ject duo.

If you're not impressed by that lovely compact half-width packaging, then there are some very strong full width, full size integrated amplifiers around. For example, during the review, the RS boxes were sat side by side with the Cambridge Audio 851A which is one of the strongest performing amplifiers at the price point.

The Cambridge is a slightly more refined performer and offers some set up options that the simpler RS boxes don't. The Pro-Jects counter with an extra balanced input and a sonic liveliness that does lend more up tempo music a certain energy. Ironically both units have flawed volume controls. The Cambridge system can make the amp feel weirdly underpowered while the Pro-Ject has something of a hair trigger.

IN SIGHT



- 1 pressed steel chassis
- 2 power module heatsinking
- 3 Hypex UcD digital power amp module
- 4 ECC88 tube buffer; 1 of 2
- 5 ECC88 tube buffer; 1 of 2
- 6 ALPS Blue volume potentiometer
- 7 main audio board
- 8 RCA socketry signal wiring

power amp via a fixed input seemed to bypass it. This suggests that this slightly constrained performance is down to the power amp. This is nothing that probably couldn't be basically nullified with sympathetic speaker choices. If you're seeking a seriously big sound then pairing it to efficient floorstanders such as Q Acoustics' excellent 2050is should do the trick, and will generate levels loud enough to lift the roof even with this modestly powered duo.

The experiment did show that the Pre really is a very neutral bit of kit. This is a preamp that puts almost nothing of itself into the overall performance and represents one of the least expensive examples of a usable transparent preamplifier that I have encountered. The power amp is the more audibly characterful of the two designs, but is still far from what you might call coloured. As a pairing, they have enough deviation from absolute neutrality to entertain, but without tipping over into becoming willfully inaccurate.

As an opening move into a keenly contested area by Pro-Ject, there is much to like about these two products. They are not quite as all conquering as the phenomenal

Phono RS, but they still do an awful lot right. The slightly limited soundstage shows they're not totally blameless, and the very sensitive volume control and peculiar input selection are also minor irritants. But still this pert partnership does a lot more right than it does wrong.

Conclusion

If you are looking for a well built, powerful and compact pre and power amplifier package with enough watts on tap to work with a wide variety of speakers, this dinky dynamic duo is well worth seeking out. ●

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY



LIKE: Great build; good connectivity; fine sound

VALUE FOR MONEY



DISLIKE: Slightly restricted soundstage

BUILD QUALITY



WE SAY: A welcome addition to the ranks of affordable pre/power amps offering clever packaging and excellent sound per pound

FEATURES



OVERALL





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MARANTZ CD6004 • PM6004 CD / AMPLIFIER
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ARCAM SOLO NEO CD / NETWORK SYSTEM
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PRO-JECT DEBUT CARBON TURNTABLE

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REGA RP1 TURNTABLE

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PRO-JECT XPRESSION III TURNTABLE

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QACOUSTICS
2050i / 2020i

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MONITOR AUDIO
GOLD GX

Monitor Audio's new Gold GX speakers use technology that has filtered down from their flagship Platinum PL range. The range comprises two standmounts, two floorstanders, two centre speakers, a pair of surround speakers and a single subwoofer.



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PM1

This luxury, compact loudspeaker is the latest in a long line of Bowers & Wilkins audiophile mini monitors. It offers an extremely high-quality audio performance and features several technological innovations including a new tweeter and ground-breaking cabinet design.



KEF AUDIO
R SERIES / LS50

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TANNOY
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PMC
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MARANTZ NA7004 **MUSIC STREAMER**

This AirPlay® compatible player lets you connect to all your favourite music, whether it's from your PC, external hard disc or as an FM / DAB radio station broadcast or even on the other side of the world via Internet Radio.

PIONEER N-50 **MUSIC STREAMER**

Audiophile Network player supporting AirPlay® and DLNA wireless technologies, allowing you to stream music wirelessly from your iTunes libraries or iOS devices.



ROTEL RT-12 **MUSIC STREAMER**

The RT-12 is an FM and DAB+ preset radio tuner and much more besides. By incorporating network capabilities, the RT-12 access thousands of internet radio broadcasts and play audio files stored on UPnP servers such as Windows computers.

SANSUI WLD+201L **MUSIC STREAMER**

Network Audio Player featuring DLNA wireless technology, DAB+/FM tuner and remote control via iPad, iPhone or iPod Touch with Sansui 'Libretto' control app.



CYRUS STREAM X₂ **MUSIC STREAMER**

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ARCAM
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AUDIOLAB M-DAC

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CLiC here

Is it a streamer? Is it a digital preamp?
All **Ed Selley** knows is that this latest version of Musical Fidelity's M1 CLiC is really rather clever...

One of the most interesting aspects of the media streamer being a relatively new category is that there are no preconceived ideas about exactly what roles they should undertake. That's why you find such a wide variation in their functionality – Internet radio is a given, multiple digital inputs are fairly common. Some units combine this with a volume control to turn them into a preamp. Only one device has gone a stage further from the 'digital

preamp' and added analogue inputs though, step forward the dinky little Musical Fidelity CLiC.

It is called as a 'Universal Music Controller', which for once is probably a fair description. Built into the neat half-width casework of the M1 series, the CLiC is a 192kHz-capable media streamer with Internet radio, four digital inputs and three analogue ones. It can either be used with a fixed output into a conventional amplifier or via the variable output into a power amp or active loudspeakers.

DETAILS

PRODUCT:
Musical Fidelity
M1 CLiC

ORIGIN:
UK/Taiwan

TYPE:
DAC/streamer

WEIGHT:
3.3kg

DIMENSIONS:
(WxHxD)
220x100x300mm

FEATURES:
• colour LCD screen
• 4x RCA phono inputs, 2x RCA coaxial, 1x TOSLINK digital input
• 1 front & 1 rear USB type A socket, 1 USB type 'B' connector

DISTRIBUTOR:
Musical Fidelity

TELEPHONE:
01684 560853

WEBSITE:
musicalfidelity.com

The fitting of two outputs might seem a little curious, but the answer lies in the CLiC's stablemates. The M1 HPA headphone amplifier is a member of the same range, and as I saw in a recent Beautiful Systems piece, is a wonderful preamplifier in its own right. The CLiC could be used as an 'input collator' and output to the HPA or be used direct into a power amplifier – in both cases the M1 PWR being an ideal candidate but not the only one as the CLiC will also attach happily to some of the bigger amps in the company hierarchy as well.

The rear panel is busy but logical enough. The CLiC has wired and wireless connections for networking and Musical Fidelity recommends the use of the Ethernet connection for 192kHz files. A rear USB can accept an iDevice being connected to it (there is a separate USB at the front for connecting USB sticks and

drives) and show the contents on the front menu. The four digital inputs comprise two SP/DIF connections, an optical and a USB-B connection for a computer. The analogue inputs and outputs are all via RCA phonos.

By comparison, the front panel is extremely simple, with only a standby button, headphone socket and the large display. This is relatively unusual in that it is full colour and will show album art as well as artist and title information. The result is visually elegant but means that the CLiC is entirely dependent on remote control to be stopped or muted in a hurry.

There was a deep soundstage between the speakers and fine insight into the detail...

This is a good and bad thing. The supplied remote is absolutely nothing to get excited about and is pretty much a standard Musical Fidelity offering. Controlling the CLiC with it is simple enough but not the most elegant or inspiring process. The good news for iDevice owners is that Musical Fidelity has gone to town on the control app for the CLiC. As well as offering full control of the UPnP and Internet radio sections, it controls volume and allows you to select the analogue and digital inputs as well. In iPad form especially, this is one of the very nicest control apps I've seen and using the CLiC with it is a vastly superior experience.

Fit and finish is good, with the CLiC feeling reasonably substantial and well thought out. The all-metal chassis has minuscule panel gaps and feels reasonably well damped. The display contrast is

reasonable and makes it easy enough to read although the font for artist and album is a bit small. The display can be made to switch off after a period but cannot be dimmed so this is all or nothing.

Sound quality

Connected to a Cambridge Audio 851A and a pair of Audio Note AN-Ks, the CLiC was simplicity itself to connect to a network and talking to the various servers on it. Kicking off with the wonderful *Machines of Love and Grace* by Martha Tilston, demonstrated that the CLiC has many behavioural traits in common with the M1 DAC and is none the worse for that. The presentation is impressively natural and free of any digital fingerprint, but has an engaging sense of life and rhythm. If there is a beat to find, the CLiC will latch on to it.

The other impressive area of performance is the bass. The CLiC manages to go impressively deep and has good levels of detail and texture while it does so. There no unnecessary emphasis to this and neither does it seem forced or unnatural but if you return to the CLiC after listening to other devices, you find yourself impressed at the grunt involved. The soundstage helps too – the Musical Fidelity creates a believable and convincing layout of instruments and voices that sympathetically matches the space of the piece from claustrophobic booth to live stadium.

As a high resolution product, the performance with 24-bit recordings is suitably convincing. *The Face of Mount Molehill* by the Neil Cowley Trio is a wonderfully vivid and compelling performance. The piano that underpins many of the tracks is absolutely and unambiguously real. It has a weight and

CONNECTIONS



- 1 RCA lineinput
- 2 iPodinput
- 3 Wi-Fiantenna
- 4 coaxial digital in
- 5 opticaldigital in
- 6 USB digitalinput

Q&A

Richard Trotter
Musical Fidelity



ES: Why did Musical Fidelity take the decision to add analogue inputs to the CLiC??

RT: We wanted to create a universal music controller concept and felt it was essential to feature a high performance preamp stage within the product's armoury. With this in mind it was critical for the product to cater for analogue legacy connectivity hence we fitted the 3x stereo analogue inputs.

As a relatively early adopter of the UPnP streamer, does Musical Fidelity feel that customers are adjusting well to the concept?

The message we wanted to get across to the music lover interested in high performance music reproduction, was that streaming audio can be achieved with minimal loss. The CLiC delivers outstanding results while combining the added flexibility of dedicated iPhone and iPad control applications making operation a delight. With the worldwide success of the CLiC we believe that this message has not only been adopted by existing Musical Fidelity customers but also a whole new generation of consumers

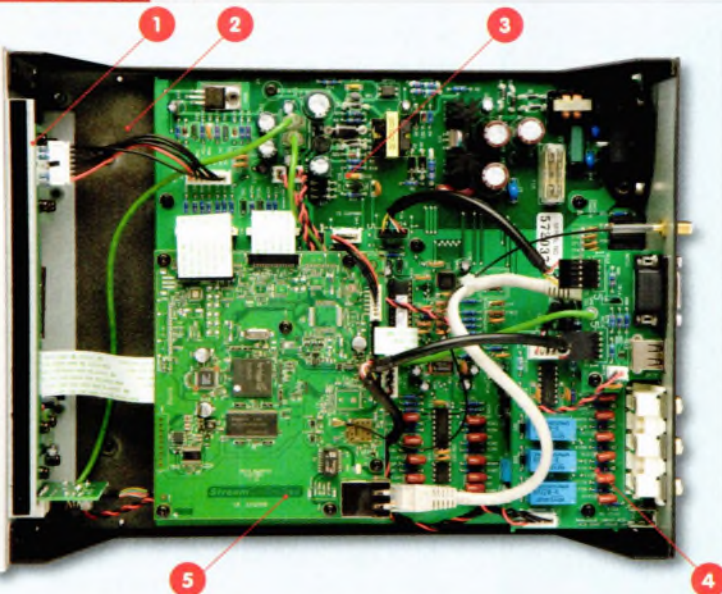
Would you consider a larger model to augment the range?

At present we are very happy with the CLiC as the 'standard bearer' for our entry into the audio streamer market. However, we will continue to see how this market develops and will introduce new products if we feel that they are required.

Does Musical Fidelity think that high resolution audio will come to form a meaningful part of music sales or is it as much as we can hope for that lossless downloads become more freely available?

It would be great to see hi-res audio become available on iTunes. If a music provider such as Apple were to get behind this there would be no doubt that consumers would wake up to hi-res audio downloads in much greater numbers and as such products like the CLiC with its ability to stream 24-bit/192kHz would be in pole position!

IN SIGHT



- 1 fascia control and display assembly
- 2 non-magnetic aluminium chassis
- 3 main audio board mounted to chassis
- 4 RCA phono analogue input board
- 5 Stream Unlimited streaming board



SINCE IT WAS LAUNCHED SOME EIGHTEEN MONTHS AGO, a number of rival streamers have popped up out of the woodwork, but interestingly there's still really nothing around that does exactly what the CLiC does, so well, and/or so easily.

In operational terms, Pioneer's N-50 is the closest to the CLiC - offering as it does a high quality colour screen which gives a very nice user interface - should you wish to do things the old fashioned way and not have to go off and find your smartphone in order to change the track! It also gives good sound, but you'd hardly put it in the same league as the (admittedly more expensive) Musical Fidelity. The N-50 is clean and open but lacks the tonal warmth and soundstage depth of the CLiC.

Marantz's NA7004 is up there with MuFi in terms of sonics, but feels positively paleolithic from a user point of view; it's wired Ethernet-only and lacks the visual fireworks and flexibility of the luxurious CLiC.

decay to it that is rare (although not impossible) to hear with 16-bit recordings and the effect is superbly natural. The CLiC has sufficient talent with high res that it rather makes you wish there was more of it.

The Internet radio and iPod sections also worked well. The vTuner selected stations in particular are good enough to warrant ditching your DAB, if not necessarily your cherished FM unit. The iPod connection is fast and easy to access but has the same limitation that all USB interfaces have in that it will directly access the 'iPod' section of the device and won't let you use an iPod Touch or iPhone as a method of accessing streaming services on the cheap. You could easily make use of an iPod transport connected to one of the digital inputs to achieve this.

The only real limitation of the CLiC is control, rather than sound, related. As a preamp, the analogue sources connected sound much the same coming out the other end, and the digital inputs have the same impressive musicality that the streaming section does. The problem is with the control of the preamp itself. I would say that the control app is essential as the volume ramping via the remote is slow and has a tendency to overshoot. Even via the control app, there is a sense that the CLiC could benefit from more volume increments, as there were a few occasions where I found myself wishing for a volume point between two selectable levels. This is an area where the M1HPA excels, and the difference is noticeable.

Conclusion

Musical Fidelity's CLiC is a very impressively specified and highly capable device, one that has much to recommend it. As a means of collating your sources, the inclusion of the analogue inputs effectively puts the CLiC in a group of one. As a preamp, the limitations of the digital-only volume with no physical control means that the M1HPA is still probably the most capable member of the family in this regard, but as a means of extending the flexibility of a preamp with limited inputs, this is a fantastic place to start looking. Sonically, the CLiC realises the potential of high resolution audio and manages to sound rather good with CD quality material as well. There is no shortage of competition at the price, but the unique specification and sonic ability of the CLiC means that you would be foolish to ignore it. It's a stonkingly good streamer, no less! ●

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY



VALUE FOR MONEY



BUILD QUALITY



FEATURES



OVERALL



LIKE: Clean, open, musical sound; excellent streaming implementation; easy nav via colour screen; features

DISLIKE: nothing at all at this price!

WE SAY: One of the very best value streamers on sale today, this is an essential audition



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Lite source

Patrick Cleasby switches on to Naim Audio's new 'budget' streaming all-in-one system...

Towards the end of last year, Naim was touting its range of network player hardware as 'the future of hi-fi', with some justification. There are a number of ways to approach ripping and streaming, and Naim has had most of them covered for a few years now, with its Uniti family of products including CD ripping machines and attractive mini servers. In parallel they have been making digital all-in-one systems for some time, and thus it makes sense that at the lower end of the range they should offer an entry-level stereo streaming all-in-one.

The UnitiLite is that baby of the range, and it definitely ticks all the boxes for digital operation. The only area of functionality which is optional is FM/DAB (which takes the price to the best part of £1,900).

Base users get inbuilt UPnP up to the increasingly desirable 24-bit/192kHz level, the ever more important Internet radio, an inbuilt CD player (arguably less important by the day), and a wide variety of front and rear accessible analogue and digital inputs, including a preamp output on Naim DIN sockets should you wish to extend the system. The internal amplifier is rated at 50 watts per channel into 8 ohms.

At its launch at the Milan show last year, a number of hi-fi hacks were keen to ask Naim supremo Paul Stephenson why on earth the company was launching something with a CD player in it. After all, they're not exactly the cutting edge of technology these days, are they? Naim. Paul conceded this, and said that this system is aimed at precisely these sort of users. Essentially it's a

► DETAILS

PRODUCT:
Naim UnitiLite

ORIGIN:
UK

TYPE:
one-box streaming system

DIMENSIONS:
(WxHxD)
432x70x301mm

WEIGHT:
7.5kg

FEATURES:

- analogue inputs: 2x RCA, front-mounted 3.5mm
- digital inputs: 2x optical S/PDIF (24/96), 2x coaxial S/PDIF (24/192)
- computer inputs: front-mounted iPod/USB port
- networking: 10/100Mbps Ethernet and 802.11b/g/n Wi-Fi options

DISTRIBUTOR:
Naim Audio

TELEPHONE:
01722 426600

WEBSITE:
www.naimaudio.com

crossover product, something that works out of the box for those of a non-streaming inclination, but which offers serious streaming functionality for those to whom CD is about as relevant as a Filofax or a telex machine. Fair enough, then!

As you might expect with an all-in-one, there is little but the unit itself in the box – the remote shell differs from the CD5-type and is a satisfyingly chunky little affair. The customary white-plugged Naim mains cable is included, later proving itself to be essential, and there is the usual hinged stub antenna for wireless operation. The manual takes the form of a quick start guide and it is all that is needed (if at all) as set-up is self explanatory and simple.

I attempted to do the initial set-up using the inbuilt wireless and found that for some reason it did not want to see my Apple Extreme/Express based 802.11n and g network, despite the wi-fi support being claimed to be b/g/n compatible. I reverted to my common practice of feeding the machine Ethernet from one of the Airport Extremes themselves, but as that could not manage the 24/192 streaming, I moved to a location where I could have direct Ethernet connection.



As is my wont, I also used my usual Power Chord IEC lead as well, an action I was later to regret...

Sound quality

As with the installation, it was possible to get started with music listening on a fairly intuitive basis. The multiple servers in my house were instantly picked up in the UPnP section, and it was easy to start playing. It takes a little while to get used to the remote operation, there is a slight ergonomic conflict with iPod menu operation to overcome. To play something and then continue to navigate menus one does not 'menu back' (that results in the track playing again), but you use the central 'OK/List' button.

It was probably my slight frustration with this which led me to seek out the inevitable tablet operation software almost immediately, and what a joy it was to discover Naim's N-stream for iPad! Much like equivalent offerings from the likes of Onkyo this is more than just a UPnP controller but a maximum featured, full system controller, meaning you need never rise from your sofa again!

The best part is that Naim has taken the care to integrate the Rovi service (All Music Guide reviews and links) into the playback experience. No longer are you just staring at JPEGs of varying quality representing solely the cover – you can flip it open with your finger to see a multi page representation of a CD booklet, containing album specific reviews and general biographies, band lineups, and similar artists. You may not agree with some of the reviews or artist comparisons, but the links will have you firing off to the Internet or listening immediately to those similar items in your collection. It is this as much as the audible qualities of the hardware which back up that 'future of hi-fi' claim.

Sonically though I was initially unconvinced that the tonal balance was correct, it feeling a little over-egged in the bass direction, and so I reverted to the supplied Naim IEC lead. The difference was astounding, everything snapped back into balance, lending credence to Naim's assertion that its systems are tuned together right down to the lead that is in the box.

One of the great benefits of the UnitiLite is the step up to 24/192 capability from the Squeeze world of 24/96 limits. Many would say this is a waste of time, but with old top rate stereo DVD-Audio rips and HDTracks increasingly offering analogue masters transferred at the higher sampling rate, the results can be stunning. In the former category, Grover Washington Jr's *Winelight* finally has the crystal-clear latin percussion and thudding Marcus Miller bass to match the original. In the latter category the robotic backing track to Lionel Richie's *Can't Slow Down* fizzles with great timing and Rod Stewart's seventies solo albums have a marvellous organic analogue warmth to them.

Moving on to 16/44.1 FLAC material, I used the initial segue from *Emergency Contraception Blues* into *Lamplight* from Bombay Bicycle Clubs's debut album to check for correct gapless playback from a Twonky server, a test which was passed with flying colours. Musically those compressed washes and the overflowing bass sound of the latter track were marshalled and contained, when it can sometimes just sound like a mess. A similar ability to resolve a musical picture out of a very busy and compressed signal was noted with the 24/96 version of *BU2B* from Rush's latest. CD playback was a slight disappointment. Essaying The Proclaimers' *Sunshine on Leith* the sound seemed a lot flatter than the same experience via network playback. It was smooth enough alright, but it's not the core competency of the UnitiLite.

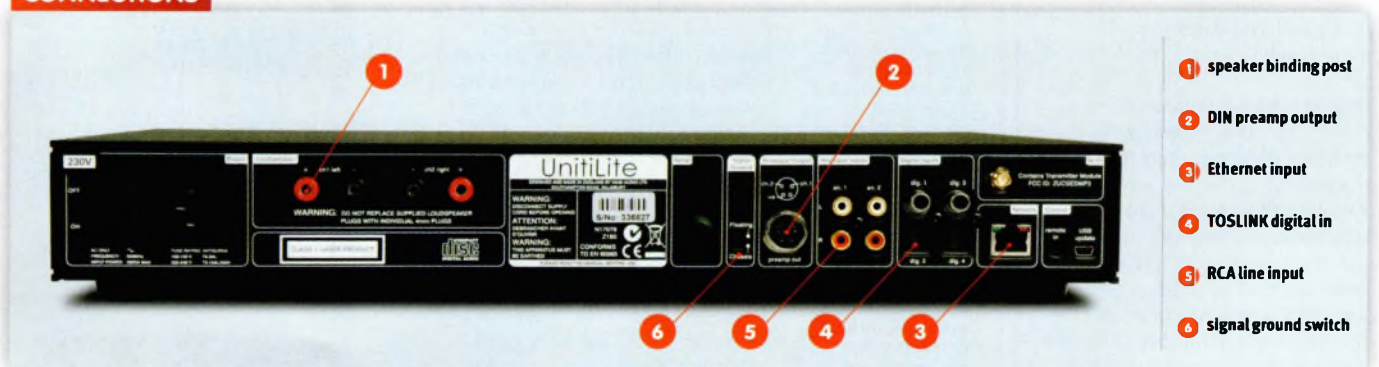
What Naim terms iRadio is obviously the now near ubiquitous and highly useful

One of the great benefits of the UnitiLite is the step-up to 24/192 from the Squeezebox world of 24/96

Internet radio. What's nice is the way Naim has preconfigured its menus for less adventurous types like me who tend to stick with the good old BBC. The front page of the selection interface in N-stream highlights some currently Beta 'hi-def' streams from the BBC. While this is a terrible misnomer it does at least mean that we can have speech on Radio 4 at a very acceptable 128kbps AAC, making John Humphreys sound big and butch rather than weedy and thin. Even better, a quick turn to Radio 3 and I happened upon some Clementi being played by Howard Shelley and the piano sounded fantastic – deep, rich and full of timbre. A great recording rendered solidly across the Internet!

The front-mounted USB port is obviously primarily there for iPod connectivity and a very fine job indeed is made of this function. The control is taken over by the front panel/N-stream and the operating paradigm

CONNECTIONS



- 1 speaker binding post
- 2 DIN preamp output
- 3 Ethernet input
- 4 TOSLINK digital in
- 5 RCA line input
- 6 signal ground switch

Q&A

Steve Harris

Naim Audio spokesman



PC: Having lived with it for a week or two, I must say I'm loving N-stream. How did that come about?

SH: We decided almost at the beginning of our streaming and serving projects that we should offer 'iDevice' control. N-stream is a music fan's way to lose hours having fun. It includes Rovi which is an All Music Guide function, we pay for to add an extra service, as it makes it like reading album notes – back when they were possible to read or like they still are on record sleeves.

Many hi-fi manufacturers seem to be grabbing a proprietary streaming module and dropping it into their fancy box, and affixing a suitably elaborate price tag to match. Does the UnitiLite use a bought-in module or is it all Naim's work?

A complicated question! We work in partnership so much – the board layout is ours but ultimately the core chip is a BridgeCo. The software is a combination of Naim's Research and Development department hammering to get it right and the coders. Getting the performance from the system is what we bring to the party, and in that we're significantly ahead.

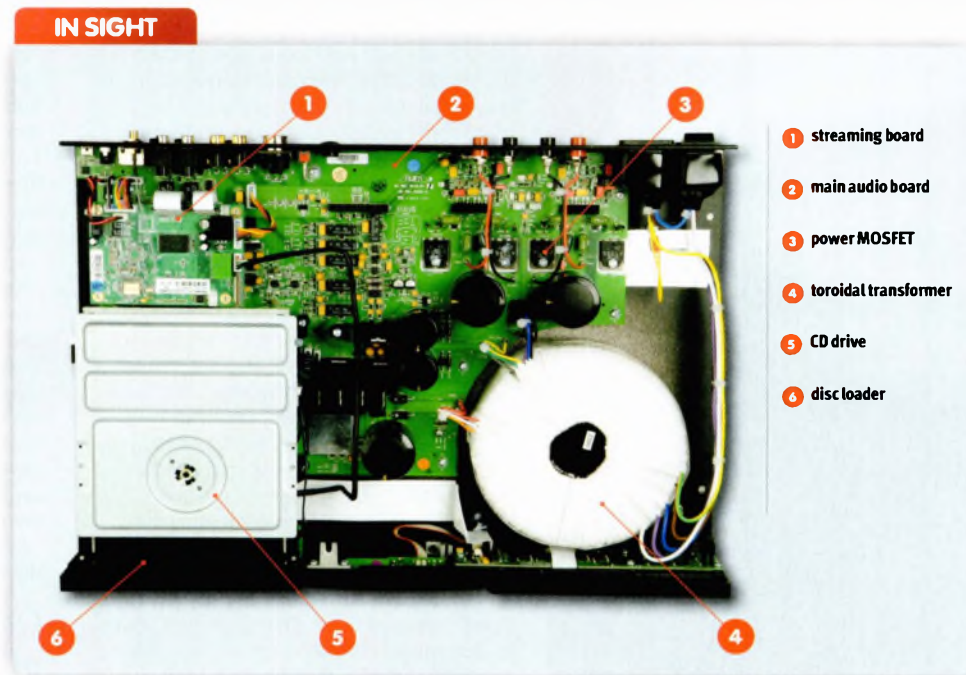
Do you think this machine will do very well for you in the first time streamer market?

Our research says having Compact Disc functionality is very important for first time all-in-one buyers – it gives confidence while customers get confident streaming. By twelve months later, they will not really be using CD any more. We're already having problems keeping up with the demand!

It's nice to have a controller in N-stream that understands the machine rather than a generic controller controller...

We think n-Stream is the right combination of power with ease of use. The really clever bit is to be able to switch back to the old style of control if one's NAS requires it. So you get responsiveness with a good NAS and compatibility with all server software.

IN SIGHT



- 1 streaming board
- 2 main audio board
- 3 power MOSFET
- 4 toroidal transformer
- 5 CD drive
- 6 disc loader

HOW IT COMPARES

NAIM WOULD LIKELY HAVE you believe that the UnitiLite's only real competition is its elder brother the Uniti 2, and CD lovers would indeed get a CD section which is closer in design to Naim's standalone machines, although you would be spending around £1,000 more. I would recommend that those who can't part with their silver discs do a side-by-side audition if disc spinning is still of significant importance to you.

Of course there are similar products from the likes of Arcam, with the closest in price and functionality being the now somewhat superannuated, but still rather nice Arcam Solo Neo (£1,100). This offers a smooth, warm sound and great build and styling. What's not to like at its low, low price? Arguably, only the UnitiLite's superior sonics and lovely control app are likely to stop you wanting to save that big chunk of change.

remains the same as for streaming music (so remember to 'list!'). The real benefit for N-stream use is that the same rich virtual sleeve-note information from Rovi is available on the iPad for your iPod music. As expected, the Bombay Bicycle gapless test ran smoothly and impressively the iTunes Plus quality AAC version was not a million miles away from the streaming lossless version.

The 3.5mm stereo input auto-switches to its input channel on insertion of the mini-jack. As I was testing with the new iPod Nano the audible results were a little flat, but this could easily be put down to the headphone stage on the cheap device. Interestingly, in an Apple-like move, this port is also dual-use analogue and digital (using an optical cable or adapter).

As is usually the case with me, the UnitiLite was installed under a television and to test out the digital hookups I attached a Youview box via optical S/PDIF and a Sky box via coaxial. Both were able to deliver a full and robust version of TV sound, although the most impressive stereo sound to picture was achieved by hooking up the optical to a PS3 playing the Blu-ray of Spiderman 3 – even without being in surround some fairly behind-the-head swooshes were achieved.

Conclusion

The UnitiLite is a very easy device to live with – there are no niggles in its operation, the remote is comfortable

in the hand and intuitive to use. All the digital trickery manages to feel like it has been designed in, rather than another company's module having been inserted into a hi-fi device. The real killer selling point for me has to be how effective N-stream is as a full system tablet controller, rather than a simple uPnP controller, and it is heartening to see them pushing N-serve as well for those few poor tablet-less souls.

I suspect that Naim is correct in saying most of those who adopt streaming with one of these will cease to use the CD player part in short order, which sort of begs the question of why it's included, but then we know the rationale, don't we? Overall, here's a great sounding and affordable system that's been pitched deftly between the hardcore hi-fi world and the great unwashed who just like music! ●

Hi-Fi Choice

OUR VERDICT

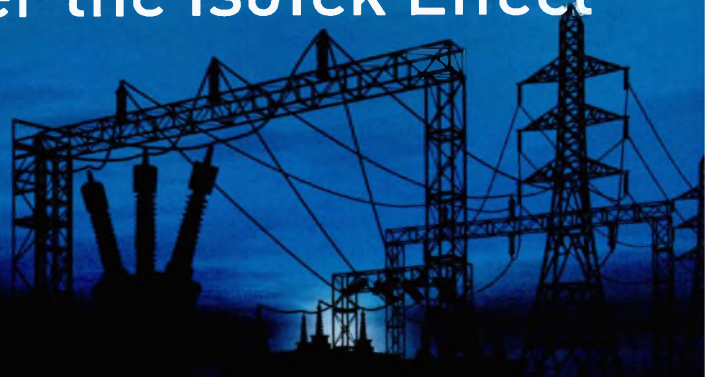
- SOUND QUALITY** ★★★★★ **LIKE:** Great all-round usability; excellent sound via streaming; fine build
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** More flexible USB drive compatibility would be nice; do people really want a CD drive?
- BUILD QUALITY** ★★★★★ **WE SAY:** Brilliant all-in-one system for your first file-based foray!
- FEATURES** ★★★★★

OVERALL



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Mains electricity is distorted by numerous factors as it travels from power stations to our homes, eroding your systems performance. The **New Discovery Range** from IsoTek delivers highly effective yet eminently affordable solutions to enhance sound and picture quality, whilst also protecting your valuable equipment from spikes.



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Metal master

Acoustic Energy's 301 is a budget standmount that unusually employs spun alloy cones.

James Michael Hughes hears its genius...

Just over twenty years ago, Acoustic Energy launched its original AE-1 loudspeaker to considerable acclaim. It quickly earned a reputation as one of the best compact near-field monitors you could buy, establishing the credentials of the brand. The AE-1 continues to this day as the AE-1 Classic, but for those with less to spend AE offer their 3 Series.

This new range consists of the 305 floorstander, the 301 compact, plus 307 centre speaker, and 308 subwoofer. Clearly the intention is to plant a foot in both purist hi-fi and home theatre camps. The 301 can be used as a compact high-fidelity speaker in its own right, or as a rear channel speaker (with 305s upfront) in a surround set-up.

The 301 is a classic two-way standmount design that was penned in England but manufactured in China, and very high standards of build quality and finish come as standard. The cabinets are ported (albeit with an unusual wide frontal slot rather than a round hole) and made from 18mm-thick MDF.

It sports a rigid, internally-braced cabinet damped with (what looks like) white synthetic wool. The enclosure feels solid and is very well made. Single wiring (via gold-plated 4mm posts) is offered. A choice of black or white high-gloss lacquer finishes are offered, making the speakers look more expensive than their £440 price tag suggests.

With a quoted sensitivity of 87dB, you'll ideally need an amplifier with at least 50W output given a medium to large sized room. True to the brand's tradition, a simple five-element crossover is employed. In use, the 301s are quite happy being driven with a big amp; AE suggest 150W maximum power handling. But – despite medium sensitivity – they're not too power-hungry. The impedance is nominally around 8

ohms and AE claims it does not fall to below 6 ohms. You're never going to get flare-flapping levels from a small standmount such as this, but they'll still go usefully loud!

Something that distinguished the original AE-1 from its peers was the use of a metal coned bass/mid driver. Most rivals choose paper (often doped), or plastics. Metal has the advantage of being stiffer than traditional materials, and is reasonably light too. But there are always pros and cons, regardless of the material used! The 301 features a 110mm spun aluminium metal coned bass/mid driver, partnered with a 28mm dia fabric-domed tweeter. As with most smallish speakers, deep bass performance is somewhat limited in terms of absolute depth. But the 301s offer clear, defined 'lows', I found.

Tonal balance is lucid and fast, the presentation detailed and focused with plenty of bite and attack

DETAILS

PRODUCT:
Acoustic Energy 301

Origin:
UK/China

Type:
standmount
loudspeaker

Weight:
5.5kg

Dimensions:
(WxHxD)
300x185x250mm

FEATURES:

- 28mm soft-dome tweeter

- 110mm spun aluminium bass/mid cone

- single cable wiring

- quoted sensitivity: 87dB

- finish: High Gloss black or white

DISTRIBUTOR:
Acoustic Energy

TELEPHONE:
01285 654432

WEBSITE:
acoustic-energy.co.uk/

Sound quality

Tonal balance is lucid and fast, rather than warm and lush. The presentation is very detailed and focused, with plenty of bite and attack. It's not an especially rich or beguiling sort of sound, but it is clear and nicely open. Clarity is excellent, with good separation and fast crisp attack. The treble is incisive, but not overly forward.

Trying a quick blast of *Tales from Topographical Oceans* by Yes on vinyl, I was impressed with the way the 301s coped with the complex synthesiser lines and heavily-layered voice and guitar parts. The sound was detailed and crisp, but avoided congestion when things got busy. Pitch definition of bass instruments was clear, but the speakers did not create a full bottom end. While this might disappoint some listeners, it's arguably better to have a clear clean, if somewhat light bass, than something weightier that sounds thick, heavy, and ponderous. You can always add a subwoofer to increase bass depth or weight, of course...

Playing the recent Schubert symphonies set with Mark Minkowski on the Naïve label, the sound was lithe and nicely forward. On this recording, massed violins sounded very lucid – maybe a touch bright in terms of tonal quality, but not unpleasantly so. The orchestra is placed at a medium/close distance, in a fairly dry acoustic, without much ambience. Most orchestras tend to deliver a leaner more incisive sound than they did (say) thirty years ago (a legacy of the Period Instrument revolution), and that's what the 301s reflected. Had the lower frequencies been a touch deeper and fuller, the



Q&A

James Luce

Acoustic Energy brand manager



JMH: What are your reasons for using spun aluminium cones?

JL: The woofer for the 3-Series is quite special and can trace its heritage right back to the drivers used in the original AE1. The cone is actually a ceramic and aluminium sandwich material. The cone shape is formed by spinning, which has the advantage of allowing us to taper the wall thickness as well as stiffening the aluminium by work-hardening. Using electrolysis we then form thick layers of alumina on each side of the cone. This both stiffens and damps the cone, producing a more natural sound. The thermal conductivity of an aluminium cone, together with an aluminium dustcap and voice coil, creates an efficient heatsink. This lowers the thermal compression in the drive unit, offers greater power handling than typical paper or plastic cones and allows the crossover to work more effectively.

Any pitfalls to spun aluminium?

The problem with using an extremely stiff aluminium bass driver is that the upper frequency break-up point, or 'ringing', occurs at a far lower frequency than that of more compliant doped paper cones. We have countered this in two key ways; by developing a new foam cone surround and engineering a lower crossover point with a steep slope. A lot of experimentation went into the foam surround and even the type of glue used, and lowering the crossover point necessitated developing a new tweeter with a larger surface area than is typical of speakers at the 3-Series' price point. The large tweeter enables the lower crossover frequency thanks to its extended lower roll-off than a smaller dome.

Why not use a metal dome tweeter?

A large aluminium dome encounters similar ringing issues to the metal bass cone, whereas the 301's soft dome is smoother and sweeter than a typical hard dome alternative with better off-axis power.

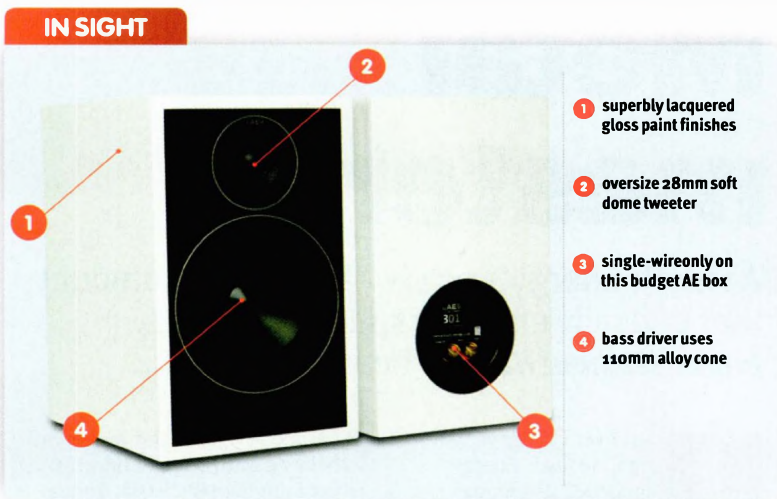


THE PERFECT LOUDSPEAKER CONE should act as a rigid piston at all frequencies, moving the air without flexing. The bigger the drive unit, the greater the risk the cone will 'flex' at different frequencies, producing distortion and non-linearities.

This is called 'breakup', and the problem has been known about for over fifty years. Many ways to reduce cone breakup have been tried. Aluminium cones (usually as part of a 'sandwich' construction) go back a long way – to the 1950s at least.

As with most things hi-fi, there are extreme opinions, for and against, regarding the qualities of metal cones. Those against claim the result is an unpleasant metallic sound. Those in favour cite things like low weight and excellent stiffness/rigidity.

The truth is that whatever the material used, it always involves a compromise. An improvement in one area is invariably achieved at the expense of a worsening somewhere else. As always, the Great God of Hi-Fi Giveth, and immediately Taketh Away! 'Twas ever thus...



overall balance would have been better, but the end result was still very enjoyable.

Piano music was handled well; the 301's excellent transient attack and lack of congestion ensured that each note remained separate and clear – even in dense complex passages. Playing some of Eric Le Sage's Schumann *Klavierwerke* on the Alpha label demonstrated the 301's crispness and unexaggerated clarity. The 301 was able to convey the aural impression of a piano placed at middle distance in a fairly reverberant acoustic, and one could readily sense the ambience of the hall. Because the 301 sounds very clean, you're kind of invited to increase volume levels. In such situations, having a big powerful amplifier with lots of headroom is very useful!

The tweeter produces a bright open sound, yet seems quite sweet tonally, and free from high-frequency edge. Dynamically, it integrates seamlessly with the bass/mid driver, delivering clean highs without drawing attention to itself.

So – assuming no prior knowledge – could one tell the bass/mid driver has a metal cone? *Tricky*. Musically the presentation is very tactile, and the sound starts and stops precisely, with no sense of overhang. There's nothing woolly or vague about the 301; it's impressively tight and crisply-defined. It's certainly tempting to put this down to the stiffness of the aluminium cone, and its relative lightness. The presentation is admirably focused, and the speakers image precisely.

Tonally, there's a slight lack of warmth. I wouldn't say the sound is in any way metallic, but it is lean and spare. Of course, no speaker of this size and price is going to deliver

seismic bass. But many disguise their limitations by sounding fairly warm so that one hardly notices that the bottom octaves are missing. For better or worse, the 301 does not go in for such artifice. It's lean and mean. Whether this is merely an absence of 'woody' cone colorations, and other pleasant resonances, is difficult to say. Having a tight clean bass, with very little smearing or overhang, kind of demystifies the sound a bit. You hear the music without 'additives'. The 301s sound good, and one quickly grows accustomed to their characteristics. Room acoustics always play a big part in determining tonal balance, and every room is different. So, you won't know how a speaker is going to sound till you get it fired-up in your own gaff.

Conclusion

Acoustic Energy's new 301 is a very capable compact loudspeaker that punches well above its weight given such a relatively modest selling price. It's detailed and clear, and will show subtle differences when partnered with top-class source components and amplification. Recommended. ●

Hi-Fi Choice

OUR VERDICT

PERFORMANCE



VALUE FOR MONEY



BUILD QUALITY



EASE OF DRIVE



OVERALL



LIKE: Fine sound; great looks; excellent build

DISLIKE: Tonal balance won't suit lean sounding ancillaries; needs a good bit of power!

WE SAY: This new baby box is well worth investigating for those seeking a lithe, detailed, punchy sound



Inspire Hi-Fi

MONARCH
TURNTABLE



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2012
Best Turntable



WINNER!
HI-FI NEWS
Ultimate Hi Fi Finest
Product Award 2012



Verdict: Startlingly musical performer with blistering speed and dynamics, yet smoothness, sophistication and purity of tone too. Superb.

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- Excellent dynamics
- Tonal purity
- Overall musicality

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The mains thing

With its new MCRU, Mains Cables R Us has launched a full blown music server, but can **Jason Kennedy** interface with it successfully?

I blame the magazine. When I joined *Hi-Fi Choice* all those hundreds of years ago, there was one computer in the office. It was an Apple Macintosh II and as there was nothing else around that was what I learned to use. As a result I have stuck with Cupertino's biggest brand ever since and have had only brief dalliances with rival Windows operating systems...

So when the MCRU Music Server came along, with the now ubiquitous Windows 8 onboard, the learning curve was steeper for me than most.

Although judging from what long term PC users have been saying, this latest variation on the Windows theme has not been *absolutely* universally acclaimed...

According to the company which has shortened the product-specific name Mains Cables R Us to MCRU, presumably with products like this new Music Server in mind, Windows 8 is a better sounding OS than its predecessor. And in truth it didn't take long to get it up and running once the initial 'why won't it work with the DAC?' barrier was surmounted.

DETAILS

PRODUCT:
Mains Cables R Us
MCRU

ORIGIN:
UK

TYPE:
music server

WEIGHT:
5kg

DIMENSIONS
(WxHxD)
440x120 x32mm

FEATURES:
• formats supported:
FLAC, APE, ALAC,
WMA, AIFF,
WAV, MP3
• SSD: 64GB
as standard
• CPU: 3Ghz Intel,
4GB RAM
as standard
• JRiver Media
Centre 18 Music
Management
Software

DISTRIBUTOR:
MCRU

TELEPHONE:
07908 056978

WEBSITE:
mains-cables-r-us.
co.uk

In essence, the MCRU Music Server is a PC that has been built with the specific intention of getting the best sound that a computer can deliver. It came about when MCRU's David Brook heard about a dedicated audio computer that had been built by Gary Jamieson, and discovered the sonic potential of the approach. Gary is a computer engineer who had cherry picked components for best sound quality to create his own server, albeit within a budget that Brook decided could be increased if the results were worthwhile. Gary describes the MCR Music Server as the "best bang for buck" build that he could come up with.

It features a *very* nice bit of aluminium casework that contains a 64GB solid-state drive. This is a relatively small thing by the standards of 2013 of course, but many will still find it ample and you can choose a larger alternative if required, or keep more music on an external NAS drive which is something a great many computer audiophiles do. The SSD, like many aspects of this device can be specced according to requirements, and as with any high end PC there is very

that found on a Naim UnitiServe, and while a switching type is supplied as standard there are two upgrade options, with the most expensive being a linear type (£600). This is both a customisable and upgradeable digital source, it is also a disc ripper, hence the slot.

The unit that I received had MCRU's USB output which has a power line noise filter, ultra low clock jitter and switchable USB power – the better DACs do not need the five volts in a USB connection. To my knowledge it's the first dedicated digital source to offer a USB only output. The standard server (£1,550) has a 24-bit/192kHz onboard DAC with a coaxial S/PDIF digital out, but MCRU doesn't seem all that keen on that digital audio standard.

The other thing that this company can do, with which only the hardcore computer audiophile will be familiar, is to optimise the set-up of both the operating system and the playback software. MCRU has chosen to use JRiver software, this is a highly customisable player that will only give of its best when it has been set up with the minimum of compromise for the given operating system.

Booting up

In functional terms the server has all the connections you would expect of a PC, including RJ45 for Ethernet connection and NAS drives plus USB ports for external hard drives. There are also connections for a screen, keyboard and mouse, which while not essential for everyday use are necessary for making playlists, adding/deleting material etc. There are apps for iOS and Android which can be used to drive the player in normal use and even a remote handset in the box.

One thing that MCRU recommends however, is that you run Fidelizer every time you switch the server on and this has to be done with a mouse, I guess you could let the system sleep when not in use to avoid this. As my initial comments indicate, my first

attempts at running it were hampered by an unfamiliarity with Windows, but once I had established that the Metrum Hex DAC does not yet have a 64-bit Win 8 compatible driver, I was able to move on and hook up both my Resolution Audio Cantata and a CAD 1543 DAC for the listening.

I used both keyboard, mouse and monitor and the Gizmo app on an Android phone to drive the player and found JRiver to be reasonably intuitive if occasionally frustrating, and not always totally stable. Still, there's always the faint possibility that operator error may have been a factor here.

The MCRU Music Server proves computer audio is a force to be reckoned with at the very highest level...

Sound quality

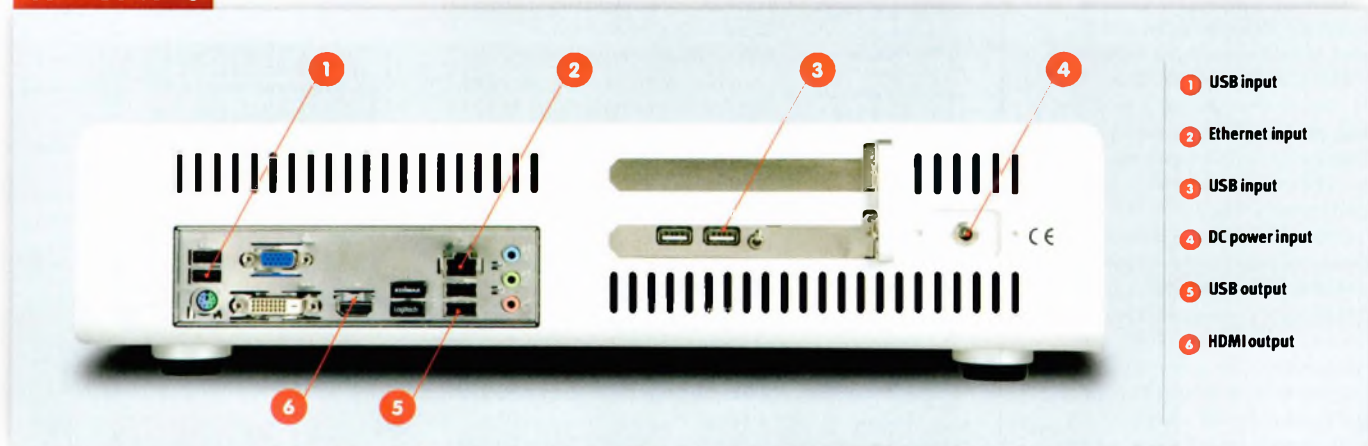
The drive came ready stocked with a selection of albums including Art Blakey and the Jazz Messengers' *Moanin'*. This proved a total blast, it would seem that the Messengers had no difficulty displaying their incredible skills while whipping up a groove that could not be ignored. I'll spare you the details but sitting still and tapping a foot was not an appropriate response!

With more familiar material it became clear that this server is extremely clean and revealing, Nils Lofgren sounded effortless and fluent, his picking crisp and well defined yet with no edginess or glare, the whole performance being presented in an extremely open fashion. Another guitar player who I've long enjoyed on vinyl is Michael Hedges, so I was pleased to find a rip of his classic *Aerial Boundaries* on the Music Server. This sounded glorious, with scale that pushed the ceiling and a degree of refinement that only the best record players can deliver. Some will crave a bit more bite to leading edges perhaps, but this can easily be added by choosing a DAC, amp or speaker with that character – and there

little that cannot be customised in a way that suits the user. Without wishing to stray into computer platform politics, that's the beauty of Windows...

Anyway, what Gary has done is to select a motherboard and CPU specifically for their audio potential. The latter is powerful at 3GHz, but requires low power which is important with regard to power supply and cooling – this server is fanless to keep it silent so has to work efficiently. The main power supply is an external brick, not unlike

CONNECTIONS



Q&A

Gary Jamieson
Mains Cables R Us



JK: A music server seems like a pretty radical step for a cable specialist, what inspired it?

GJ: From his dealings with customers and travel about the country at hi-fi shows, David Brook saw an ongoing shift in the market towards file-based audio. It seemed a lot of people were ditching their CD players and walls of CDs and considering the convenience of PC audio, especially with access to online music services such as Spotify, Last FM and the like.

You say that USB sounds better than S/PDIF as an output. Do you have any theories as to why this might be?

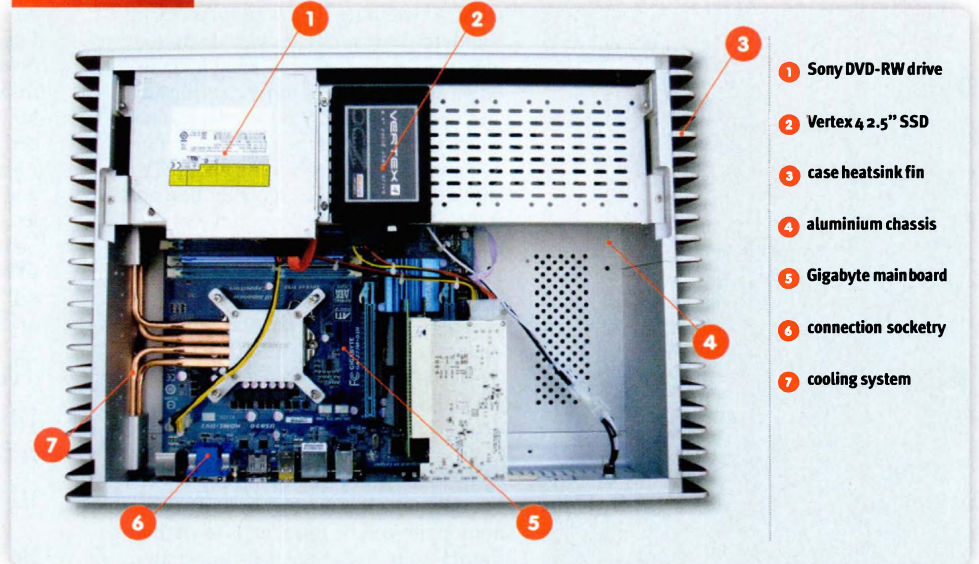
For us, the answer to that all comes down to getting the digital music file to your DAC as unaltered as possible. We feel USB accomplishes this better and more accurately than S/PDIF. USB transmission of digital information is just that – digital. Checks are made in the USB protocol that what enters your DAC is exactly the same bit-for-bit as what leaves the server.

Poorly implemented analogue digital connections (S/PDIF) can introduce jitter into the mix which can cause problems with audio quality down the line. Certain DACs can re-clock the S/PDIF input prior to hitting the DAC chip, but this puts extra processing load on the DAC and in our findings, the less work being done to get the digital music to the DAC the better.

USB allows 'asynchronous' transfer too, where the DAC is 'pulling' the music from the server, not the other way about. This lets the DAC do the work and not rely on the computer's potentially more unstable clock. The DAC is controlled by a (potentially high-precision) fixed-frequency clock. This clock controls the data stream from the computer to a data buffer near the convertor.

Of course technical specs do not always translate to a more enjoyable sound! We did a lot of listening using different DACs in researching our Server and the final arbiter was always what sounded best to our ears. The 'better on paper' specs for digital transmission by USB sounded better to us, as well as technically being better.

IN SIGHT



- 1 Sony DVD-RW drive
- 2 Vertex 4 2.5" SSD
- 3 case heatsink fin
- 4 aluminium chassis
- 5 Gigabyte mainboard
- 6 connection socketry
- 7 cooling system



THE MCRU OFFERS SOUND QUALITY that competes with the best dedicated audio servers from well known hi-fi brands at a competitive price. But it doesn't offer the ease of use that you get with a Naim UnitiServe or Linn DS streaming solution, to give an example.

A more down-market, but popular alternative is the Brennan JB7, but that is not aiming for the stars in the same way as the MCRU. A stronger competitor is Olive, which makes the 4HD for £2,500. This has an onboard DAC (like the standard £3,550 MCRU), as well as a full display and the greater ease of use that this brings – you are, however, paying for some very fancy casework and a regular HDD.

Overall then, the MCRU server has a niche that should make it an attractive proposition for those looking for features and sound quality at a good price. Those after the easy life will either have to pay more or live with less inspiring sound. So this a really nice product that deserves to succeed.

are plenty to choose from. I don't think this server smoothes over leading-edge definition, rather it delivers a richer more complete rendition of the note. There is no shortage of speed which a softening of edges would usually undermine. For example, Cornelius' *Sensuous* proved extremely revealing in this respect, the track *Fit* can get uncomfortable at higher levels, but here it moves like quicksilver and becomes increasingly more powerful and dynamic without ever getting hard edged. It was quite a revelation.

I dug out one of the Reference Records 24/176 recordings of the *Hot Club of San Francisco*, which doesn't get much use because despite unusually good sound quality it rarely engages. A state of affairs that this server quickly revealed to be a shortcoming in previous players by bringing out the joy of the music. It became clear what people hear in the playing of the original Hot Club (de Paris) and even why Django Reinhardt is so revered.

This modern take on the same material sounded open, spacious and natural, while at the same time putting the musical message at the forefront, something that computer audio is not always so good at, truth be told. The nearest thing I could find to put up against the server was a well-specced Mac Mini running Mountain Lion with Audirvana Plus as the music player. This is about half the price of the server however, and twice as attractive but has no ripping ability. It sounded pretty small and weak by comparison. With the *Hot Club* track it simply was not in the

same league. Indeed it proved to be a bit like a quick, rough hand sketch compared to the high definition photograph that was the MCRU.

Conclusion

I was more than a little sceptical at first, but in the end the MCRU Music Server proved to be something of a sonic stunner. It shows that USB has the potential to blow S/PDIF into the weeds, and that computer audio is a force to be reckoned with at the very highest level. It is still a PC at heart of course, and has the stability issues that afflict the breed. It is also far from plug 'n' play, despite the primacy that MCRU gives to the JRiver software. It does however deliver a quality of digital source that has not been available for the price before. If you really know your computer audio onions you might be able to match it, but if you'd rather spend your time rediscovering your music collection then it's an awful lot of sound quality for the money. ●

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY

★★★★★

★★★★★

★★★★★

★★★★★

★★★★★

★★★★★

★★★★★

★★★★★

★★★★★

★★★★★

★★★★★

★★★★★

★★★★★

★★★★★

★★★★★

★★★★★

LIKE: Extremely revealing and finely detailed

DISLIKE: Not as stable as dedicated audio servers

WE SAY: Brilliant. This delivers sound quality that few CD players can dream about and offers considerable upgradeability too...

OVERALL

★★★★★

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Our NEW Phono Pre-Amplifiers

From £499 to £2,500



Apologies for the first production pictures. The above are shown without the supplied black valve rings similar to the PS2 below. PS3 upgraded version shown with Treasure (X18) output valve.

World Class Valve Amplifiers From Leicester

Vinyl just keeps getting better!

Our three phono pre-amplifiers have consistently won top awards in Hi Fi World, Hi Fi News, and Hi Fi choice, also other countries whenever they are reviewed. In fact the PS3 is used by hi fi magazines as "reference" for its consistent performance with various pick up cartridges and tone arms.

This year marks the first major update we have made in order to make some improvements to the power supply and circuit whilst updating the looks to match our other products.

The original 1950's design for RIAA vinyl reproduction calls for a simple low noise valve stage which attenuates treble according to frequency. This may be done easily with three valves preserving the minute musical details recorded in the groove giving a "warmer" satisfying sound without emphasising surface noise and scratches that older vinyl is prone to have. Whilst technically speaking modern solid state designs work well, their more complex design "loses" something in comparison and can sound cold, clinical and uninteresting, lacking the passion and emotion in the music whether it be Vivaldi or the Verve.

As has been often been stated; whilst CD is stuck with its 1977 software, new stylus shapes and new tone arms keep pushing the boundary on what can be recovered from an LP groove. At Icon Audio we too are striving to this end. As the definition of equipment improves we have refined our designs to maintain the focus and presentation to be without any "mechanical" or contrived quality.

The PS2 improved. Comes with an all important substantial power supply, a carefully tuned circuit carefully hand wired, with selected valves for optimum performance with moving magnet or high output moving coil designs. "RECOMMENDED" Hi Fi Choice 2013.01

The PS1 MK II. Our original design updated with improved separate power supply including a very special "choke" and now with valve regulation. This may also be fitted with high quality British made moving coil transformers, or our "premium" type suited to the finest moving coil pick up cartridges.

MK I version: "5 Globes £" Hi Fi World 2010.08

The PS3 Mk II. This design is unique in having a "state of the art" power supply. A valve rectifier, two very special "chokes" for ultra smooth power, a unique pure valve referenced and regulated circuit to give current of the very highest purity. Our very low noise high definition pre amplifier then uses the superb 6SN7 output valve. Optional British made moving coil transformers, or our newly developed "premium" type suited to the finest moving coil pick up cartridges.

MK I version: "OUTSTANDING PRODUCT" Hi Fi News 2010.07

All our amplifiers are designed and finished in Leicester. Warranty and service is done by the engineers that designed them so you can be sure of long term performance. All of our amplifiers are hand made using "point to point" soldering without using printed circuit boards. We are convinced this sounds better. It allows for very easy servicing, upgrades and modifications. Remote controlled volume included in some models for fine tuning your listening. High quality components are used throughout including an "ALPS" volume control, silver plated PTFE audio cable SCR capacitors audiophile resistors. A choke regulated power supply adds a richness to the sound quality that silicon devices alone are unable to do. Bespoke upgrades available including silver/copper capacitors, valves and design.

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Q700 - Hi-Fi Choice Magazine - March 2012



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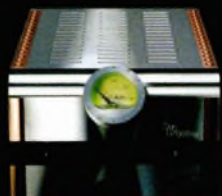
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Temptation

The very latest Well Tempered turntable takes a different approach to both tonearm and plinth. *Jason Kennedy* takes it for a spin...

A long, long time ago in a place far, far away, Bill Firebaugh built the first Well Tempered Lab turntable. By the standards of the guy – admittedly very conservative and still showing undue influence from the likes of Thorens' TD150 [see p88] – it was a pretty radical piece of audio engineering.

There was refreshingly little 'me too thinking', especially in its tonearm design, which was novel to say the very least. The bearing consisted of a paddle suspended in a pot full of silicone fluid and the platter bearing was no more conventional. It was a pretty expensive and exotic piece of kit. I only ever heard one in the flesh, but enough were sold for the company to keep going and indeed earn a modest but very devoted customer base. These days the company is going from strength to strength, and indeed it appears to be

flourishing, as this new Versalex model would seem to prove. The latest turntable is its new range topper, having taken the crown from the distinctly different Amadeus GTA. The latter is the same size as the Versalex and shares many of its elements, but has a different and seemingly more expensive means of suspending the arm bearing in its silicone bath. But the biggest difference is the plinth, where the GTA has acrylic and aluminium plates bonded together in an effort to kill of vibration, the Versalex is built on a slab of Finnish ply, a 30mm thick slab that looks considerably better than the painted black finish of the GTA.

The Versalex has an oversize Delrin platter that comes with a mat, but its use is optional. John Burns the UK distributor recommends it be left off in the first instance. The platter's long spindle sits in an unusual Teflon bearing that has a

corner against which the spindle is pulled by the drive belt, without the belt it can be moved around with ease as the entry hole is triangular in shape. The belt itself is a piece of fishing line, or 0.1mm polyester filament to be specific, this is almost invisible except for a knot with loose ends, which looks odd but it's so small that it doesn't cause any problems. The motor itself is a small DC type driven by a torque servo designed by Firebaugh and is isolated from the plinth by a compliant ring of unspecified material.

The LTD tonearm on the Versalex is the first Well Tempered Labs design that is actually available on its own for fitting to third party turntables, all the previous examples had multiple fixings for the gantry, armrest, etc. The LTD is all one piece with the gantry that supports the 'bearing' on monofilament thread, lift lower device and output sockets sitting on the same base. Anti-skate bias is achieved by a twist in the monofilament that supports a black golf ball in silicone fluid, and setting this up is a little trickier than usual, but a lot easier if you take the distributor rather than the manufacturer's advice and fill the silicone fluid first. Still, you get there in the end...

► DETAILS

PRODUCT: Well Tempered Versalex
ORIGIN: USA/China
TYPE: turntable and arm
DIMENSIONS: (WxHxD) 480x160x410mm
WEIGHT: 15.6kg
FEATURES:
• 33.3, 45rpm manual change
• zero tolerance nylon main bearing
• 325mm Delrin platter
• sand and silicone damped 10.5inch tonearm
• RCA socket outputs
• finish: walnut veneered birch ply
DISTRIBUTOR: Pear Audio
TELEPHONE: 01665 830862
WEBSITE: welltemperedlab.net

RCA phono sockets with an earth lead attached, this adds cost (and an electrical junction) but lets you choose the best cable for your system and cartridge.

If you know how to set up a Well Tempered, then you'll not find this especially fiddly – in the same way that changing the spark plugs on a Jaguar V12 engine isn't too much of a chore if you've done it before. If you haven't however, welcome to a world where you'll be swearing more than a shell-suited sociopath. Setting up that arm might just have you wondering why the hell you didn't buy that SME 309...

But there's more! The most controversial thing about this turntable is not the silicone bearing, the golf ball or the main bearing, it's the fact that the tracking angle is fixed on the arm. There are holes rather than slots in the headshell so you can't adjust angle and there is no alignment gauge supplied nor encouraged. Bill Firebaugh's opinion is that tracking angle errors result in second harmonic distortion which is "not injurious of musical quality but rather, makes for a richer and more enjoyable musical experience". This is another one of those things that makes hi-fi such a fun hobby, or so teeth-gnashingly annoying – depending on your point of view. Suffice to say this is a controversial view, one which is not held by the vast majority of the hi-fi world. Even those unfamiliar with the mathematics may well have heard evidence to the contrary...

Sound Quality

Having pointed out that this turntable's designer's views on arm set-up are far from uncontested, along comes the Versalex to show me with my own ears that it can work. Indeed it certainly didn't sound bad with a Dynavector DV-20X2L moving coil on the end – in fact it sounded pretty damn marvellous in an unusually relaxed, yet timely and informative fashion. The nature of the arm bearing is more than likely the reason for the effortlessness encountered, it nullifies the sort of micro vibrations that are difficult to eliminate in a metal ball race or gimbal, so that movement in the stylus is not muddled by movements elsewhere on the tonearm.

The Versalex has a knack for getting music out of the groove in an effortless, yet gripping fashion...

This does not mean that the Versalex is a laid back or mellow turntable, but merely that only the energy in the groove is relayed to the output, and that my friends makes for some high octane musical entertainment. Especially when you let Billy Gibbons, Dusty Hill and Frank Beard strut their stuff in the style they had back in the day. I'm talking about the album *Tres Hombres* and the track *La Grange*, seemingly simple, gritty blues played in the down and dirty style that only ZZ Top could do. The timing is locked down tight so that Gibbons' righteous guitar playing can cut loose and lay down the jam, so to speak.

It's the sort of sound that encourages you to wind up the level and rifle through the record collection looking for your favourite tracks, I lost a lot of time indulging in the open clear playing and voice of Patricia Barber and the jazzy groove of the Grateful Dead's *Blues for Allah*. Things naturally get better with upgrades in the phono stage department, I swapped out the rather good Dynavector P75 MkIII for a Trilogy 907 and got more involved in the emotional side of the music. This turntable does three-dimensionality and soul as well as it does timing and Rickie Lee Jones's voice sent tingles down my spine as she sang *There Goes My Baby*. That doesn't sound so hard, RLJ is difficult not to enjoy, but her voice can often get a little edgy when she reaches for higher notes. But that doesn't happen with the Versalex, which makes me wonder if it's not a distortion introduced by other turntables.

This record player brings a fluency to everything you listen to, almost as if other models introduce something which undermines this quality. It certainly makes for very natural yet revealing listening,

How much fluid you use is a matter of taste, the more used the greater the damping and Pear Audio suggests you don't use too much to begin with as it can be added more easily than it can be removed. That said, there is a feature on the ITD that means this aspect can be changed. It consists of an adjustable plug underneath the bath that can be raised or dropped, having the same effect on the silicone fluid.

The arm tube itself is 10 inches long and damped with sand as per that on the Amadeus. As with other WT designs there are no arm cables, but merely a pair of

IN SIGHT



It's fair to say that setting up the tonearm is something of a chore, especially if you haven't done it before...



With no way to vary the cartridge overhang, tracking geometry is one thing you don't need to worry about



The oversized Delrin platter is nicely finished and gives a nice inert support for your prized vinyl discs...



Threading the fine 'fishing line' drive belt is another fiddly moment on the long Versalex set-up road!

Q&A

Frank Denson

Well Tempered Labs



JK: Why have you chosen ply for the Versalex plinth?

FD: We chose the Baltic plywood because we had a very strong hunch that it would sound good, and also because our distributors required a natural wood finish and the call for light oak/dark oak/cherry/walnut, and so on would have driven us nuts, hence the use of Finnish (Baltic) ply, it covers all bases!

Am I right in thinking that the LTD arm was created so that it could be used on third party turntables? If so is it available separately and have you heard about any examples of its application?

The LTD was a very close collaboration with our Beijing manufacturers Opera Audio. Yes the rationale was for it to be able to fitted on third party turntables, but also to include cueing, variable damping and a more elegant design solution. Although we have sold a few separately, I have not heard of any results, good, bad or indifferent.

Does this arm have any advantages or disadvantages compared to the one on the Amadeus?

In functional respects both arms are very similar, the advantages are largely cosmetic. The only disadvantage I can think of on the arm compared to an Amadeus one is that the damping is slightly harder to adjust, but of course once it has been set, the user is unlikely to need to adjust it anyway.

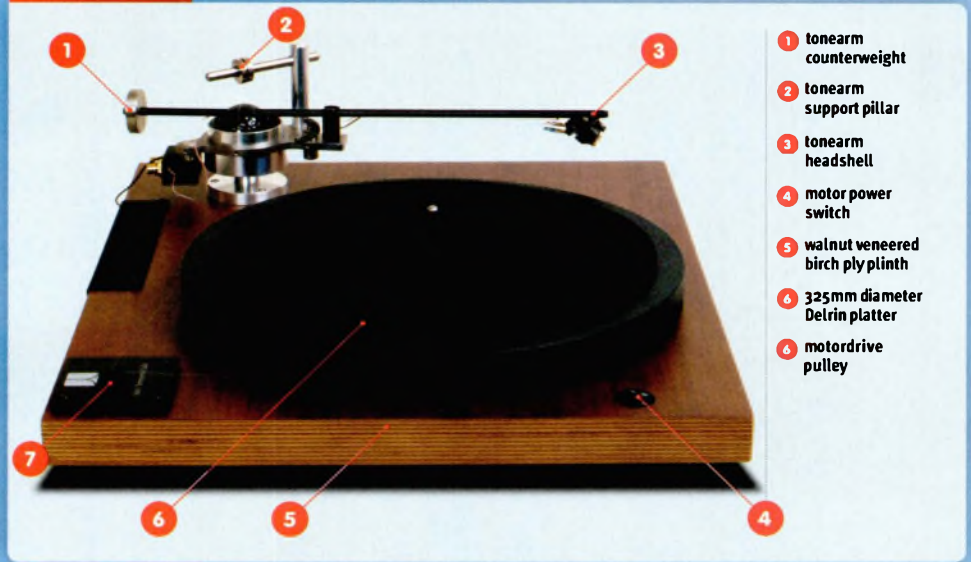
Why is the centre spindle so long?

We always found it a bit of a pain centering the platter into the main bearing with a short center spindle. The longer spindle gives a better grip and allows one to more easily see under the latter when installing. We think it also makes it slightly easier to place the record.

Is the LTD tonearm suited to lower high compliance cartridges?

The effective mass for the 10 inch arm is 10 grams. We believe that because of the damping the compliance of the cartridge is of little consequence.

IN SIGHT



- 1 tonearm counterweight
- 2 tonearm support pillar
- 3 tonearm headshell
- 4 motor power switch
- 5 walnut veneered birch ply plinth
- 6 325mm diameter Delrin platter
- 7 motordrive pulley



THE VERSALEX, like other Well Tempered designs is notably more effortless sounding than a lot of the competition, but this doesn't mean that it is short on dynamics or power when the music requires it. It has a stability about it that is usually only found with high mass designs, and a calmness that one associates with models from SME and Townshend Audio. It doesn't have the authority in the bass of a Rock 7 but is possibly more fluent and equals that fine design for detail retrieval.

The Delrin platter has less character than acrylic types, which gives it the edge over models like those from Clearaudio and Pro-Ject, but in both cases those companies can give you a rather more sexy looking turntable for this sort of money.

The other competitor at around this price is Michell's very fine Orbe SE (£2,649), which looks great and has the advantage of spring suspension, but whether it's as revealing is open to debate.

you really appreciate the tone and dexterity of the musicians, but this doesn't get in the way of the music itself. The sinuous bass alongside Leo Kottke's dexterous guitar playing on the track *Ice Cream* (from *Great Big Boy*) is an absolute delight, the bass is often obscured by the acoustic guitar, but with the Versalex both instruments are easy to follow. It also delivers the full depth of reverb creating a soundstage that's deep and wide, the resolution of low level detail is remarkably effective for the price being asked.

The latter is a reflection of the fact that Well Tempered Labs are manufactured by Opera Audio in China, the company that's behind Consonance electronics. If this turntable were made in the US it would probably double in price. And that would be a pity because the radical technology it incorporates is probably slightly daunting for some buyers. I've heard that silicone fluid is a tough sell, but having lived with a Townshend Rock for many years I can assure you that it's not messy. The sheer viscosity means that nothing happens quickly and in the case of the LTD arm the only time you'd need to get near it would be if it had to be transported. It's a very minor inconvenience for the benefits accrued especially if you want to hear more of the music and less of the hardware.

That just about sums up this turntable – it's one of the least 'self referential' around. There's little sense of the stylus tracing the groove, or the arm putting in some real hard work. Rather, the music just flows.

This latest Well Tempered Labs turntable is the best sounding I have personally encountered, and surely the best looking too. Spinning an original zip front copy of *Sticky Fingers* that's really too worn revealed pretty much all the glory of Keith Richards' sparse, biting riff alongside the richness of the funky swampy sound of the keyboards and sax at the end. Delivering it in such a fashion that you can't merely sit and listen, as Mick draws on the next track, you gotta move.

Conclusion

This new Well Tempered Labs Versalex has a knack for getting music out of the groove in an effortless, yet gripping fashion whether it be a well-played favourite or a pristine heavyweight pressing. In fact, it gives you the job of vinyl without the pff and that is quite an achievement. It's expensive alright, but there really are very few other things like it. ●

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY



LIKE: Consummately natural, smooth, detailed, open, musical sound

VALUE FOR MONEY



DISLIKE: Initial set-up is fiddly, and a dust cover option would be nice...

BUILD QUALITY



FEATURES



WE SAY: A musically enthralling performance makes this a great, charismatic package

OVERALL



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THIS MONTH:



CHANNA VITHANA
EXPERTISE: REVIEWER

CV GOT LOST in music when he was young and has never recovered. With a background in design and architecture, he's been a published journalist for nearly a decade.



ED SELLEY
EXPERTISE: REVIEWER

FOR THE BEST PART of ten years, Ed was developing and supporting products from some of the biggest names in audio. Enjoys blogging about his favourite tunes too.



TIM JARMAN
EXPERTISE: ENGINEER

ELECTRONICS BOFFIN Tim drives a 1959 Beetle and maintains the best B&O resource on the internet. When he's not rebuilding faulty review kit, he enjoys scouring audiojumbles.



DAVID PRICE
EXPERTISE: EDITOR

DP HAS SPENT much longer than he'd care to admit buying and upgrading his own hi-fi system, not to mention reviewing thousands of separates over the years.

Live and direct

Why is everyone currently so sold on the idea that we're all moving exclusively to downloads, or that SACD is dead and buried? I agree that Compact Disc is probably dead, but in this industry at least – and among all my hi-fi mates both young and old – SACD is actually doing rather well... More and more mainstream rock/pop artists have in the last ten years released remastered SACD DSD discs including The Who, Queen, Dire Straits and even The Beatles and Pink

Like 3D video, downloads are okay for MP3 and computer geeks

Floyd, which is why I get so annoyed when the hi-fi press keep writing off the format as, "a niche classical-only club for fruitcakes" and crying, "why are manufacturers still making ancient SACD players?"

Hi-res audio downloads are okay, and the new DSD downloads hold lots of promise for the future, but the old argument that people prefer a tangible over an abstract still holds for me, at least. And I would hazard a guess most people will never quite regard a drive full of downloads as they would a rack of CDs or SACDs. Indeed this was at one time part of the argument for vinyl, when slim

line jewelcases replaced beloved album covers.

Like 3D video, downloads are okay for MP3 and computer geeks, and most people who in the mainstream regard music as nothing more than a background to other activities. The idea that audiophiles, as they are now referred to, will ever accept such intangibles to me is questionable. But since the introduction of the Compact Disc this industry has been led by market forces that have little or no time for hi-fi aficionados like us.

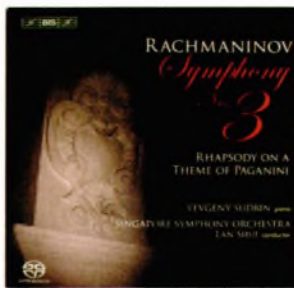
Vinyl has successfully fought back largely because of 'people like us', but I do not expect that to last, as downloads become more mainstream (and hopefully improve) but, conversely and without sounding like a Luddite, I do not see why the hi-fi press has to hasten this transition by pretending that there is nothing else, no alternative, etc. Some of the best fidelity I have heard has been from DTS HD MA Blu-ray music discs (AIX Records is an example).

I have also never been able to understand the total rejection of multichannel by audiophiles in this country and the USA, partially as stereo was originally conceived to be a three-channel arrangement. Again, some of the most resolute recordings I have ever heard on my stereo/multichannel outfit have been SACD DSD re-releases of RCA Living Stereo three-channel

recordings made in the 1950s, such as Reiner's *Scheherazde* on that label.

It is, as a high-fidelity enthusiast for over forty five years, of great concern to me that the hi-fi press seems to reject everything that to me is/was traditionally regarded in time gone by as 'hi-fi'.

I remember Jimmy Hughes' answer to a question in the readers' letters section (*HFC* February 2013: *Never as good as the first time*) in which he states that "the difference between CD and something technically better (SACD) can seem fairly small in subjective terms", without telling the poor reader that he would probably have to spend £20,000 on a high-class CD player before he would hear better subjective sound compared to a modest SACD DSD master played on a budget SACD player with a DSD DAC. In my opinion, listening to



Well over a decade after its launch, the debate continues to rage about the worth of SACD in the great scheme of things, even among Hi-Fi Choice's illustrious contributors!

any CD compared to listening to any SACD sounds as though you're listening through a paper towel roll. Even when compared to vinyl, which in reality has a very narrow bandwidth, CD sounds wanting, and I've been saying this since 1993!

Ultimately, I believe the hi-res formats failed in their disc form for several reasons. The first was the lack of real support from the press and the recording industry, the second was the lack of Direct Stream Digital DACs installed into the first SACD players.

DSD SACDs seem to sound more analogue than the black plastic variety, so now we seem to be moving once again at the behest of mainstream market forces and will soon have to cave in to losing all our tangibles in exchange for coloured flash drives! Let's hope the hi-fi press and industry as a whole will support DSD recordings and downloads and DSD DAC manufacture for all it's worth so we poor and lonely hi fi music lovers can kiss goodbye to nearly thirty years of low-res hell?

John R Walsh

DP says: *Thanks for your sentiments John, which I broadly agree with but I must take issue with you in some respects. First, I do think there is a tendency to rubbish CD and SACD at the moment; while a large number of early adopters have streamers now, most people out there in the real world are still using silver discs just like they have since the nineteen eighties. We in the specialist press have a tendency to overstate the importance of new trends, because we get very excited by them, meanwhile out there in the real world your mother-in-law is still spinning her Des O Connor discs!*

I think you do overstate the difference between CD and SACD. You're right – it can be vast, but like everything else in music it's down to the recording and (re)mastering, as well as the player in question of course. The Pioneer PD-50 I reviewed last month was fairly average on CD but superb on SACD, whereas

Noise annoys

Malcolm Steward praises powerline technology (PLT) and advises *Hi-Fi Choice* readers to use homeplug systems such as those from Devolo (HFC January 2013). This advice must not go unchallenged. There is ample evidence of the degree to which PLT systems pollute the mains, radiate EMC and interfere with xDSL, FM, DAB and amateur radio bands at some distance away from the home where they are installed. I am astonished that HFC, which readily recommends mains purification equipment from the likes of IsoTek and Isol-8, can publish advice to introduce more noise on the mains, not to mention interference with radio reception and xDSL.

Absurdly, Steward advises readers to use PLT devices "especially if your mains is free from gremlins"! For scientific evidence of the problems with PLT, see: (1) Why broadband PLT is bad for EMC, Tim Williams, Elmac Services, *EMC Journal*, January 2009, p25-34; (2) RF emissions of Powerline Ethernet adaptors, Tim Williams, Elmac Services, *EMC Journal*, May 2009, p15-18.

There is good coverage of the issues, the legislation and the various claims made by the homeplug industry at <http://www.ban-plt.co.uk>.

Leif Romell

DP says: While I believe there is a place for such technology in some circumstances, I am not personally in a hurry to use it, as in my house I can hear a worsening in sound quality when I so much as switch on a fluorescent light or even the wireless router (when listening to vinyl)! So with this in mind, I am rather disinclined to send high-frequency mush through my mains if I can possibly avoid it. So while I don't concur with Malcolm's viewpoint, he has a perfect right to recommend this technology in his opinion column, if that's his individual experience of it. I'd be interested to hear readers' experiences, too!

PC says: I have always been wary of powerline since it was first mooted, and have therefore stayed away from trying it out. My personal preference for meeting this need would probably offend both Malcolm and DP, as I tend to use an Apple based 802.11n Airport Extreme/Express network to achieve the same result, feeding Ethernet from there into the most likely 802.11g-equipped (lower bandwidth) gear.

But as recent reviews have revealed, once you try to step up from 24-bit/96kHz to 24/192 FLAC capability this connection method stutters, at least on my network, and so my other room has an Ethernet cable through the wall to where the servers reside. Next generation 802.11ac to arrive from Apple (hopefully soon!) may help this.

It would be nice to have point-to-point CAT6 Ethernet cable throughout our homes, but unless you are the recent purchaser of a Docklands-type 'des res' you are unlikely to have that luxury. So as we remain at the mercy of the internal geography of our domiciles and constrained in matters of cables by our other halves, we have to choose how to overcome these issues. If we want to access our disk-bound media, directly connected computer playback avoids powerline or wireless but lacks always-on server convenience. As ever in life, it's a matter of compromise.

Unfortunately, the makers of devices such as Alan Sugar's Youview box are heavily recommending PLT to the great

unwashed in order connect the new gadgets to their routers if the latter are inconveniently situated. Any campaign to combat the pollutant effects of such technology should be welcomed, but it is too late to prevent more significant uptake. Purists may wish to pay BT to resite their phone points (or Virgin their cable points) to a more hi-fi friendly router location.

ES says: As someone in the pursuit of convenience over everything else, I generally use wireless to communicate between devices but I have experimented with 'Power Line' type units and would observe the following.

First, most units I have used in the last two years have created no audible noise on any of my equipment. I tend towards solid-state for domestic use and most equipment is relatively new, but I have found it unfussy about the presence of Ethernet over mains gear. Second, the performance that these devices offer is a godsend to people with wireless issues. Third, that even in the event of a system being affected, a mains conditioner (as opposed to filter) seems able to create an area free from interference.

So in a perfect world, a wired network separate from the mains would be the best option but in the real world, I feel that Ethernet over mains warrants inclusion in our discussions.

Fight the power – our writers' opinions are divided on the correctness of power line technology. What say you?

many budget Sony SACD spinners I've reviewed have been the opposite – strong on CD and only very slightly better on SACD. So I think Jimmy saying the difference can be subjectively small is absolutely fair.

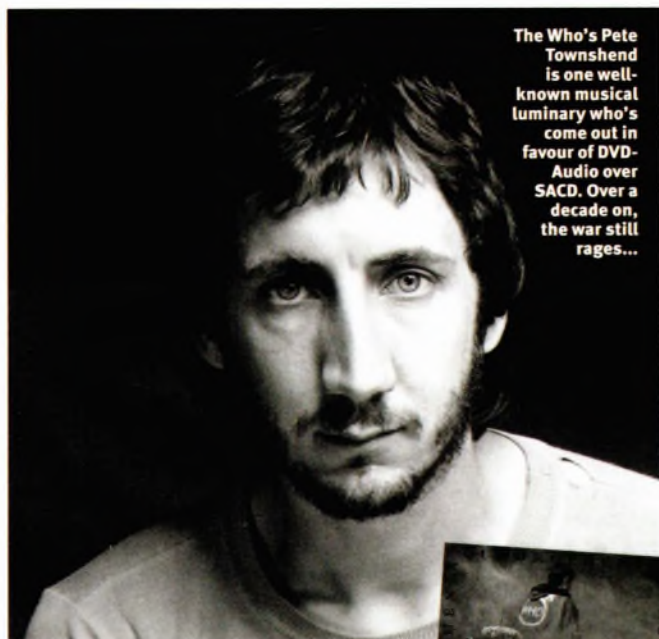
I'm also a little troubled by the way you talk about "the hi-fi press"; it's rather conspiratorial and suggests that somehow Noel Keywood, Alan Sircom, Paul Miller and myself all get together and decide how we're going to 'fix' this or that issue. In truth there's no overarching narrative and we just write what we individually think. As such, the hi-fi press wasn't really a reason why SACD and DVD-Audio discs failed, rather it was that old chestnut of standards and support – there was no single hi-res disc and music retailers didn't want to touch it until there was, as it effectively meant they were betting their (and their employees') jobs on this or that format becoming a success.

Rest assured, I won't be "losing my tangibles" (ooh matron!) any time soon; still love discs (of the black and silver variety) and am in no hurry to banish them. I suspect a lot of people feel the same!

ES says: One of my most strongly held beliefs about the health of a format is that reissues are not a positive indicator of 'life' or success in it. I generally view them with a certain cynicism in part because they have frequently been terrible in recent years but because they almost exclusively represent the music industry tapping up existing customers rather than reaching out to new ones. When SACD was launched, a small but dedicated group of artists did what they could to release new material in the best format available to them. The cost of the hardware required to play the material (at the time, 'cheap' SACD players simply weren't a phenomenon) meant that with limited take up, these early adventures were knocked on the head and the move to "playing it safe" and releasing some dead certs condemned the format to the sidelines...

The arguments over the intangibility of downloads has been rather done to death, but one thing I know for sure is that





The Who's Pete Townshend is one well-known musical luminary who's come out in favour of DVD-Audio over SACD. Over a decade on, the war still rages...

the 'buy in', even adjusted for inflation from 1997/8 is an order of magnitude lower for someone looking at hi-res now. Add the slow, but growing availability of high quality music that people outside of our limited fraternity want to listen to and I have high hopes that downloads might appeal to the public consciousness in a way that SACD sadly never really has.

TJ says: In my experience the difference between CD, SACD and hi-res is marginal at best and highly dependent on both the source material used in the recording process and the equipment which you choose for replay. Editor DP and I once noted that some of the original Philips 14x4 machines, such as the CD303 (1983), can sound rather like SACD in terms of fluidity and smoothness, so the boundaries are blurred to say the least.

I do understand though that a good hi-res download makes an excellent source for cassette recording (a true hi-res medium as both the sampling rate and the bit depth are effectively infinite) so if you prefer the type of hi-fi experience that involves handling media rather than clicking on a mouse then get tooled up with a nicely overhauled classic deck and a pack of new TDK C90s!

PC says: Being tarred with the sobriquet 'computer geek'

as I often am, you might expect me to say that I cherish my digital collection as much as my large black disc collection and my vast silver disc collection, and you'd be right. I sense I'm not the only one. Recent developments such as Naim's Rovi integration in their tablet control software N-stream rebut the old sleeve notes/artwork chestnut, being at least as effective as having a CD sleeve – hyperlinking opportunities probably meaning even more so.

One can't always have one's own way – I supported both formats heavily in the press, but contrary to your obvious DSD-loving tendencies, my ideal would have been a fully loaded 24-bit/192kHz stereo and 24/96 surround DVD-Audio for every release. That was never going to happen once the pitch was queered by multichannel SACD and the DualDisc fiasco. As DP says, format wars did for us all.

Regrettably any enthusiasm for DSD downloads only perpetuates the two camps trap. We would do well to concentrate our support, both in reviewing and purchasing, on the few channels which have gathered some momentum in high-resolution PCM downloads. In my opinion DSD was little more

Phono go

Hi David – I wanted to thank you for your informative review regarding the budget phono stages in HFC January 2013, and would also like to provide you with some feedback if that's okay?

I have a Rega Brio R and KEF R100 speakers with an Inspire Apollo turntable, with 2m Ortofon Black and Origin Live Onyx arm. If I want to take things further I would have to purchase an amp with a better phono stage or purchase a separate phono stage. For me it would have been great for you to mention the benefits in sound difference in using a separate phono stage rather than the built in phono stage or, at least, comment on the difference.

Was the difference with having no external phono stage and having the Leema Acoustics Essentials quite significant, I wonder?

Warren

than an attempt to regenerate patent income – in passing it foisted a redundant new digital format on us. What goes on in the ultrasonics with DSD has an audible effect, and sets unnecessary engineering challenges and so I do not regret its passing. It is now a legacy format – SHM-SACDs aside, most of those rock releases you cite are nearly ten years old!

In closing, one Pete Townshend of The Who recently refused to have the surround-updated version of *Quadrophenia* released on SACD in favour of DVD-Audio following the dual format release ten years ago of *Tommy*. If a bloke who is fundamentally deaf prefers high-resolution PCM to DSD, why should we lend our ears to the bothersome 'new' encoding scheme? The players only exist because there is a small legacy of ridiculously overpriced discs. Let's just buy HDTracks conversions of them as PCM and forget about them shall we?

Voodoo and wannabe

Thanks to solid-state transistor-based audio power amplifiers, the price of high-powered hi-fi

DP says: The Rega Brio R integrated amp has a rather decent MM phono stage built in, but it's not beyond blame and you'd find that with any of the leading sub-£1,000 phono stages, you'd get a substantially wider and deeper soundstage, a smoother midband and stronger, more resolute bass.

The Leema is the sensible middle of the road upgrade, doing everything that bit better than the Rega's built-in stage without excelling in any one area, whereas the Icon Audio PS2 is a lush, more romantic sounding choice but you'll be confined to moving magnet cartridges only.

If you're planning to stick with the Ortofon 2M Black for the medium term, then I'd be tempted to go for tubed design, as it flatters the 2M Black's tonal balance a bit better. I think you're at the point that you've got to shell out on a decent phono stage, one that can stand you in good stead for future upgrades, while really lifting your system now.

amplifiers became much more affordable. But many hardcore audiophiles complained that transistor-based audio power amplifiers didn't sound as musical as their vacuum tube-based counterparts. Even newer MOSFET devices – whose characteristic curves resembles that of a pentode tube – still didn't sound quite as musical.

I wonder if there's a reason that explains why solid-state amplification (transistors and MOSFETs) don't sound as good as their vacuum tube counterparts?

The French amp manufacturer Lavardin Technologies discovered in 1997 a way to bring the solid-state amplification closer to its vacuum tube-based competition. The phenomena 'Memory Distortion', so they call it, is responsible for the shrillness and mechanical-sounding artefacts identified in solid-state amps. Unfortunately these exotic amplifiers are so prohibitively expensive, especially when compared to vacuum tube-based versions of similar power output and features. Yet despite the obvious overpricing in electronics engineering terms, why do these amps sound so good?

According to Lavardin, memory distortion has to do with the way musical signals have to slog their way through silicon – akin to being stuck in the mud. Transistors hold previous signals in memory – as in the electron's wave function. And these 'residual memories' or remnants of an electron's previous state – maybe a few tiny fractions of a second before – distort the new incoming signals. The musical signals can't flee the silicon fast enough. But is this explanation sufficient from a scientific standpoint? After all, if 'Memory Distortion' is about timing errors – assuming that the phenomenon is real in the first place – then why is it that there are several, albeit almost unrelated, ways of eliminating the symptoms caused by Memory Distortion?

James Henriot of Whest Audio also managed to achieve the same feat of making solid-state amplifiers more musical by eliminating 'analogue-domain jitter' via his Whest dap.10 processor. Most users testify that the Whest dap.10 improves their CD playback system's sound quality by making it sound like a big analogue open-reel tape recorder. This product seems like it makes your typical solid-state integrated amp sound like a good vacuum tube amp.

Meanwhile, a Frenchman named Yves-Bernard André of YBA also manages to do the same with his solid-state integrated designs by using various techniques holistically to eliminate the symptoms that make solid-state amplifiers sound 'inferior' to their

vacuum tube counterparts. YBA products – as with most French integrated amps – are typically priced way above what a typical hi-fi enthusiast is willing to pay, yet André's holistic approach to designing his solid-state-based audio components seems to have removed the symptoms of what we now know of as 'Memory Distortion'.

LFD Mistral MOSFET-based integrated amplifiers also managed to eliminate the same symptoms through attention in circuit layout, by orienting the resistors of its LFD Mistral integrated amps in phase on the master board. The resistors on both channels are identically oriented, which they believe – as do some owners of LFD Mistral integrated amps – is important

Musical signals can't flee the silicon fast enough, but is this explanation sufficient?

to stereo imaging. Unfortunately, this attention to detail in parts layout doesn't lend itself well to mass production machinery used in making mobile/cellular phones and iPods. LFD Mistral integrated amplifiers are often compared to single-ended triode amplifiers in terms of sound quality.

Array is a young Dutch hi-fi company presenting remarkable techniques in service of best sound and price in the high-end market. Both technicians found

out that vacuum tube amplifiers carry a strange contradiction. They measure bad, but sound fantastic. How is it possible that what one can hear as sounding natural, is not scientifically measurable? Where is the magical parameter that can point out why almost any listener can tell you what is the most audiophile amplifier. Array discovered something it also calls transistor memory distortion.

Transistors have a characteristic sound depending on the working temperature. The active parts in transistors are so small that, because of the short but high current peak in music, warm up very fast. Upcoming signals pass in a zone that's still recovering from this sudden warming up, and, therefore, sound different as in other situations. Other than in transistors, the amplifying parts in a vacuum tube are many times bigger, and already in a very hot state of working. Peaks won't be noticed that much.

Like the other companies mentioned here, Array found a way to solve this Memory Distortion, even though it keeps the solution a secret. However, the fact is, technology has evolved to the point that if you know what you are doing you can make a solid-state amp sound tube like, and a tube amp sound like solid-state.

But what do tubes sound like? Their sound is most often termed 'liquid', 'warm' or 'lush'. Why? Well, it's hard to explain or agree upon, but the human ear seems to find even harmonics pleasing and odd harmonics annoying. Due to their speed (or lack of it) tubes

cannot generate large amounts of harmonics even if they wanted to.

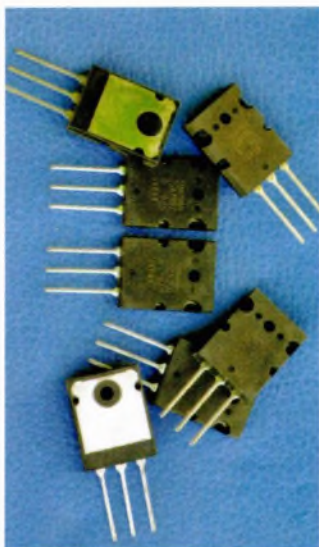
Tubes also have a penchant of favouring even order harmonics and are less likely to produce odd ones. In fact, tubes are so rich in second order harmonics that by the time they even reach the third order ones they are greatly reduced by the natural character of the tube. These things give tubes the 'warm' quality we admire.

Transistors by comparison are far more limitless, and can (and do) go way out there harmonically, which while impressive can give them their cold and strident edge because they produce so many odd order harmonics.

If the Lavardin is accepted as the most (near perfect) neutral of any amps, and studios therefore use the Lavardin amps, why don't the hi-fi magazines take this amp as a reference point? It is probably the best solid-state amplifier, hands down, and even when compared to the best vacuum tube amplifier (Leben CS-600) it's a good try. What about LFD, Pass Labo and Symphonic Line then?

How come this kind of solution concerning the memory distortion is still not generally 'integrated' in all standard amplifiers? Why do hi-fi magazines never add information about the cost of the vacuum tubes? How often do the tubes have to be changed? It's rare to find a vacuum tube amp, good sounding, that's acceptable in an ordinary living room.

The great transistor versus tube debate continues, but is it really as simple as that? DP thinks it ain't just what you do, it's the way that you do it...



What do I notice in every hi-fi magazine that I read, a kind of favouritism for certain products? Are they driven by marketing instead of neutrality? Why don't these magazines choose a reference at a certain cost, so they never have to spend time in things that are far more expensive. Why is there such a high appreciation for computer-operated surround amplifiers, such as the Pioneer SC-LX86. The only thing I understand by that is never buy a hi-fi stereo amp because they don't know how to do a decent job.

For me, what comes out of the TV is fine because I have always felt cinema was about the image, not the soundtrack. It puts too much emphasis on the sound and takes my attention away from the film. What I'll never understand though is five channel stereo. There's no possible future for multichannel stereo.

In a search for a new hi-fi set, I decided that I needed to overlap three separate hi-fi magazine reviews per amplifier to make my own consensus. After all the effort I spend on reading such magazines I no longer have the hope to find the hi-fi Holy Grail! I have the feeling I'm chasing a rainbow.

So yes, what we buy very much matters but how can one shop wisely? We run from one store to another, or we spend hours filtering the Internet... All is only voodoo and wannabe....

Tony Foquet, Belgium

DP says: *Thanks for that long and thought provoking missive, Tony. You raise an awful lot of points, one of which I'll respond to. While there are deep and undeniable differences between tube and transistor amplifiers, I often think they are overstated – and that it is a false distinction. The really important one is between well designed and badly designed amplifiers, and these can take either form. Both good solid-state and good tube amps follow traditional best practice; which includes short signal paths which are uninterfered with, decent quality passive components which are stable, unstressed and well mounted away from vibration, good wiring and earthing, and of course properly done power supplies*

I'm not convinced about the concept of 'Memory Distortion',

but elaborate ideas such as this are only part of the fight – all the aforementioned basics need to be taken care of first, in my view.

TJ says: *A Lavardin amplifier was recently tested in our sister publication Hi-Fi News and although claims were made about 'Memory Distortion' the factory were unable to supply any concrete technical details or test procedures, and so the effect (and its cures) could not be validated, make of that what you may.*

Transistor amplifiers with all types of presentation have been made over the years from ultra fast and direct to silky smooth, the overall outcome is, in my view, more dependent on what characteristics the designer programmes into the feedback loop than any particular aspect of the devices used.

Back to the planet

I have got back into the habit of buying hi-fi magazines and HFC offers by far the best balance of news, reviews and informative opinion columns. So please can you help with some advice on my next purchase?

Having gone down the route of an integrated AV/stereo set up I realise that music is still my main passion. My system comprises of an Audiolab CD8200, Rotel RSP1066/RMB 1075 and Quad 22L front speakers. My room is 5.5x5.5m., while my tastes cover Neil Young, Steve Earle, Bruce, Americana. I particularly love the Elvis Nashville 1960s recordings on the Sony FTD label, which sound sublime! So I like a sound that is wide so that each element of the music is easy to follow, a natural sound that drives hard when it needs to and relaxes you equally when appropriate. I don't like a bright sound – I've found Monitor Audio speakers to be a bit lively in the treble for my liking. I like to hear real bass and not some generic bass noise that fills out the sound but is woolly.

My local hi-fi store reckons my speakers are the weak link and suggested Focal 816vs as a possible upgrade path. I have some baby Focals in a second room and do like them, but the store doesn't hold any 816s for audition which is a problem. Can you make any suggestions on my next move? Do you agree speakers

Dream stream

I have a Lyngdorf TDAI 2200 amp with analogue board and Room Perfect modules. My current digital source is a Lyngdorf CD1 player connected in transport mode to the amp via the balanced digital connection. I am hoping to jump on the streaming bandwagon and wondered if you can recommend a streaming solution that would allow me to make use of the DAC inside the amp? The trouble is that most streamers come with a built-in DAC which is surplus to requirements (unless you think there are better DAC equipped alternatives that could connect to the amp via either the balanced or unbalanced analogue connections and

provide superior performance to the amp's own built-in DAC).
Simon Beechey

ES says: *Most streamers are entirely one box solutions but given their not unreasonable cost, they can be used as transports without incident. The Marantz NA7004 remains an excellent bit of kit and offers the digital outputs needed to squirt files straight to the amp.*

DP says: *Seconded, although if you want a more modern interface and wireless capability (the fine Marantz is Ethernet-only), Pioneer's D-50 is your man. Its 'front end' is excellent, as is the streaming provision – conveniently for you, its weakest link is if anything the onboard DAC.*



Marantz's NA7004 is a very capable streamer/DAC if you can live with the fiddly user interface, oddball styling and lack of Wi-Fi!



Quad's 22L loudspeakers certainly aren't bright, but nor do they exactly fizz with energy and emotion. So what next for Jamie, who's desperate to put the magic back into his music?

first? If so, what alternatives around that price point?

I like the reviews of the KEF R300 and PMC 21, but when you describe their bass performance I am not clear whether it is good overall or just good for a standmount speaker?

Jamie

CV says: Although I like its electrostatic models of various vintages very much, I am not a big fan of Quad's regular box loudspeakers and I would concur with the dealership specifically about the 22Ls, especially in context of your music tastes – being primarily time-honoured guitar-based rock and roll, which requires superb timing and also transparency to get those vocals and guitar melodies working well. The regular box Quads are not that great in the timing department, but they do have a smooth, if somewhat shut-in balance.

Your amplifiers and the way you describe your system (front speakers) suggests that it forms a part of a 5-channel music/movies set up, hence the Rotels and the requirement for a separate stereo amplifier with AV pass-through in the future. The Focal, KEF and PMC models are all worthy contenders in their price-range.

I would also suggest the following two designs if those mentioned above are too bright. Firstly the Spondor SA1 standmount and secondly the floorstanding Opera Audio Seconda. Intriguingly they are also modern infinite baffle (sealed box) designs, so there is no port. In my experience a good sealed box design usually offers more tuneful bass (and better bass timing integration with the tweeter) than a conventional ported type and without the annoying bass overhang or poorer timing.

Both the Spondor and Opera are around £2,000 approx, and I would suggest that you audition these loudspeakers with a suitable future amplifier also – so that you know what would work best in the context of your system and music tastes, as a whole.

LETTER OF THE MONTH



I'VE BEEN USING A SQUEEZEBOX TOUCH FOR SEVERAL MONTHS NOW,

in order to listen to Internet radio and music streamed from a PC and excellent it is, too. My PC music is predominantly MP3 ripped from CD at 192kbps or greater.

Obviously, the Squeezebox is capable of much more and I have been looking at DACs that it might plug into, as well as the Marantz SA15-S1 CD/SACD. Naturally, this drew me into looking for hi-res music to download – it's all the rage in the mags so there must be lots of it to choose from?

Wrong! The paucity of music available in 24-bit/96kHz is amazing given the plethora of hardware. What music that is available is mainly by artists of whom one has never heard in genres that do not interest most of us; even the classical music selections are mainly by obscure orchestras, soloists, conductors and composers.

Thinking I missed something, I asked my twenty-six year old son what he thought. His answer, "...I think it's going to be years until you can actually buy most music in high definition if it ever actually happens." Quite! Hi-res is the epitome of a solution looking for a problem. The situation reminds me of audiophile vinyl back in the day – Mobile Fidelity *et al.* Sound quality was, usually but not always, superb – however the source material could reduce an insomniac to deep slumber in seconds. Until the majority of releases are available in at least 24/96, hi-res will remain a dead duck, in my humble opinion.

Richard Baguely

DP says: ...and in mine too. At this point I have to confess something. Sometimes I choose a 'Letter of the Month' that's strongly at variance with my own thinking just to stir things up a bit – to get the "angry of Aberdeens" or the "disgusted of Dagenhams" to put pens to paper (or fingers to keys). But I'm afraid Richard that in your case I just have to say what an utterly sensible, erudite and well-rounded argument yours is. So you'd never make it in hi-fi journalism, then!

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Deal or no deal?

There's more to getting a real hi-fi bargain than just the digits on the purchase receipt, thinks **David Price**...

One thing that happens to you if you end up writing about things for a living, is that other people who have to make TV programmes about them end up phoning you up and asking for quotes. And so it was that last December, yours truly ended up in conversation with a researcher from one of those many independent production companies that make telly for the likes of Channels 4 and 5.

Having done some radio before, the initial offer of doing something to camera didn't seem too daunting. My previous appearances at question and answer sessions at hi-fi shows always go down well (with me at least!) and I haven't had any rotten fruit thrown at me yet... So babbling about something hi-fi-related in front of a camera was no great shakes. A few more phone conversations followed and it became clear to me that the programme being made was about getting 'best buys'. I think the company was doing a whole series of them, and hi-fi – or to be more precise, consumer electronics – was a part of this. What would my advice be to anyone wanting a good deal on audio equipment, asked the researcher over the phone?

Well aware that I wasn't talking to an audiophile – but instead a well balanced, fully rounded member of the human race who was looking for general buying advice on pretty much anything that needs an IEC lead – I kept my counsel as wide-ranging as possible at first. I pointed out that you should always buy established brands with good reputations. If you buy an unknown brand TV, computer, etc. from the market, pub or online, then the company could disappear faster than your money in their bank account, leaving you with no back-up should the equipment go wrong.

I added that, as far as TV and games consoles are concerned, dealer margins are very small, giving them very little room to discount from the standard selling price. So the best way to get a bargain telly is to buy an end-of-line model, just about to be replaced. Manufacturers usually refresh their ranges in the autumn or the spring, so this is a good time to look for a deal...

All well and good so far, but what about specialist hi-fi the researcher asked? I mentioned that dealers do have some room to manoeuvre on price, especially with loudspeakers, so it may be possible to negotiate some sort of discount, free cable or suchlike when buying a system. But I emphasised that the main priority for any potential hi-fi buyer

was to find a good dealer and talk about what's possible – rather than just searching for the cheapest online and buying immediately. I kept stressing the importance of visiting a dealer and *hearing* any potential system for yourself before buying.

All this seemed sensible, middle-of-the-road advice, but it suddenly seemed to fall on deaf ears. The researcher couldn't get the idea of *not* buying online out of his mind. When I insisted that hi-fi buyers really *should* find a good dealer and get a dem, he seemed to think they should then go home and buy online after they'd found what they were looking for!

In the crudest penny-pinching sense, he may have been right. But if this happened on a mass scale, then the specialist hi-fi industry might as well just give up and go home. Hi-fi dealers, I pointed out, are not a free service. They can only exist by selling products to people, and it's these sales that allow them to have the premises to house the dem room. This went down like a lead balloon to our crusading telly shopping evangelist – "but we're here to stop the customer being ripped off", he replied!

While I'm in no way a supporter of shoppers being taken advantage of, the hi-fi industry is not one that is overburdened with profit, either to the manufacturer in the first place or the dealer in the last instance. There needs to be some sort of mutually beneficial balance here, where all participants get a good deal, otherwise we won't have an industry at all. But the researcher seemed to be suggesting the dealers should be nailed down to the point that they're selling stuff at practically trade prices to make a sale...

If we all start eschewing our friendly local specialist retailer in order to buy online – in a bid to save a few pennies – then we shouldn't be surprised if he isn't there in a year's time. Likewise, if we demand paired-to-the-bone prices from dealers, we shouldn't expect hours of their time and experience for free. Sadly though, my sentiments fell on deaf ears – I suppose it's not great, crusading television!

I was reminded Oscar Wilde's formulation in *The Picture of Dorian Gray*, where his character says, "nowadays people know the price of everything and the value of nothing". I can't think of a more apt way to express how I feel. Basically, if we want to continue to have the option of auditioning exotic combinations of audiophile equipment for the princely sum of nothing, then surely we mustn't destabilise the people who provide this, namely specialist hi-fi dealers?

If we start eschewing our friendly specialist retailer in order to buy online, then we shouldn't be surprised if he isn't there in a year's time...

DAVID PRICE
Hi-Fi Choice editor



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Analogue

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| Boulder MS11/MS01 Phono Stage, vgc..... | 1299 |
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| Thorens TD160 cw Mayram tonearm..... | 249 |
| Thorens TD309, ex display bargain..... | 749 |
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| Townsend Rack 2, Mission 774L, excellent..... | 349 |
| Wisor: Benesch Act 1 tonearm, nr mint superb..... | 799 |

Amplifiers

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| Arcam P85, fair condition black boxed..... | 199 |
| Audio Analogue Bellini/Donizetti Pre/Power..... | 499 |
| Audio Innovations S200 Preamp/Power with phono..... | 299 |
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Digital

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| Loema Stream 3, nr mint boxed..... | 649 |
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| NAIM CDX2, excellent boxed remote..... | 1399 |
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Loudspeakers

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Sultans of swing

There's more to Compact Disc than meets the eye says **Channa Vithana**, as he discusses the joys (and horrors) of disc loading mechanisms...

When Compact Disc came along in the nineteen eighties, I really liked its user friendliness, instant track changes, programming and (at the time) really fast table of contents access. And at first listen, it seemed that CD had a very clear and orderly way of making music too. But not so long after however, I compared the new digital disc directly with similarly priced record players and realised most CD players were left somewhat wanting sonically, with comparatively weaker three-dimensionality and depth. A well-set-up LP replay system sounded more convincing, in terms of making music, than its digital disc counterpart which could sometimes be sterile. Still, this said, it's fair to say that a good CD player certainly isn't unpleasant to listen to – harmoniously set up it can produce excellent results.

Around the time of its launch, I remember people marvelling at those sliding CD disc-loading drawers that popped out of the casework of the players, but somehow I was never impressed – occasionally you would get some elegant examples such as the slender yet beautifully crafted designs within Linn's Ikemi and fabulous CD12 or the horizontal guillotine used in some Mark Levinson CD players. But these were few and far between, much like car designs by (for me, The Greatest) Marcello Gandini which would occasionally turn up but sit within a sea of mediocrity...

Worse was to come when the change from relatively high quality CD-only transports turned into the now almost ubiquitous CD-ROM/DVD-ROM devices, due to the comparatively higher-quality and better performing CD-only types becoming obsolete, owing to ever decreasing manufacturing numbers. The -ROM typology of transports, much like most of the hardware connected with typical computer manufacturing, is generally woeful in build quality – and this included the accompanying disc-loading tray. This would invariably be the most noisiest of rattlers that when creakily, wobblingly trundling out to accept a CD, instantly demeaned the investment of your hard earned money. And it would also create new anxieties about how long the poor, sorry, feeble thing was going to last...

There were alternatives, in the shape of top-loading designs which would allow the manual placement of the CD into the casework – these were somewhat elegant, but could also be annoying as they usually needed to be placed on a separate table, or on top of the

equipment rack to allow trouble free access – not so good if you had limited space, just the one rack and a turntable also.

There was an ergonomic saviour however, and it came in the form of the Naim swing-out CD drawer, which also contained the transport. This wasn't the only design using this disc-loading typology – Meridian for example created wonderfully designed all-in-one disc-reading-loading transports such as the original 500 series, which included the 500 transport, and later the 506 and 508 players.

I think CD disc loaders and their ilk are emblematic of where hi-fi (and technology) goes right or wrong. Here is the reason – it's a simple case of human interaction. The more awkward, crude and clinical an operation of a product or technology, the less connection we, as tangible, touchy-feely homo-sapiens will have with it and also with what it is trying to do for us. So when we have something as beautifully designed, as the Naim swing out CD drawer then there is that instant haptic connection and, therefore, what it is supposed to be doing – in this case, playing music.

Take for example the Naim CD2 from 1995, a truly wonderful sounding player, and in a agreeably set-up system it was capable of high-resolution and very convincing musicality. As such, it didn't sound dispassionate or monochromatic in the slightest – quite the opposite, actually. And the fact that it sounded great was further enhanced by its operational and build quality – simply loading and unloading a disc was a real treat for me as the smoothly swivelling drawer would glide in or out by the power of your fingertips, the way the magnetic puck confidently aligned itself and locked onto the CD underneath, and the very light pull of pressure as the transport engaged with the electronics just as you closed it shut. Add the insides of the sleeved casework, and all was wonderful!

My dislike of CD/DVD-ROM drives looks unlikely to dissipate, I'm afraid. But, like cueing a tonearm to play a record, the Naim swing-out CD drawer is one of life's pleasures and for me one of the best component examples in industrial design, not just in hi-fi, because it connects so well with the human operating it. It is great that Naim still uses this design in various guises in their Unity2 and SuperUniti or newly released CD5si.

I think CD disc loaders are emblematic of where hi-fi and technology goes right or wrong...



CHANNA VITHANA
reviewer and music fan





Octave



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The chief engineer at Metrum Acoustics is an audiophile whose previous incarnation was spent designing systems and transducers for nondestructive ultrasonic investigations. Whilst designing an industrial high speed data acquisition system, an extremely fast chip capable of 16 or 24 bit audio with sampling rates up to 15 MEGAHERTZ was discovered. He tried it in his audio system and the results were outstanding.

No digital filters nor oversampling

The sound was 'real', not forced and without 'THAT digital veil' present in digital audio, more like a fine tuned turntable without the pops and crackles, the Holy Grail had been discovered and Metrum Acoustics was born.

Sounds like a finely tuned turntable

Metrum Acoustics is unique, it's the only digital audio company able to offer a real alternative because its not dependent upon the regular AKM, Burr Brown, TI, Crystal or Wolfson chips required for digital audio and used by all, which is why competitors DACs sound digital and alike.

Uses 8 extremely fast dac chips

In addition no digital filters nor oversampling is used and therefor pre or post ringing associated with oversampling dacs is entirely eliminated. Octave parallels 4 of these expensive dac chips per channel in a 2 box system. One contains a 15V power supply (PSU) and the other the dac itself.

Instead of charging an appropriately high price (justified), it was decided to offer it without frills at a lower price, initially ex-factory, to a wider audience of music lovers.

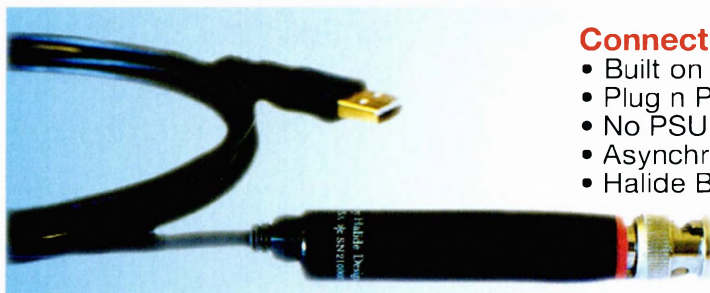
It punches well above its weight

The Octave was eventually sent to critics for review. All were flabbergasted and all agree that it punches well above its weight, and up to 10 times its price. It is now available in the UK. We invite you to audition this unique product in your own system at home for 30 days. If you don't like it return it and we'll give your money back, no quibble!!

Customers Comments:

- Hi John, Now the unit has started to truly warm up, it is a decidedly impressive product! The fact that it does not use digital filtering or oversampling is a great example of less being very much more. My previous DAC was an XXXXdax, and the Octave trounces it. Craig
- John, The Metrum is very very good. It sounded 'right' from first switching on. It has a lovely sound, very neutral and natural. Voices are particularly good. I have been listening to CDs for hours at a time, with no trace of fatigue. Many thanks, Bob
- Hi John, Just to say this Octave DAC is fantastic it blows the XXXXac 5 away but don't tell anyone because they will put the price up. Thanks for your great service All the best Giles
- Hi John, Wow how good is the Metrum?! I've had a XXXX202 and XXXXXvb in my system over the last few months and the Metrum sounds better than both of them. I hope word spreads about just how good this DAC is. Regards, James

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The changeling

Tim Jarman tells an unlikely tale of substituting an excellent integrated amplifier for a very different, less expensive one...

When you sell your car and buy another one, it is called 'changing'. When you sell your house and buy another one it's called 'moving'. And when you change any part of your hi-fi system, for better or worse, it's called an 'upgrade'. This use of the language suggests that any new equipment that is introduced is automatically considered to be an improvement, even if what you are replacing has no obvious shortcomings...

The implied logic of the hi-fi upgrade also assumes that the new equipment should be in a higher price band than the old, so things can get expensive after the first few cycles. Does an upgrade always make your system better? Even if you choose your new equipment carefully there is normally something that you will have to give up; going from a starter turntable to a more advanced one used to mean that you also had to cue by hand and be there at the end of the record to lift the stylus up, otherwise it would sit there all day slowly grinding itself away against the run-out groove.

Buying bigger loudspeakers with more drive units often involves a trade-off of greater tonal extension against less distinct stereo imaging, which smaller models are often very good at. Replacing an all-in-one system with a newer model that lacks a tape deck means that you can't record radio programmes any more. A complex new amplifier may make the rest of the system too difficult for the rest of the family to use, the list goes on and on and yet "the next upgrade" is still an essential topic of conversation whenever audiophiles meet.

Sometimes the need for a change is the key driver behind an upgrade, whether one admits this to oneself or not. When troubled by 'upgraditis', I find it useful to think about how many records and CDs I could buy with the same money instead. If the new gear still looks like a sound idea then the chances are it's a sensible use of resources – many of my past plans have fallen at this particular fence. That being said, I've recently had the chance to experience the most enjoyable first part of the three stages of life of every consumer product (the thrill of purchase, the eventual disappointment of ownership, the problem of disposal) when I 'upgraded' my reference amplifier from an Arcam FMJ A38 to a Cyrus 6A.

Sound-wise these two designs are *different* rather than one being definitively better than the other, both are strong performers and I expect that many listeners would get along very well with either. The amplifier which improves on absolutely every aspect of the A38 probably



doesn't exist and in some ways the 6A could even be regarded as inferior, it offers only about 60 watts instead of 140, the sequential source selection menu is a pain, the remote control is horrid and the display isn't particularly legible for starters, yet I am absolutely overjoyed with it. How can this be?

When you change your equipment what you are really doing is swapping one set of compromises for another. In my case, replacing the Arcam with the Cyrus seems like a backwards step since there is less power, no built-in phono stage and you have to grub around at the back if you want to plug a pair of headphones in. It is also a cheaper unit and given that the price deflation which has come to be expected in the rest of the home electronics sector has been largely absent in the field of amplifiers for some years now the change seems on the surface to be positively retrograde.

However, the life of a review system is a tough one that involves more humping about, plugging and unplugging and trying things every-which-way round in a week than most gear sees in a lifetime. On this basis the change is a good one, for an amplifier which you can pick up in one hand and whose cabinet is strong and has no sharp corners is a Godsend. Especially, when you are swapping sources one day, loudspeakers the next and looking for something to benchmark an integrated system against the day after.

For a 'normal' person these are unlikely to be compelling priorities, but they demonstrate that sometimes you do have to go backwards to move forwards. Progress, as C.S. Lewis rightly identified, does not have a single direction; it is simply the process of getting closer to where you want to be.

When you change your equipment what you are really doing is swapping one set of compromises for another...



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WHAT HI-FI?
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Level pegging

Loudness, volume – call it what you will – is a surprisingly overlooked aspect of modern music replay, reckons **Richard Black...**

We tend to be pretty casual about 'loudness', listening as we do to symphony orchestras at levels above which one can conduct a normal conversation, or turning up a rock band to levels that affect the digestive system as much as the ears. But perhaps we should pay more attention to these levels, as they can affect our perception of sound in ways we don't always think about.

To be pedantic, there actually isn't a 'right' level, ever, for anything. If you move from one seat in a concert venue to another, the level of the sound you hear will change (along with the balance and everything else, of course). Even considering the simplest sound source, a lone human voice, who's to say whether you should hear it from six feet away (loud!) or from the back of the Royal Albert Hall? You might think that on a recording the 'right' level is that heard by the microphones, but even that is only nearly true if you are listening on headphones to a properly made binaural recording. As soon as you add loudspeakers into the equation, and with them the variables of listening room and listener position, the apparent absolute goes all hazy again...

On the other hand, level can be quite crucial in some ways. You've probably heard of the 'Fletcher-Munson effect' (or Fletcher-Munson curve), which is the name given to a rather non-linear aspect of human hearing. Basically, the frequency response of the ear depends quite strongly on the loudness of the sounds reaching it. At low levels we are much more sensitive to midrange than bass or treble. Pretty obviously, then, if the volume control is turned down on an amplifier, the perceived balance will change. It's an everyday observation, one we hardly think about.

It's most important when we're selecting hi-fi equipment to buy. If you listen to two amplifiers in a dealer's showroom and the gain of each is not identical, they will seem to have markedly different ideas about balance. Actually, if you look at the F-M curve, you'll see that the change in balance with level is apparently smallest around a typical listening level of 80-90dB, but that's misleading because sounds at the frequency extremes are often not the loudest part of music anyway, so a 1dB level difference (subjectively very small) can end up causing a frequency-response change of at least 0.5dB below 100Hz and a couple of tenths of a dB above 5kHz, which is quite an audible effect!

This was really brought home to me recently when, at a recording session, I offered one of

the performers a choice of two headphones, both very nice models. One he liked, the other he didn't like at all – but he completely failed to spot that there was a level difference between them of probably more than 6dB. This from a highly experienced professional musician (and owner of a large CD/LP collection), which makes one think that if he can make the mistake, so, perhaps, can we all.

In terms of simply listening at home to a recording, those changes in frequency balance are perhaps less important, but they are still there and add yet another barrier to the supposed Holy Grail of 'the sound in the studio', which is of course a very arbitrary construct. Indeed, even if the balance were to remain pretty much consistent, there's inevitably a change in our overall perception of sound simply due to level.

In home cinema applications this is to some extent dealt with by level calibration of THX-certified systems, and something similar would be useful in audio-only systems. Trouble is, the way in which widely-varying sounds are generally mastered on CD up to 'peak bit' make it effectively impossible to implement. But basic sound pressure level meters don't cost much and, although their accuracy and resolution may not be amazing, they can find a use in setting levels in a domestic system – that, and even simpler means such as careful marks next to the volume knob.

Setting loudness carefully can pay dividends with any recording, and it's not simply a case of ensure the level is way too loud. Getting it right will give you an enjoyable musical experience, a balanced frequency response and a system that sings. We should all remember this, next time we sit down for a serious listening session.

If you listen to two amplifiers in a dealer's showroom and the gain of each is not identical, they will seem to have a markedly different balance



RICHARD BLACK
musician and reviewer

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Start it up

Tim Jarman remembers the classic turntable that arguably launched the vinyl revolution, Thorens' beautifully built TD 150...

To show that there is nothing new under the sun, here is a belt drive turntable with a weak motor and a heavy platter, an underslung counterweight and a lid that you had to pay extra for, just like the ones still on sale today!

It may seem familiar, but the Thorens TD 150 seen here first went on sale in 1965, that's nearly fifty years ago. Then, as now, the thing that set in apart from most other turntables was a suspended subchassis, a floating platform inside which holds the platter and arm base rigidly together, but which otherwise moves freely in space with the aim of providing perfect isolation from external vibrations. The TD 150 was not the first turntable to be built like this, but it was the first to sell in large numbers, thanks to its fine sound quality and remarkably low price.

Many imitators followed in the next decade – and I think it's not too unfair at this point to remark on the physical and engineering similarity to the mighty Linn Sondek LP12, no less. And don't forget Ariston, STD, Systemdek, Revolver, *et al.*, either!

Before the suspended subchassis, turntables had been typically constructed on a pressed steel plate to which the various items – arm, bearing, motor, etc. – were all attached. The motor was usually mounted on rubber bushings in an attempt to stop the vibrations it produced reaching the record and stylus, but these were largely bypassed by the idler drive mechanisms which were popular at the time.

The complete turntable unit was sometimes mounted on coil springs too, to try to block some of the very low frequency vibrations that may otherwise spoil the sound. Thorens offered a machine of this type in the early sixties, the TD 135, which was very much a typical design of this period – you can imagine how slim, neat and modern the TD 150 must have looked in comparison.

In the TD 150, the platter floats softly just above the top plate, and when it is moved the arm and the black arm board beneath it move with it together. It is essential in the design of any turntable that the relationship between the axes of the

Familiarity breeds contempt: the TD 150 looks utterly run of the mill, but that's because large numbers of belt drive turntables of the nineteen seventies borrowed heavily from its design. Sadly many couldn't match the superb build quality though – this deck was built under licence by EMT, no less!

arm and the platter is constant and in the TD 150 design this is achieved by two shallow steel channels which are spot welded together into a 't' shape, the cross of the 't' holding the arm board above. This assembly is suspended on three compressed coil springs located radially beneath the platter, with sideways movement only loosely constrained. The motor is mounted solidly to the plinth and a flat rubber belt to the platter acts as a mechanical low-pass filter which transmits the drive, but blocks the bulk of the vibrations. Belt drive turntables were not new in 1965, but even so it was still an unusual feature.

Because of the high quality main bearing and the absence of any turntable driven automatic functions, a very small and light motor, similar to those found in electric clocks, was used. Being a synchronous design its speed was locked to the mains supply frequency, not its exact voltage. The motor required around 115V, so for those examples sold in Europe a resistor was fitted to drop the excess voltage – if your TD 150 smells slightly of burning when first switched on then dust harmlessly

burning off his resistor is likely to be the cause. Conversion of a USA-spec example is not easy though – a different diameter pulley is needed but since this is solidly bonded to the motor shaft a whole new motor would still be required.

The TD 150 was available in four versions, as a motor unit only (no suffix), with a Thorens TP 13 arm but no plinth (suffix A), with a plinth but no arm (suffix B) or complete and ready to run except for a cartridge (suffix AB). In the case of the B version, the blank arm board could be drilled anywhere to suit most arms, but the machine's small size precluded the use of the popular SME 3009 unless an SME plinth was used as well.

The TP 13 arm was a simple design with a few clever features; the weight for example could be positioned roughly at first and then fine-tuned using a large and heavy screw at the rear. At the other end, the headshell was fully adjustable and could be slid in and out to compensate for stylus overhang and tilted to correct for VTA, refinements that were usually absent from modestly priced turntables of the day. To set the downforce, a pressed metal plate was fitted to the top of the arm about a projecting screw just behind the pivot. The screw was aligned with

spherical counterweight. Another smaller ball mounted on a calibrated shaft ahead of the pivot set the down force so there was no need for the separate plate any more. A further small weight on a piece of fine cord allowed anti-skating compensation to be added, this facility had been absent from the original TP 13.

The TD 150 Mk II lasted until 1973 by which time it had been joined in the range by the TD 125, a similar (but larger) machine whose key new feature was an electronically controlled three-speed motor.

Sound quality

When new, the TD 150 would have been partnered with quality cartridges such as the Shure V 15, the Goldring G800 or the Decca Deram. To take the cartridge out of the equation for my listening tests I used an Ortofon 2M Bronze, which was tricky to fit to the headshell since the mounting is intended for cartridges where the fixing screws can be inserted from underneath.

Once attached, setup was easy since the bevelled edge of the 45 RPM centre puck is also the reference point for stylus overhang – if only all turntables were so thoughtfully designed! I was surprised how pitch-steady the TD 150 is for a belt-driven design, the wide flat belt

category which makes it an easy, familiar device to listen to that makes old recordings sound 'right'.

My favourite track on the album, *She's Leaving Home*, had a light and delicate air about it and plenty of space between the sounds, the sound was perhaps a bit sharp and dry, but consider this against the backdrop of the bland cone tweeters and soggy sounding amplifiers that were the mainstay of the nineteen sixties hi-fi scene and it all makes perfect sense. The sharpness of the treble did make the vocals slightly sibilant, but this again is a common turntable trait and certainly not one unique to the venerable TD 150.

As a more demanding test I also tried a live recording of Beethoven's *Concerto No.2 (Op. 19)* and found that with music of this type the tonal character of the TD 150 was less apparent. Speed stability was adequate (it is difficult to really enjoy piano music on a belt drive deck after hearing it played on a direct drive one or from a CD) and the performance fluid. The only real shortcoming I noted was a slight lack of bass precision, perhaps as a result of the rather basic construction of the arm. What did impress me was the way that the music retained its scale and drama; the TD 150 proved equally able to render a softly struck piano solo as it was to convey the power of the whole string section suddenly coming to life. A fuller lower register would have been welcome but this is a minor point.

In its day, Thorens' TD 150 performed well beyond its price point, and it still sounds surprisingly good today. So don't forget about it, for a moderate amount of money you can buy a real slice of hi-fi history! ●

In its day, Thorens' TD 150 performed well beyond its price point, and it still sounds surprisingly good today...

the desired downforce marking on the plate and the arm balanced, once the plate was removed the desired down force was then applied to the stylus, a clever method except that it relies on the plate not being lost. If this has happened sometime in the past four decades a conventional stylus balance can be used in its place.

A tidied-up Mk II version of the TD150 appeared in 1969. The speed control now had the 'off' position between the two speeds instead of being activated by lifting the whole control upwards and the cueing device was now a matching knob fixed rigidly to the plinth rather than being a lever attached to the flexibly suspended arm, making accurate operation easier.

Those versions which included an arm now came with the TP 13 A, recognisable by its distinctive

and the heavy (3.4kg) platter combining well to give accurate results. Only during sustained piano notes was a slight pitch waver apparent, but to less of an extent than some more modern designs which use belts which are more elastic than that fitted to the TD 150.

This particular TD 150 was made in 1967 under license by EMT, the famous German producer of heavyweight broadcast decks so I couldn't resist getting out an early copy of *Sgt. Peppers...* (The Beatles) and seeing how it may have sounded way back then. Some turntables give a very neutral sound which is difficult to place and some have a very distinctive 'vinyl' sound with bright highlights and a distinctive squawky midrange, particularly noticeable with instruments like trumpets. The TD 150 definitely fits into the latter



Hot property

Valve amplifiers? Filterless digital? Hemp drivers? It can only be an Audio Note system, says **Ed Selley**...

The last Beautiful System to pass through the pages of *Hi-Fi Choice* (January 2013) featured the somewhat arresting power output of seven hundred watts. Variety being the spice of life, this one has an output at full tilt of slightly over *one* percent of that. Believe it or not, this is one of the more normal parts of this ensemble...

Hove-based Audio Note has never been a company to follow convention. The entire philosophy of the brand is based around vacuum tube amplification. Although there is nothing to prevent valve amplifiers being made in relatively powerful configurations, the Audio Note ethos has always preferred the simplest implementation which is a small number of output valves in a single-ended configuration. Fans of these amplifiers claim that no other design can equal the tonal sweetness and lucidity of a good single-ended amplifier, but there are drawbacks to this approach. Most of these amps are less than



COMPONENTS



**1 AUDIO NOTE CD4.1X
CD PLAYER £7,353**

The flagship Audio Note integrated CD player makes use of a Philips Pro transport mechanism mated to the trademark filterless DAC with a valve output. Exotic components like tantalum resistors and bespoke copper foil capacitors are used in critical areas and even the display has its own power supply to reduce noise.



**2 AUDIO NOTE OTO LINE
SE SIGNATURE £3,450**

The ultimate implementation of this classic EL84 valve amplifier, the Oto SE is a single-ended amplifier with two EL84s per channel generating 10 watts of power. Like the CD4.1x, the Oto makes use of unique Audio Note components in important parts of the circuit. For the vinyl lover, a version with a phono stage is also available.



**3 AUDIO NOTE AN-E/LX
THE LOUDSPEAKERS
£5,482**

The AN-E has a form factor quite unlike most speakers on sale today. The cabinet is very lightly braced and designed to complement the performance of the driver at key frequencies. The drivers themselves are made from hemp fibre for lightness, in the pursuit of sensitivity.



Fans of these amplifiers claim that no other design can equal the tonal sweetness and lucidity of a good single-ended circuit...

twenty watts in output and many of Audio Note's designs are in the low single figures.

Signature style

Representing this philosophy in this system is an Oto SE Signature integrated amplifier. The Oto is a classic example of the Audio Note product philosophy in that it has been around for many years and exists in a number of different versions all based around a quartet of EL84 valves. The Signature is the top of the tree with trademark Audio Note wizardry, such as tantalum resistors and copper foil capacitors in key locations and a single-ended configuration producing ten watts flat out.

To do anything useful with an output that low, you need sensitive speakers. This is the second area of Audio Note specialisation. Audio Note speakers are quite unlike the vast majority of speakers on sale today. They are a shape that is – depending on your viewpoint – almost willfully anachronistic or rather fabulous in its lack of compromise. All Audio Note speakers are impressively sensitive and can generate outputs of 90dB or more from a single watt of power, but when you have amps with only two or three of those watts to begin with, 'sensitive' alone won't cut it.

Step forward the AN-E. Like the Oto, this is available in numerous

versions but the ones supplied for this system are in HE spec. This substitutes the conventional paper driver for the rather striking looking blue examples which are made from hemp fibre and give this variant of the AN-E a claimed sensitivity of a staggering 97dB/w. All of a sudden, those ten watts from the Oto will go a long way! Of course hemp by-product has been helping some people appreciate music for some time, but this time they don't have to ingest it [boom boom - Ed.]!

The final piece in the puzzle is the way Audio Note approaches digital. Audio Note CD players and DACs are all designed with no oversampling, no digital filters and a valve output. Representing this philosophy is the CD4.1x, the flagship Audio Note on box CD player (although be aware that when the transport and DAC combinations are taken into account, we're very much playing in the shallow end of the Audio Note range here).

This trio of units combines into a system that can only be one from Audio Note. The system looks fairly impressive too. There is no escaping the 4.1 CD player is a big lad, but the Oto Signature is wonderfully understated and the AN-Es in their wenge veneer set off by their blue drivers are rather lovely in the flesh too. Unusually for a Beautiful System, the whole ensemble is genuinely an Audio Note 'system'

from the specialised stands for the AN-Es (£400 per pair) to the ISIS LX 168 speaker cable (£4,070 per pair) and ISIS interconnects (£493 per pair) that connect it all together; this genuinely is a one stop shop where everything except the CD you spin in the 4.1 comes from the same place. You need not spend this much for this to apply either. Audio Note makes systems that go from considerably less than this all the way up to an ensemble they demonstrated at Milan earlier this year that would buy a house of significant dimensions in central London. Be under no illusions that your potential upgrade 'path' is more akin to the Appalachian trail in this case.

For many listeners though, climbing as far as they can up this path will feature heavily in their thoughts after hearing this system. Firstly, forget any notions that the power output is remotely constraining. As the AN-Es are so sensitive, there are few instances I can ever see you troubling the maximum headroom this system offers. Secondly forget any idea of this system conforming to a single stereotype that people apply to valve based systems.

ABOVE: Audio Note CD4.1x CD player, atop an Audio Note Oto SE Signature integrated amplifier

BELOW: Audio Note AN-E/LX HE loudspeakers



On audition

That isn't to say it doesn't do the sort of things that we associate with valves well, because it does. Mark Knopfler's *Privateering* is exceptionally vivid, rich and entirely believable. There is a sense of effortlessness to how the Audio Note goes about the business of making music that makes most other systems, even ones of equivalent value, sound audibly constrained – a good facsimile being compared to the real thing. The performance is never overblown or unnatural, it just isn't constrained by anything so terrestrial as electronics. The handling of piano pieces in particular is a minor shock to the system – the Audio Note ably reminds you just how big an instrument it is.

Where the Audio Note firmly sticks preconceived ideas back in their box is when you ask it to play something that should simply not work. Laurent Garnier's *Unreasonable Behaviour* is a hulking great slab of moody electronica with thundering bass and virtual absence of anything that might be recognised as an instrument. Asking the Audio Note to deliver with

The Audio Note has every nuance that defines musicality down to a fine art...

this is like making a fried breakfast with quail's eggs – technically possible but unlikely to satisfy. That it delivers a performance with seemingly unlimited reserves of impact and the sort of timing that can make most solid-state systems sound flabby and incoherent is testament to just how effective the company's approach is.

After you give up trying to blindside the system, it is easier to revel in how it goes about the business of music making. The long and the short of it is that the Audio Note has every nuance that defines musicality down to a fine art. It overcomes the various pitfalls and challenges of every genre I threw at it to achieve something easy to say and hard to do – it simply sounds right.

It can also manage this in less than perfect listening environments. Much of this is down to the AN-Es which are in a number of ways quite extraordinary. They are some of the largest speakers I have used in my listening room but I have experienced more problems from diminutive standmounts than these

Audio Note systems are not small and won't fade away into your listening room – lifestyle system seekers should look elsewhere...

gentle giants. Provided that they are arranged in a position that allows a semblance of stereo, they will create a compelling and believable soundstage. They are utterly unfazed by proximity to walls (indeed they can be placed directly into corners to further enhance their already impressive bass response) and they are a fairly emphatic demonstration of how Audio Note speakers work.

They are also a perfect foil for the partnering electronics. Their sensitivity is the most obvious asset but beyond the numbers, they reproduce the speed and startling tonal colour that the amp and CD bring to the performance. The CD 4.1x in particular is an eloquent demonstration of how good CD can be when the partnering hardware is up to the task. From the effortlessly sweet top end to the full and detailed bass, the 4.1x is completely free of any negative behavioural trait you might associate with digital.

The Oto SE Signature is equally fluid and musical and makes every one of its ten watts count. It has a bass response that is quite unlike any other EL84 amplifier (and indeed most valve amplifiers anywhere near this price) I've ever used. To add to life's little pleasures, after thirty minutes or so, the controls warm up to the touch which is decadent but – at this time of the year at least – rather wonderful.

In case, I haven't managed to get this across, the Audio Note system has me struggling to find the catch. Every Beautiful System is capable of extraordinary things but this one goes about making music in a way

that is quite unlike anything else I have sat in front of recently.

Overall then, this is a truly exceptional implementation of the low output, high sensitivity philosophy, one that delivers a level of musical fulfilment that very little else can. It is unfussy about room size and speaker placement and if you don't use CDs any more, there is a DAC equivalent. Maybe it's time to join the one percent? ●



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Krautrock

In our first genre primer, **Simon Berkovitch** explores the exhilarating cosmic music of 1970s Germany – a movement unflatteringly dubbed Krautrock by its English peers...

The term Krautrock, coined by unimaginative British music journalists, is as flattering to the diverse group of experimental, utopian German musicians operating under its banner as it is misleading. Beginners take note: Krautrock *ain't* The Scorpions. But maybe it's appropriate for a genre whose cup overflows with inventive, psychedelic, *avant-garde* zeal to have a no-brainer term to keep a lid on the unrestrained musical proceedings bubbling within?

From the late nineteen sixties onwards, now-legendary German groups such as Kraftwerk, Faust, Ash Ra Tempel and Amon Düül II took progressive music far further out than their British contemporaries. Forget the tediously clever time signatures of Yes and the endless showing-off that typified Emerson

Lake and Palmer's snore-athons – clipped, minimal grooves were the order of the day for vital artists such as Neu! and Can. Meanwhile, Tangerine Dream and Popol Vuh both explored spacious, ambient soundscapes, delving into the infinite possibilities of both electronics and ethnic, acoustic instrumentation. Without exception, Krautrockers embraced emerging technology, using and abusing new synthesisers and realising the vast potential of the studio itself...

It took a former early-eighties pop star to reclaim the cosmic sounds of Germany from the prog rock hinterlands, repositioning it as thrilling, visionary music. Julian Cope's 1995 book *Krautrock sampler* shone light on a genre spoken of in reverential tones but seldom heard, helping to kick-start a considerable reissue programme, with many

classic Krautrock groups appearing in the digital age for the first time – and sounding fabulous, too.

Fast forward to 2013 and many essential Krautrock albums are now available on CD – and also often lovingly reissued in elaborate packaging by vinyl enthusiasts, recreating the experience of their original release on (then) new, exciting labels such as Brain, Pilz and Ohr.

There's a restless, optimistic questing found lurking in the grooves of many of these extraordinary nineteen seventies German albums; albums that still have the power to energise and inspire in this heard-it-all-before century. This primer aims to introduce – or reconnect – you with some of the most influential groups from the diverse Krautrock canon and suggest some further essential listening. So, let's hit the autobahn...



Can's run of albums, up to and including 1973's *Future Days*, is breathtaking...

Can

Arguably the greatest of all the Krautrock groups...

Formed in 1968 from a diverse set of musical backgrounds – from free jazz to *avant-garde* composition – the ensemble's debut album, *Monster Movie*, sounds like nothing else released in 1969 – and still acts as a template for the future. Positive repetition is the key to unlocking Can's success and influence. The four tracks that make up *Monster Movie* lay down the Can template magnificently: cyclical rhythms and basslines

from Jaki Leibzeit and Holger Czukay; Michael Karoli's mammoth psychedelic guitar workouts; Irmin Schmidt's propulsive, experimental organ textures; and mesmeric vocals courtesy of Malcolm Mooney – soon to be replaced by the definitive Can frontman, Kenji 'Damo' Suzuki.

Despite the group's formidable individual musical chops, Can is much more than the sum of its parts, operating in a 'group mind'

musical arena. Egos are left at the door – a sharp contrast to the dreary meanderings of many of Can's UK progressive rock contemporaries. Arguably the greatest of all Krautrock groups, Can's run of albums up to and including 1973's *Future Days* is breathtaking – and subsequent albums released in the decade after Damo Suzuki's departure definitely have their moments of genius, too.

Key album: *Ege Bamyasi* (1972).



Nobody had heard such a satisfying, uncluttered drum sound – subsequently described as 'motorik'

Neu!

The band that exerted a strong influence on punk and post-punk...

There were three great beats in the 1970s: Fela Kuti's Afrobeat, James Brown's funk and Klaus Dinger's Neu! beat," says Brian Eno, whose late-1970s work with David Bowie on *Low* and "*Heroes*" was in no small part inspired by the recordings made by the inspiring partnership of drummer Klaus Dinger and guitarist Michael Rother: Neu!

Neu! – as in 'toy' – translates as 'new', appropriately enough. Before the epic

Hallogallo, the opening track of the ex-Kraftworkers' 1972 debut LP for Brain records, nobody had heard such a satisfying, uncluttered drum sound – subsequently described as 'motorik'; the perfect foundation for Rother's equally questing, wah-wah guitar explorations. The nearest comparison for the linear-sounding Neu! trip is Hawkwind (*In Search of Space* era)... but the Rother/Dinger experience is ultimately comparable only to itself.

Neu! split after a rushed second LP the following year (*Neu!2*) but reunited for 1975's swansong *Neu! '75* – an album that exerted a strong influence on punk and post-punk. Both post-Neu! strands are definitely worth investigating – Dinger's proto-punk La Düsseldorf and Rother's heavenly collaborations with Hans-Joachim Moebius and Dieter Roedelius as Harmonia.

Key album: *Neu! '75* (1975)



The group has more eclectic roots than you'd first expect

Tangerine Dream

Classic band with essential Krautrock credentials

Edgar Froese's Tangerine Dream may be forever associated with pulsing, sequenced synthesiser albums – of which 1974's breakthrough LP *Phaedra* is the greatest – but the group has more eclectic roots than you'd first expect. The first four Tangerine Dream albums are essential purchases – light years away from the New Age preconceptions that many still hold about the group.

The group's 1970 debut, *Electronic Meditation*, bears no resemblance to its slick, all-electronic incarnation of the late-1970s and 1980s. With prolific *avant-garde* musicians Klaus Schulze (later to join free-rock power trio Ash Ra Tempel) and Conrad Schnitzler (later to form Kluster,

an earlier incarnation of Cluster, with Moebius and Rodelius), Froese's first outing is a freeform, guitar-heavy freak-out.

Follow-up *Alpha Centauri* (1971) is a more meditative affair and sees the appearance of primitive synthesisers as well as the huge, weightless, side-long title track that points the way to the following year's double album *Zeit*.

Having blasted off with *Electronic Meditation*, 1973's mighty, Mellotron-heavy *Atem* saw Tangerine Dream explore similar, atmospheric deep space territory to its predecessor. Next was the sequenced re-entry of electronic classic *Phaedra*, plotting a course for the group's prolific synthesised future.

Key album: *Alpha Centauri* (1971)



Record shoppers bought it by the bucketload...

Faust

The band that reinvented itself

The group Faust (German for 'fist') is an oddity even within the confines of the oddities of Krautrock. Nothing prepares you for the band's 1971 eponymous debut album: it owes little to conventional rock and roll tradition, is drenched in cut-ups and huge blasts of synthesiser and is housed in one of the all-time great LP packages – a clear vinyl LP in a transparent cover printed with an X-ray of a human fist.

During their 1970s lifespan, art-rockers Faust released three classic LPs – the aforementioned debut, second album *Faust So Far* (1972) and the legendary *The Faust Tapes* (1973). Fledgling hippie record label Virgin Records released the latter for just 48

pence – the price of a 7-inch single in 1973... and who can resist a bargain? Record shoppers bought it by the bucketload – and discovered an inventive barrage of cut-ups and snippets of songs within its grooves.

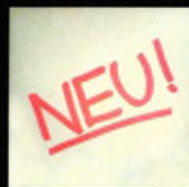
Follow up *Faust IV* (1973) saw the group losing some momentum, but the same year's side project with *avant-garde* minimalist violin player Tony Conrad is rightly hailed as one of the group's finest hours.

After reconvening in the mid-nineties with the quite marvellous *Rien* (1994) the group has subsequently released more records and exerted more influence than it ever managed to achieve in its 1970s incarnation.

Key album: *The Faust Tapes* (1973) ●

KRAUTROCK SHOPPING LIST

In addition to the four artists and albums profiled, your record collection will benefit from the following ten additions. All are on sale from Amazon at the time of writing...



Neu! Neu!



Amon Düül II Yeti



Can Tago Mago



Harmonia Deluxe



La Düsseldorf La Düsseldorf



Cluster Sowiesoso



Klaus Schulze Irrlicht



Sergius Golowin Lord



Enigma Idler Drive Turntable



Vivid Upgrades for Linn LP12 Turntables

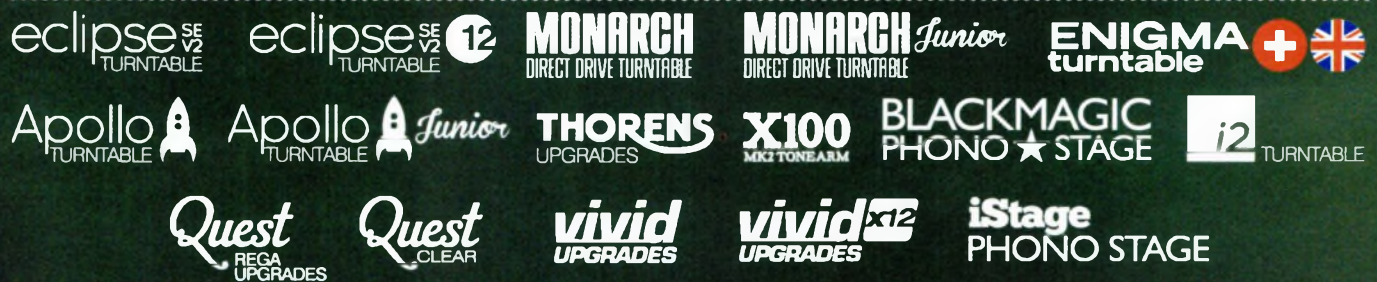


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- Hi-Fi News July 2012

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100 Fela Kuti
The Best of The Black President 2



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Sound Spirits

Music reviews

The latest music releases...

ALBUM OF THE MONTH



Fleetwood Mac

Rumours

warners/rhino.co.uk

★★★★★

Warners/Rhino

5 CD deluxe edition

HAS ANY CLASSICAL album ever emerged from a more convoluted, incestuous, drug-fuelled, trash-novel tale of out-there insanity than Fleetwood Mac's *Rumours*?

When the band went into the studio in 1976 to record the follow-up to their chart-topping album *Fleetwood Mac*, the group's leading singer-songwriters Stevie Nicks and Lindsay Buckingham had just ended a six-year romance amid bitterness and rancour, and were barely speaking to each other except to hurl insults and recriminations. Bass player John McVie and singer/keyboardist Christine McVie were not speaking at all, except through the expensive lawyers negotiating their messy divorce after an eight year marriage. Drummer Mick Fleetwood was also going through a divorce of his

own and was about to complicate matters further by embarking on an affair with Nicks.

Anyone else would have run away and begun their lives anew and apart. But trapped in the same band, Fleetwood Mac set about writing songs to each other, detailing every jealousy and betrayal in the emotional maelstrom they had created.

In the studio the common currency that bound them together was the huge velvet bag of cocaine which their engineer kept under the mixing desk and which the band demanded at regular intervals to 'refresh' themselves. Somehow out of this traumatically troubled and tangled web came one of the best-selling albums of all time, which at the last count had shifted more than 40 million copies. Now rock music's

Fleetwood Mac set about writing songs detailing every jealousy and betrayal

best loved soap opera gets a new lease of life as an expanded five-disc boxset.

There's no denying that part of the enduring appeal of *Rumours* is the 'you couldn't make it up' nature of the story of its creation – a plot line hijacked from TV shows *Dallas* or *Dynasty* and the feeling that they have ripped pages from their personal diaries detailing their most intimate thoughts and turned them into songs which they then sing to each other.

Yet songs such as *Dreams*, *Don't Stop, Go Your Own Way*, *The Chain* and *Gold Dust Woman* stand in their own right as pop classics and would have been enough to guarantee the album greatness, even if we had never

known what was going on behind scenes. Indeed, it's the juxtaposition of such burnished songcraft and the polished, radio-friendly soft-rock sound with the close-to-the-edge emotional turbulence from which it emerged that give the record its vicarious thrill.

The original 11-track album is expanded to four discs with the addition of demos and out-takes from the studio sessions, a live concert recording from the 1977 *Rumours* tour and a DVD film about the making of the album – and for once, the bonus material contains genuine interest. Because we know the extraordinary back story, every acoustic demo or song that wasn't included on the original album – such as Buckingham's heartbreaking message to Nicks on *Doesn't Anything Last* and Nicks' poignant *Planets Of The Universe* – represents a further tearing away of the curtain and an additional insight into the catharsis that lay behind the making of the record. **NW**



Fleetwood Mac 1976: the sad personal plight of key personnel brought about a legendary classic album...



HOT PICK

Fela Kuti

The Best of the Black President 2

knittingfactoryrecords.com

★★★★★

Knitting Factory

2 CDs

THE LATE, GREAT NIGERIAN AFROBEAT KING

recorded almost fifty albums between 1969 and his death in 1997, with tracks often filling an entire side of vinyl. Such a sprawling catalogue makes it difficult to distil Kuti's genius into a conventional CD anthology. But this set of a dozen tracks – none of them under ten minutes – does a noble job in presenting Fela's music in accessible fashion without losing the spirit of his let-it-all-hang-out approach.

Kuti drew on James Brown, Miles Davis and African tribal tradition in equal measure to create an international sound. The dense melting pot of riffing horns, simmering rhythms, scattergun pidgin lyrics and slinky funkiness was built for thrills rather than sonic clarity. But sympathetic digital remastering has given his work a sharper edge without ever sounding harsh or brittle, and his global stature today is probably greater than at any point during his lifetime. **NW**



Stevie Ray Vaughan and Double Trouble

Texas Flood

sony.com

★★★★★

Sony Legacy

2 CD expanded edition

THE BLUES WAS ON ITS UPPERS

when Vaughan came bursting out of Texas in 1983 with a debut of an exciting new force. Claims that *Texas Flood* saved the blues from extinction are an over-exaggeration, but Vaughan certainly reinvigorated the music at one of its lowest ebbs and made the blues seem vibrant and relevant again.

Produced by John Hammond, SRV showed he was equally adept at classic, uptempo Chicago guitar blues, storming RnB and slow-burning jams, delivered with a rock 'n' roll dynamic that owed its attack to the likes of Clapton and Hendrix. This remastered and expanded reissue comes with a previously unreleased storming live set, recorded in Philadelphia shortly after the original's release. **NW**



Jamie Lidell

Jamie Lidell

warp.net

★★★★★

Warp Records

CD

HUNTINGDON'S JAMIE LIDELL

has been mixing ground-breaking electronica and punishing dance grooves with old school soul values (like a terrific singing voice and hummable choruses) since the turn of the century. For his self-titled fifth he's eschewed the collaborative nature of the Beck-produced *Compass*, to make a record that is all Jamie, and generally, much the better for it. Is it too early to call him a national treasure?

The thing about a new Jamie Lidell album is that there's no telling whether it will be something with mass appeal or something that plays best on a warehouse dancefloor. Thankfully, this one falls into the former category, with big, gospel-tinged multi-tracked vocal harmonies rising above the electronic shenanigans. **DO**



Kelly Joe Phelps

Roll Away The Blues: The Very Best Of

demonmusicgroup.co.uk

★★★★★

Nascente Demon

2 CDs

THOSE UNFAMILIAR with this white American bluesman need not just to take our word for the excellence of his work. U2 guitarist The Edge notes on the cover that Phelps' music has "all the authority of the great blues without any hint or rehash or retread". This compilation recorded between 1994 and 2005 endorses the claim, showcasing Phelps' virtuoso slide playing and smoky-voiced singing.

Phelps takes blues standards by Robert Johnson and Skip James and reinvents them as his own. He's also an original composer in a unique style that fuses the blues with a warm jazziness and a keen singer-songwriter sensibility. Why he's merely a cult figure rather than a household name is one of modern music's great mysteries. **NW**

AUDIOPHILE VINYL

The Doors *Strange Days* analogueproductions.com



★★★★★

Analogue Prod

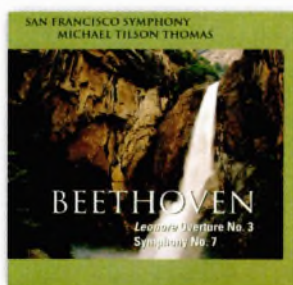
200g vinyl x2

THE DOORS' SECOND ALBUM came out in 1967, the same year as their debut and at one point both were in the US top ten. *Strange Days*

however didn't produce such successful singles as its predecessor, disappointing producer Paul Rothchild who considered it to be the stronger album. But great art rarely equates to mass appeal, especially when you start pushing boundaries. It contains numbers that didn't make the cut on *The Doors* like *When The Music's Over*, arguably one of the band's strongest cuts. The other standouts are *People Are Strange* and *Love Me Two Times* which both hinge on offbeat kooky grooves.

Analogue Productions has gone to town on this, pressing up two slabs of vinyl and mastering all ten tracks at 45rpm. This makes for a bit more record changing than usual but the reward is considerably better dynamic range and bass than the standard issue.

Presented in a deluxe gatefold sleeve this is as good as this album is going to sound. Even if you could find a mint original it won't be pressed on 200g, 45rpm vinyl. JK



Beethoven

Symphony No 7;
Leonora III Overture.
San Francisco SO,
Michael Tilson Thomas
synchrony.org

★★★★★

SFS

SACD Hybrid

BACK IN THE 1980S, Tilson Thomas recorded a cycle of the Beethoven symphonies for CBS/Sony using reduced forces that combined the leaner textures of 'period instruments' without sounding too emasculated. His Beethoven still sounds virile; rhythmically lithe and vital. Tempi are fairly fast, but not rushed, and the playing conveys a proper sense of power.

The recordings sound rich and full-bodied, with the orchestra set well back in a warm reverberant acoustic. Lots of detail can be heard, despite the lack of microphone spotlighting. The SACD layer is in both stereo and surround formats, although the disc can also be played on normal CD players. **JMH**



Tchaikovsky, Nielsen

Souvenir: Music for
string orchestra
nexusrecords.net

★★★★★

PABD

Blu-ray 5.1 DTS HD MA 24-bit/
192kHz 7.1 DTS HD MA 24/96

THIS INTERESTING DISC

contains chamber orchestra performances of Tchaikovsky's *Serenade for Strings* and *Souvenir de Florence*, plus two shorter works by Carl Nielsen including his *Suite For String Orchestra*. The Trondheim Soloists are an excellent group of young musicians who play with great passion and spirit, and their performances of the two big Tchaikovsky works are impressively vital and alive.

The listener has a choice of either 5.1, or 7.1 DTS, or two channel 24-bit/192kHz, with one track in 9.1 Auro-3D 24/96. The latter involves a nine-speaker array that gives the impression of height. To aid your aural 'visualisation' of the proceedings, a ground plan of the orchestral seating layout is included. **JMH**



The Staves

Dead & Born & Grown
atlanticrecords.com

★★★★★

Atlantic Records

CD

THE YOUNG STAVELY-TAYLOR

sisters of Watford come across as modern English folkies, but in truth their close harmonies and gently picked guitars hark across the ocean to a point somewhere between the Appalachians and California's Laurel Canyon circa 1972. Their debut album showcases their sumptuous vocal harmonies, graced around a clutch of quiet acoustic ballads. But gentle though the arrangements and instrumentation may be, there's clearly a bit of the iron fist in a velvet glove, with spunky lyrics that regularly have the girls standing up for themselves and fighting back.

The acoustic strumming and picking recalls Gillian Welch having a quiet jam with early Joni Mitchell, but it's those angelic, self-arranged, three-part vocal harmonies that make it special. **DO**

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★★★★★

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24-bit/44.1kHz

TELLISON & CONTACT!



TELLISON is hardly the sort of band one would expect to find releasing 24-bit recordings on an 'audiophile' label

but, despite its lack of smooth female vocals, tinkling harpsichords *et al*, this edgy, guitar-driven music truly benefits from the attention that's been lavished on this remastered 2007 debut release. The music has a vibrant energy and lyrical wit that the recording demonstrates to perfection.

Disaster! Disaster! showcases the worth of those 24 bits with the glorious and scrupulous insight they give into the vocals, drums, guitar and bass lines, while maintaining every ounce of dynamics, drama and drive that the band's indie, post-punk music possesses. **MS**

Evelyn Glennie and Jon Hemmersam

Sound Spirits

bowers-wilkins.co.uk/society_of_sound

★★★★★

B&W

24-bit/44.1kHz

HOT PICK



THIS INTRIGUING COLLABORATION, between virtuoso percussionist Evelyn Glennie and guitarist/composer

Jon Hemmersam is entirely improvisational. Both musicians have overcome hearing disablement – Dame Evelyn has been profoundly deaf since the age of 12 and guitarist/composer Hemmersam needs a hearing aid in each ear.

Glennie's inventive, adventurous playing is the highlight of these performances. Rather than simply creating sounds she brings her battery of percussion instruments vividly and excitingly to life, while Hemmersam's acoustic guitar interjections contribute valuable and stabilising focus. **MS**

BLU-RAY DVD

Peter Frampton FCA!35 Tour eagle-rock.com



★★★★★

Eagle Vision

DTS HD Master, LPCM stereo

FRAMPTON COMES ALIVE!

was for a long time the best-selling live album ever. Today it's in fourth position, which is none too shabby considering its 35-year vintage. In 2011/12

Frampton took a young band on a 69-date tour where they played the whole of *'Alive* before launching into more recent material and covers.

This 189-minute disc shows them performing 26 numbers including favourites *Show Me The Way* and *Baby, I Love Your Way* alongside surprise choices like *Black Hole Sun* and the more easily anticipated *While My Guitar Gently Weeps*.

The years do not appear to have diminished Frampton's playing ability and his voice is pretty strong too, this combined with a four-strong

band makes for a powerful performance that brings home at least some the magic that made the original *FCA!* such a success. While the more familiar tunes from *'Alive!* are good to revisit the guitar workout that is *(I'll Give You) Money* is a blast.

The sound is convincingly live but in a hard-edged fashion that's probably more a result of compression than the actual sound of the events. It's not really clean enough to be played at appropriate levels unless you have a particularly smooth system. **JK**

Minitest

Special turntable mats can enhance the sound of your record collection, finds **Neville Roberts**...

Analogue Innovation The Plattamat Mk.2

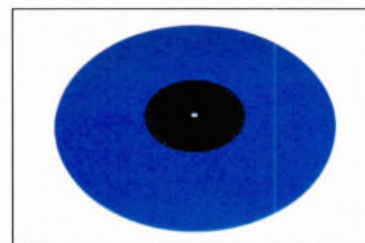
PRICE: £28 CONTACT: 01554 890414
WEBSITE: ANALOGUEINNOVATION.COM

THE PLATTAMAT MK.2 is a new version of the original Plattamat, which is made from a cork and nitrile mix and is 2mm thick. One of the main differences between this mat and the original Mk.1 mat is that this new model employs smaller cork granules that are mixed in a different ratio with the nitrile rubber granules within the finished product. Additionally, it is available in both the original cork and black colour or in an all-black version that will suit the more traditional LP12 owner's views on aesthetics.

As when using the original Plattamat, the resultant increase in the height of the record will change the VTA (Vertical Tracking Angle) of the stylus, so the height of the tonearm should be increased by 2mm if the VTA had previously been setup without any mat in place. The centre hole is a good tight fit on the spindle and, when fitted to a smooth base platter, there was no tendency to slip as can occur with other mats and, therefore, no record clamp is required.

With the Plattamat Mk.2 fitted in place of a felt mat, I found a noticeable improvement in instrument positioning and focus. By 'focus', I mean that solo instruments are more clearly located in a particular position on the soundstage. The other area of significant improvement was in the bass, which proved cleaner and certainly well-controlled. This can be attributed to the mat's effectiveness in isolating the record from acoustic feedback transmitted through the turntable platter.

VERDICT THIS MAT IS EXCELLENT VALUE for money and provides significant audible improvements
★★★★★



ISOkinetik ISOmat 1

PRICE: £30 CONTACT: 0208 2418890
WEBSITE: CABEZON.EU

THE ISOMAT 1 from ISOkinetik is an acrylic platter mat designed for use on turntables that have either glass, MDF, alloy or other non-acrylic material platters. The manufacturer states that the ISOmat 1 will improve the sound of a wide range of turntables including Linn, Thorens, Rega, NAD, Goldring and Moth, to name but a few! A particular feature of acrylic is that it offers an excellent impedance-matching to a vinyl LP and, therefore, reduces unwanted acoustic effects resulting from a mismatch between the platter and the record.

The mat itself is precision CNC-machined in high quality super smooth cast acrylic, giving a highly polished surface. It is available in several colours, including black, red, green blue and the white version reviewed here. The mats are 3mm thick and weigh 230g, which is not much more than an audiophile 180g record so should not cause any issues when used with decks that have a suspended platter arrangement. A record label recess ensures that records sit flat on the surface. As the mat is a similar thickness to other mats supplied with some turntables, it may not be necessary to adjust the VTA if this is replacing a previous mat. With an acrylic mat, I would recommend the use of a record clamp to reduce the risk of slippage while playing.

Amongst the many sonic benefits I noticed, the somewhat metallic and ringing sound produced by many glass platters was completely eliminated with the ISOmat 1 in place and there was a particular improvement in the clarity of the midrange.

VERDICT GREAT UPGRADE to tame the sonic signatures of many non-acrylic turntable platters
★★★★★



Oyaide MJ-12 and BR-ONE mats

PRICE: £230 (MJ-12), £35 (BR-ONE) CONTACT: 01332 342233
WEBSITE: OYAIDE.COM

THIS TURNTABLE MAT is quite different from the other ones reviewed here inasmuch as it is a rigid metal mat that is designed to reduce unwanted vibrations from being transmitted to the record by means of its unique characteristics. The surface of MJ-12 is manufactured in a special way to ensure that the record surface fits closely to the mat, with a recess in the middle to accommodate the record label. As it is a smooth surface, the use of a record clamp is required to enable this close coupling, eliminate record slippage and also minimise the effect of warped records.

The highly rigid aluminium disc has been treated to give it a hard alumite surface. Tuning holes of various sizes have been machined into the mat and are arranged in spiral patterns for effective vibration attenuation. The MJ-12 is also beautifully engineered and will surely enhance the appearance of most turntables.

As a further upgrade, there is the BR-ONE ultra-thin turntable sheet made of butyl rubber that can be fitted underneath the MJ-12 to offer further benefits in terms of vibration absorption. The metal construction of the MJ-12 will provide a path for static charges, thereby overcoming any potential issues of static build-up with the rubber sheet. It also includes a large stroboscope disk for checking turntable speed with a cartridge overhang gauge in the centre. In use, the Oyaide MJ-12 did actually produce more detail with a greater clarity and crispness to the top end. Adding the BR-ONE reduced the noise floor and offer enhanced clarity to the sound.

VERDICT BEAUTIFULLY ENGINEERED, high-end product that certainly delivers on sound quality
★★★★★



Pro-Ject Leather-IT mat

PRICE: £50 CONTACT: 01235 511116
WEBSITE: PROJECT-AUDIO.COM

THE PRO-JECT LEATHER-IT TURNTABLE MAT is available in two colours: grey and black. As the name implies, it is manufactured from leather and is designed to fit over the centre spindle and sit comfortably on a 12 inch platter. The manufacturer claims that the mat offers a better playback surface than the pure cork or felt alternatives. It's designed to improve performance by reducing vibration transfer to the playing surface, allowing the cartridge to deliver a more stable high-fidelity performance.

It is often noted that felt mats, often supplied as standard with many decks, have a limited damping ability which can be a problem when used with metal platters and although they give a smooth contact between record and platter, they can actually generate static charges while playing. That means that felt mats often collect dust which can end up being transferred to the record. There is also a view that thick rubber mats can over-dampen the record and, worse still, can have an electrical isolation effect which, as with felt mats, tends to leave the static charges on the record and result in audible clicks.

The high friction, but smooth surface also allows for good record rotation with negligible slip so a record clamp is not required with this turntable mat. The mat is obviously made from high quality leather and the underside has been intentionally left with a rough and fluffy leather finish, whereas the top is a beautifully finished smooth surface. In use, the sound quality is enhanced giving a noticeably better-controlled sound overall and great imaging.

VERDICT AN EXCELLENT MAT which is kind to records and yet grips them firmly on the platter
★★★★★



Many turntable manufacturers have their own recommendations regarding suitable turntable mats. However, it is clear that there are significant improvements to be achieved with a

mat upgrade, such as the ones reviewed here. The final choice of mat will very much depend on the material used for the manufacture of the turntable platter, as well as how the platter is supported in the

turntable. These are all great products and they demonstrate that there are clear improvements to be had, and that there are mats available at prices to suit all pockets.

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FOR SALE

REGA Planet 2000 CD player (silver), owned from new, VGC £190, Linn (Black) high quality analogue interconnect cable (as new) £30: **0758195784 (W Yorks).**

FIRESTONE Fubar I/O USB DAC/ADC (black/silver) with Chord Co Silver Plus (0.9m) USB cable. Full working order £85: **0117 9500429 or email: ron.watt@sky.com (Bristol).**

DALI Royal Menuet II bookshelf speakers, boxed with manual, bi-wireable, (Cherry), excellent condition £195: **01326 374797 (Cornwall).**

QUAD 33 and 303 amps, FM3 tuner, unused since full Quad service, supporting paperwork, boxed £350: **01825 722936 (Lewes).**

MUSICAL FIDELITY X-A1 amp with separate power supply £100: **01132933478 (W Yorks).**

QED Genesis Silver Spiral bi-wire cable 6 m x2. Good condition. Terminated with banana plugs on speaker

side, banana/BFA plugs on amp side. (£800) £300 Ono: **07927 1433480 or email: creativeeh@googlemail.com (Surrey).**

MARANTZ PM 11-S2 integrated amp with phono, (silver), only 8 months old, in superb condition complete with remote, manual and original box (£3,500), now £1,250 ono: **01303 863424 (Kent).**

ATC SCM11 speakers (Cherry), (£1,000) £480; Roksan Kandy K2 CD (£899) £450; K2 Amplifier £450; Leema Xero, (Cherry), (£700) £350; all boxed, 30 months old: **07583 640342 (Nottingham).**

CYRUS CDXT (silver), original box, instruction manual and remote control, excellent condition. High quality CD transport to partner any external DAC £330: **01422 885440 or email: n.taylor154@btinternet.com. (W Yorks).**

PIONEER PD-S707 Stable Platter CD player, in mint condition with remote.

Optical Digital Out for use as a transport, *Hi-Fi Choice* recommended. £150 including delivery: **Email jk78610@yahoo.com (France).**

AYRE ACOUSTICS AX7c integrated amplifier, three years light use. Unmarked condition including remote. This is a current production model (£2,500) £1,150: **07785465137 or email: how.750@gmail.com. (Lincolnshire).**

LINN Ikemi CD player, Immaculate condition, boxed with remote and manuals. £800 **07870 159725 or email johnsidebottom@hotmail.co.uk (Somerset).**

TRANSPARENT Music Link balanced XLR, 1m, stereo pair interconnects £250, Nordost Solar Wind 2.5m and 3.5m (doubled) speaker cables £150, excellent condition: **01457 871622 (Lancs).**

LINN Sondek LP12 turntable with Linn Ittok LV11 tone arm and MC cartridge. Open to Offers. Photos available:



B&W CDM1 NT standmount loudspeakers for only £350!

Email: philipmitchello2@02.co.uk (N Ireland).

NAD Viso Two one-box system. Comprises CD player, DVD player, FM/AM tuner and 50W amp. Excellent condition, boxed. £275: **01926 259022 or email: davidhardy18@talktalk.net (Warwick).**

RUSS ANDREWS Classic Powerkord with 24ct high quality Wattgate £70: **01484 427426 (Yorkshire).**

LOWTHER Accolade 2011 (Birch wood) £2,200, 8 ohm, 100w, DX2/DX45 (veneered) £3,540, excellent, engineer's test result, Monitor Audio RX6 8 ohm 125w, (Rosentun) (£800) £500. Can demo: **01661 823606 or email: grant.darras@gmail.com (Newcastle Upon Tyne).**

ROKSAN M2 integrated amp, as new, boxed, supplied with all original accessories, superb, £1,100: **07787 574784 or email: stephen.adolphus@gmail.com (West Sussex).**

AURUM Cantus Volla loudspeakers. Figured maple finish. Hardly used. As new condition. Complete with stands and boxes. Can dem. £1,400: **07736339194 or email: j.boswell@rbht.nhs.uk (Bromley).**

ACOUSTIC ENERGY Radiance 1 speakers, great condition, well loved and cared for, £230: **07902 303181 or email: chris.skinner10@gmail.com (Herts).**

TECHNICS SL1210 Mk2 (no cartridge) £249, Garrard 401 with plinth, no arm £699, Garrard 401/301 power supply £299: **0207 499 8729 (London).**

B&O Beogram 8000 with MMC 20CL cartridge £225, B&O P30 speakers £125, all good working order, buyer collects: **01302 772495 or email: adrian.petch@btinternet.com (North Lincolnshire).**

HARBETH P3ESR speakers and a pair of dedicated stands. All in mint condition (maple natural wood veneer), boxes, packing and instruction manuals included, £1,300, buyer to collect: **01305 263069 (West Dorset).**

CHORD G3200E balanced preamp, 2007 (silver) with Integra legs and brick remote control. 2x XLR, 5x RCA inputs, for demo. £2,195: **0208 655 86740r or email: jbandgz@aol.com (Surrey).**

REGA RS3 speakers (black ash) £500, DALI Lektor 1 speakers (oak) £150, Cyrus FM7.5 tuner (silver) £100, Grado SR80i headphones £75, Sennheiser RS180 headphones £100, all in VGC: **01427 617038 or email: stuartb63@btinternet.com (Lincoln).**

KUDOS Cardea C2 (sycamore) c/w original boxes, still current model (£2,000) £1,200. Any audition or viewing

BUYING SECOND-HAND can be a great way to pick up a bargain. A formerly expensive second-hand component might well prove a better long-term bet than a brand-new product if the price is right. **DO SOME RESEARCH** on which brands have a good service back-up, so if something does go wrong, you can get it fixed. Unless you purchase from a dealer, you're unlikely to get any warranty, so it's up to you to ensure the fitness of any gear that you buy. **USUALLY** speakers should be less prone to breakdown than amps, and amps should be more reliable than CD players. But any abused component could be trouble – have a proper demo and judge the seller as well as the goods!

welcome, ono: **07823 778355** or email julianmince@aol.com (Norfolk).

SUGDEN A21 (pure Class A), serviced by amplabs, superb £220, Epos ES11 (black) £125, B&W DM4 speakers £85, Wanted: Sony STR 6120 amp: **07818026427** or email; anwarak98@gmail.com (West Yorkshire).

TRICHORD Diablo phono amp, upgraded, mint £450, Black Rhodium Super mains cable £50, QED Optical Cinemax AV leads 10m, never used £40: **077541 85437** (Lancs).

PIONEER PDS505 CD player, hardly used, in storage, £150: **07818658722** (Warwickshire).

NYTECH CTA 252 XD Series II receiver, full working condition, good with minor cosmetics £200: **01538 755833** (Staffs).

ROGERS LS3/5A speakers (black) £525, Pink Triangle LPT turntable, Rega arm, AT cartridge £325 (both collect only), QED Disc Master phono stage £40 (inc postage), JVC CD1770 cassette deck, exceptional condition £50: **01708 457694** (Essex).

CYRUS 7.5 preamp, Cyrus Smart power, Cyrus PSX power supply (black), good condition, £450: **078962 72406** Tyne and Wear).

NAIM speaker cable NAC5 terminated with banana plugs 2x 8.5m (£304) £150: **07749 424206** (Suffolk).

KIMBER Monocle X speaker cables, terminated with WBT Nextgen 0610 AG (silver) slant bananas, beautiful sound, Kimber flight case, mint, (£2,400) £1,100: **0151 608 4481** (Merseyside).

FURUTECH FP202 banana plugs, 24 carat gold-plated locking plugs. Originally £128 for 8, now £38 or £19 for 4: **0798 1025698** or email Chrisandelizabeth2001@yahoo.co.uk (Bristol).

VAN DEN HUL Meridian stereo pair interconnect 900mm length, Neutrik phono connectors £37 (plus p&p), van den Hul pair interconnects 600mm length, Neutrik phono

connectors £32 (plus p&p): **01582 573570** or email: i.fraser57@btinternet.com (Bedfordshire).

HI-FI CHOICE magazine from Sept 1992 (20 years). Email davidkconstant@gmail.com (London).

ARAGON Stage one, (silver) £500 of upgrades, Aragon 2007 power amp 7ch 200w to 8 ohms, (silver) £500 of upgrades, excellent condition, original boxes. £2,500. **01885410517** (Worcester).

TRICHORD Dino Mk2 phono amp, Dino+NC power supply, Trichord high-performance power lead, all excellent, unmarked and lightly used, less than 3 years old, £400. **01582867139** or email mikethompson48@hotmail.com (Bedfordshire).

PRO-JECT RPM 1.3 Genie (red) turntable, excellent condition, box and manual, buyer collects, £160. **01933626185** or email: royrolfe@hotmail.co.uk (Northamptonshire).

TECHNICS SL1210 Mk2 (no cartridge) £249, Garrard 401 with plinth, no arm £699, Garrard 401/301 power supply £299. Can post if needed. **0207 499 8729** (London).

VTL 100 mono compact monoblocks, mint for age, sensible offers, ATC CA2 pre ex con £350, NVA mm phonostage, ex con. £150. **01822 860 432** (Devon).

NUFORCE DAC 9 D/A convertor, (silver finish), very high resolution, will drive power amp directly and has an excellent built in headphone preamp. (£1,199) £650. **01296 437314** (Bucks).

B&W CDM1 NT standmount speakers (cherry), excellent condition, boxed (£750) £350: **01702 520063** (Essex).

ATC SCM7 loudspeakers (black ash), mint condition, boxed with manuals, (£610) £475. **07733 428736** or email: gill@gillbrears.plus.com (Huddersfield).

RUSS ANDREWS Classic Powerkord with IsoTek 24ct gold Wattgate £75. **01484 427426** (W Yorks).

PMC GB1i floorstanding loudspeakers, (black)

excellent sound, mint and boxed £800. **01474352164** (Kent).

FOCAL Spirit One headphones, high quality closed-back design, (HFC 5-star rating) £90, Atlas Equator Mk3 and Linn (black) high quality interconnect cables, both as new £30 each. **07971136711** (W Yorks).

WANTED mounting plate for Rega RB300 arm to Thorens 160s turntable. Trade or private. **01772 687748** (Lancashire).

NAIM CD3.5 CD player, new remote and CD securing puck, original packaging. Comes with interconnects VGC. **0740 2599050** (Northamptonshire).

KRYSTAL KABLES audiophile silver mains lead, fitted with silver-plated mains plug and IEC (£95) £39, Russ Andrews Yello Powerkord (performance between Powermax and Classic Powerkord), fantastic upgrade (£50) £25, Sound style XS105 4-tier silver hi-fi rack, made under the Revolver badge, fantastic upgrade, slight cosmetic damage (£150) £35. **07981 025698** or email: chrisandelizabeth2001@yahoo.co.uk (Bristol).

TRANSPARENT Reference speaker cable 10 ft (£6,000) £975, Nordost SPM Reference speaker cable 17ft, bi-wire, both ends factory terminated £1,200, Nordost SPM Reference

balanced interconnect 1m, boxed as new £450. Email: boonings@hotmail.com (Co Wicklow).

QUAD 77 series CD player, tuner and integrated amplifier (carbon), plus remote controller and two Quadlink cables, excellent, boxed (1 original, 2 elite boxes), including manuals £750 ono. **07791619099** or email: mikekkafas@hotmail.co.uk (NW London).

IMF TLS50 transmission line speakers (teak), full working order and in very good condition including grilles £100, Epos ES22 speakers (Dark Cherry), 2 1/2 way small floorstanders, fabulous sounding speakers in very good condition including grilles. Buyer collects £450. **02920702134** or email: gareth.jones72@btinternet.com (Cardiff).

TOM EVANS AUDIO MicroGroove plus phono preamp, superb sound, very good condition, set up for low output MC cartridge (100 ohm R, 0.2 microvolt). (£850) £475 ovno. **07725 525001** or email: alan.strudwick@googlemail.com (South Wales).

NAIM CDX-2, excellent condition and wonderful sound, includes original packing, SNAIC, lead, puck and manual £1,200. One owner, purchased

new March 2009, collection preferred. **01252 312 663** or email: atj.harding@googlemail.com (Hampshire).

CYRUS system: Pre VS2 £300, Dac X £635, CD 8X £475, 8 Power £705, PSX-Rs x2 @ £250 each, Cyrus 781 speakers, plus Nextel stands £320, Apollo 4-tier stand £75 ono on all, as a whole or parts; Valve system: Orange valve preamp £175, Audio Innovations power amp £750, Ayon CD 1 £600, LSA 1 speakers £600, Music Tools Entasis h50 speaker stands £450 ono on all, as a whole or parts, Vitus SP102 Phono Stage £12,000 ono, superb performer/unmatched; cables for sale: Audience AU 24e 1.5m RCA interconnect £525, Audience AU24 Powercord 3m £795, Nordost Heimdall speaker wire 2m bi-wire pair £550, Nordost Heimdall RCA 0.6m X 2 £280 each, IsoTek Power Cord Premium mains cable 1.5m X 5 £50 each, XLO HT Pro Digital interconnect 1m £35, Furukawa FV video RCA 1m £40, Cyrus bi-wire speaker cable 2.5m £30, Tiffany CX-7B RCA 1m £30, Signal 7080 RCA interconnect 2x 1m £30, Signal 7081 RCA interconnect 1x 1m RCA set £25, 1x 1m RCA single £15, 1x 2.1m RCA set £35. **01825 841104** or email: mark.hanna@virgin.net (Lewes).

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Ed Selley brings you our pick of this month's top hi-fi websites...



DACAPO RECORDS

www.dacapo-records.dk/en/

Dacapo is a Danish classical music label that since 1989 has dedicated itself to the capturing of the best of Danish music. This means that Danish composers find themselves represented both by domestic acts and by orchestras from around the world. Music from all four corners of the earth is then represented, played by various Danish artists.

Dacapo has music that dates back to the Middle Ages, but perhaps the most interesting work is the modern material. This is firmly at the 'brave' end of classical music and some of the recordings are decidedly weird but equally many of them are interesting 'missing links' between more conventional classical music and the current ambient genre. Above all, recording quality is at the top end of the scale. As well as CD, Dacapo is an enthusiastic advocate of downloads and almost the entire catalogue is available in FLAC or WMA lossless. The download manager is logical enough, and making a high resolution copy of the artwork and a pdf of the listening notes available is a nice touch as well.



WOLFGANG'S VAULT

www.wolfgangsvault.com

Picture the scene. Your listening room is now an area of sonic perfection – you've used the sites that assist with room EQ I so lovingly found you to extract the best out of your kit and are using your expanded knowledge of download sites to buy the tunes you want in the format of your choice. There's still something missing though – the décor!

Wolfgang's Vault is a repository of vintage posters, flyers and photographs of musicians that might be just the thing to liven up a listening room. There are a number of famous posters here including some extremely well known offerings from artists like Pink Floyd, Led Zeppelin and Jimi Hendrix. The site is interesting because for many of the posters you have the choice of

reproductions or – for the brave and well healed, you can go for an original. The differences in price are pretty significant. A smart reproduction of a 1968 Jimi Hendrix Experience poster is \$48. If only the original will do though, be prepared to drop a rather more substantial \$1,498 for one of those. Shipping is international, and I'd be lying if I said I wasn't tempted by a reproduction Doors poster...



URL SNOOPER

http://download.cnet.com/Url-Snooper/3000-2379_4-10376378.html

Internet radio offers a fantastic choice of genres. If you are listening on a computer, adding new stations is not a big deal; if you find something you like, bookmark it! For people using network streamers though, you can often find yourself at the mercy of the preordained choices that the unit leaves the factory with. Many manufacturers are catching on to the growth in Internet radio and are making it possible to add stations manually – often the station provides a URL for this purpose but what if they don't?

This piece of software is a URL Snooper, designed to help you flush out the URLs of stations that are being a little coy. It's free to download and uses clever software to find the core URL of the feed, even when hidden in Javascript or flash and wouldn't normally be visible. Having extracted the stream, you can then input it to your streamer and enjoy the station through your hi-fi system.



THE 2013 HIFI WIGWAM SHOW

www.thehifishow.com

Having (at the time of writing) had CES 2013 come to an end, we are now in full swing for shows and events. We've got Bristol in the offing and Munich isn't far off either. There is another show that is fast becoming a welcome annual fixture and this is the Hi-Fi Wigwam show. Known periodically as the 'Pie' show thanks to being held just outside Melton Mowbray in the labyrinthine Scaford Hall, the show is now in its fifth year and doors open on March 3rd.

The show is still largely unique in that each room houses a complete hi-fi system owned by a member of the public. The result is equipment that you will rarely see at shows being used in configurations you are unlikely to see anywhere else. The overall level of professionalism and presentational skill has been coming on in leaps and bounds since the show was founded, and it promises to be a hugely entertaining day out. I'll be attending in a supporting role this year, helping to display a substantial valve-based system and look forward to seeing some of on the day. So why not drop by and say hello.





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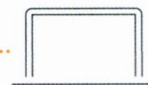
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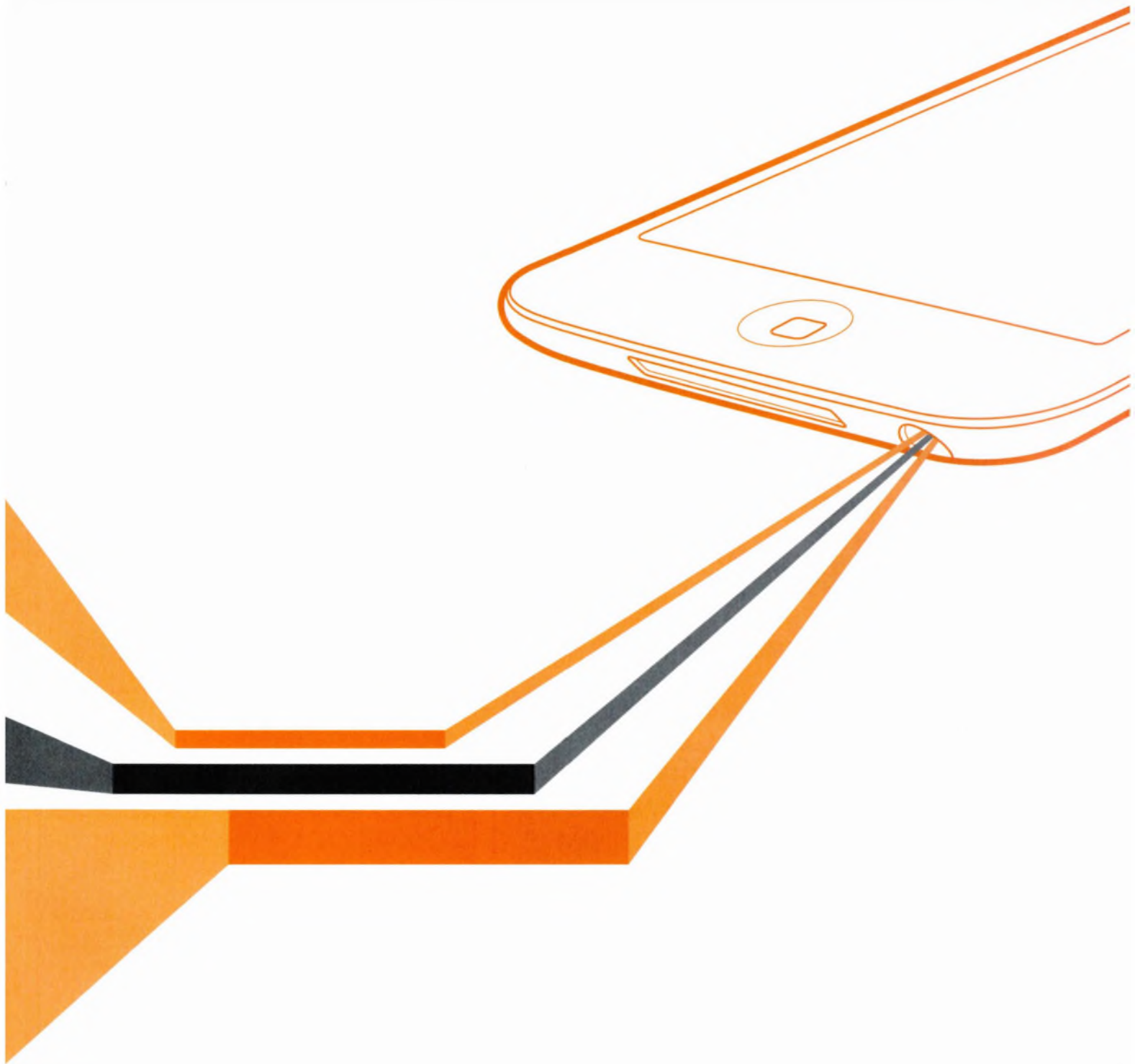
More than

alright,

jack.

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It's a little-known fact that the headphone jack output of your iDevice can give better audio quality than the docking connector. The headphone jack is designed and built for audio output, while the connector is more a jack of all trades - compromised by handling the power supply and charging alongside the music's delicate analogue and digital signals.

Armed with this knowledge, you are ready to maximise your equipment's potential, with the convenience of just one cable. Now, from the strong bloodline of all the Pulse cables, Vertere brings you D-Fi.

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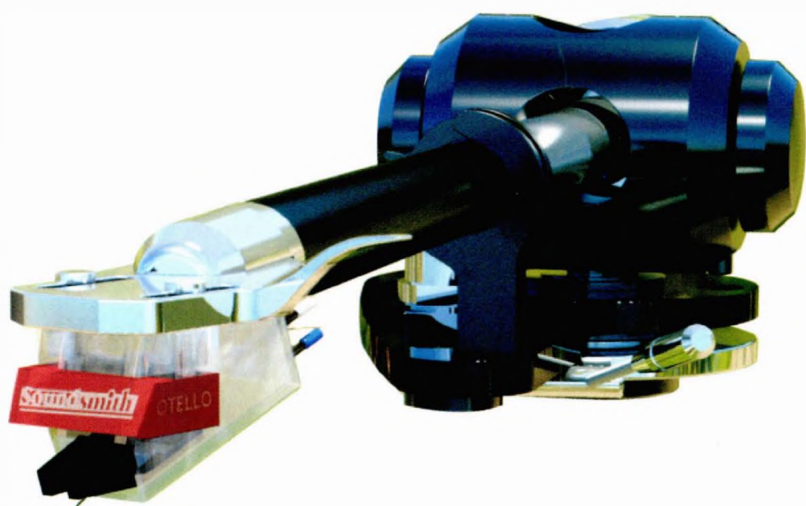
..... Put simply, D-Fi brings the music.

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2012 Tonearm of the Year award - The Absolute Sound Magazine



2012 Tonearm of the Year award

Vinyl enthusiasts would find themselves in an unexpected journey when they try an Origin Live arm.

The results obtained by using one of these arms, are indeed extraordinary and open eyes to new possibilities. In fact, users find that their cartridge starts performing at the same level as one costing anywhere between 3 and 70 times the price.

Such claims seem wild, but the strange thing is that owners of Origin Live arms, are so impressed by the improvements over established references, that they go on later to upgrade to arms higher in the range and are just as delighted.

To find out why these claims are not so wild, please read www.tonearm.co.uk

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| LAVRY DA-10 DAC | MINT/BOXED |DUE |
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| PIONEER PDS-702 CD PLAYER | EXCLT | £175 |
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| MICROMEGA DATA SOLO CD PLAYER | BOXED | £895 |

LOUDSPEAKERS

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MOST MAJOR CREDIT/DEBIT CARDS ACCEPTED

HiFiCollective Glasshouse Interconnect Kit No. 7

Hot on the heels of the Interconnect Kit Number 6 comes the Glasshouse Interconnect Kit Number 7 from HiFiCollective. It is claimed that with this kit you can construct the ultimate interconnects, using some of the finest cable and phono plugs available.

'No. 7' is an all silver kit that contains the top-of-the-range Neotech STDST-24 UP-OCC stranded silver wire in Teflon sleeving and a set of four Audio Note AN-GP-AG heavily silver-plated RCA phono plugs. It also includes Mundorf 3.8 percent silver solder and a suitable quantity of coloured heatshrink sleeving. Construction will take a few hours and is an easy task for anyone used to using a soldering iron. Any length of interconnects can be made by purchasing an appropriate length of the Neotech wire. For this review, a one metre pair was constructed and eight metres of wire was supplied for this purpose.

The Neotech wire consists of seven strands of 0.2mm silver wire, which is more flexible than solid core silver wire. It is manufactured using a patented UP-OCC (Ultra-Pure, Ohno Continuous Casting) process, developed by Professor Ohno of the Chiba Institute of Technology in Japan. The stated benefits of this technology include flexibility, fatigue and corrosion resistance as well as low electrical resistance.

The first task was to plait four equal lengths of the Neotech wire to make a single cable. To do this, the supplied eight metres of wire was cut into two pieces and then each piece was folded in half and both pieces looped over a fixed rod, such as a pencil held in a vice. The four two metre wires were then plaited following a simple technique which is best explained by viewing the very helpful YouTube video that HiFiCollective has uploaded (www.youtube.com/watch?v=isKP_P7F0Uk&feature=BFa&list=ULisKP_P7F0Uk) entitled *Four Wire Weave* (or search for *Four Wire Weave* by HiFiCollective).

The plaiting process took me just under half an hour (it is quite straightforward once you get into the swing of it). The end result was an extremely neat cable and the plait was very even throughout the whole length by virtue of the slippery nature of the Teflon sleeving which helped to even out the twists. Once complete, the cable is cut in half and all four ends are secured with some adhesive tape to prevent them undoing until the connections are soldered. Note that the resultant cables were actually 0.95m long after plaiting, so you lose about five percent of the length as a result of the plaiting process.

To finish off, simply slip on the coloured heatshrink sleeving, solder the Audio Note RCA phono plugs, shrink the sleeving with heat from the soldering iron, assemble the plugs and you're ready to go.

Sound quality

In my experience, interconnects, especially silver ones, require burning in and these cables were no exception. Don't be worried if they sound a little edgy and thin initially – run them for at least ten hours before assessing their performance. After a suitable run-in period, I slipped a copy of Vivaldi *Op.7* by I Musici on my turntable because it has a

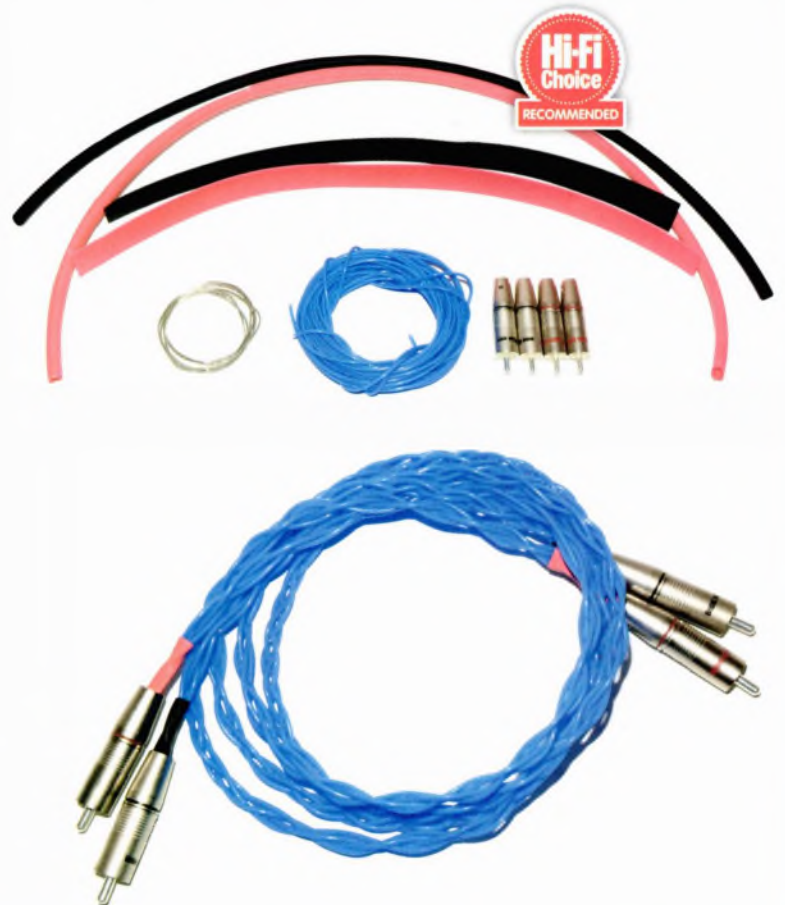
good range of solo instruments, as well as a full orchestra. The sound was really superb and I was struck by the open, delicate and effortless strings which never interfered with the lower registers from the double basses. Particularly good was the fullness of the sound across the whole audio spectrum. If I was to sum it up in one word, I would call the sound 'refined'.

In comparison with a very good (and expensive) set of solid silver interconnects that I had at my disposal, the No.7 yielded a more balanced sound over the entire frequency range and you felt more engaged with the orchestra. When playing some dance/trance music, both cables exhibited a very well-controlled bass but the bass notes were much clearer with the No.7s.

The end result is a very professional-looking set of interconnects that can out-perform ready-made cables costing many times as much – and there is the additional benefit of the pleasure you derive from having made them yourself! What's not to like? **NR**

► **DETAILS**
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Vertere Pulse D-Fi DD USB cable

Vertere is not a name which has established itself yet so I'll remind you that it's the banner under which Roksan founder Touraj Moghaddam plies his trade these days. So far it has produced a range of cables, but there is a tonearm in the offing so it's not safe to call it a cable company. Its ethos is to advance the state of the audio art and that's why this USB cable came about.

Last year Vertere produced its first D-Fi USB cable, and at the time it was the best I had heard, but now Touraj has found a way of bettering it. Rather than using one of the strands within the multicore D-Fi conductor to carry the five volt power from a USB output, DD (Double D-Fi) has an extra conductor for this potential noise source. It's an approach found in other USB cables, but when combined with the already remarkable capabilities of D-Fi it puts this slinky silver connector in a league of its own.

In use

Its key attribute as with all the Vertere cables I've encountered is supreme timing but regular D-Fi is pretty good at that too, what DD adds is extra detail, dynamics and tonal depth. It's not the richest sounding USB around but there is plenty of tonal variation to be enjoyed and no shortage of chunky bass. It reveals both the technical virtuosity of musicians as well as the underlying message that they are trying to convey. In this fast moving field Vertere has retained the upper hand with DD and if you want to hear the potential of computer audio this link is fundamental. **JK**

DETAILS

PRICE: £140

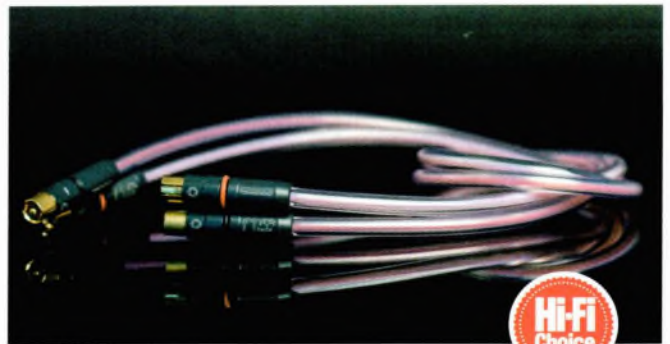
CONTACT:
0203 1764888

WEBSITE:
VERTERE
ACOUSTICS.
COM

OUR VERDICT



Townshend Audio F1 Fractal interconnect



Townshend's new range topper is made with what it calls Fractal-Wire. This refers to a proprietary treatment that the company which pioneered the much imitated deep cryogenic treatment (also applied here) has decided not to share...

This handmade cable is designed to minimise contact between conductor and insulation or dielectric. All types of dielectric react to the signal being passed through the conductor and add a small amount of spurious noise to that signal, so the less contact there is the better. For F1 Fractal, Townshend spirals a fine 0.1mm enamelled copper signal conductor around a 0.6mm return wire and then sheathes both in two PTFE tubes which sit inside a transparent PVC jacket. Termination is by Fractal branded Neutrik Profi RCAs with a sprung ground collar.

In use

The tight spacing of signal and return conductors keeps RFI at bay and is said to eliminate hum when used with valve amps, I didn't have any of those to hand so merely discovered that Fractal-Wire is utterly revealing. It doesn't achieve this with a hump in response as is often the case with cables, it does it by exposing so much space, depth, energy and image scale that it's hard to put down. The bass is unusually controlled yet also shakes the furniture while the highs are both solid and sparkling when the music demands.

It has no apparent character of its own so don't use it to try and balance out a system's quirks, use it to hear the full glory of the signal being transmitted. It may not look very fancy but you won't find a more even handed and transparent interconnect however hard you try. **JK**

DETAILS

PRICE: £600
(1M PAIR)

CONTACT:
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OUR VERDICT



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Noel Keywood, Editor, HiFi World 2012

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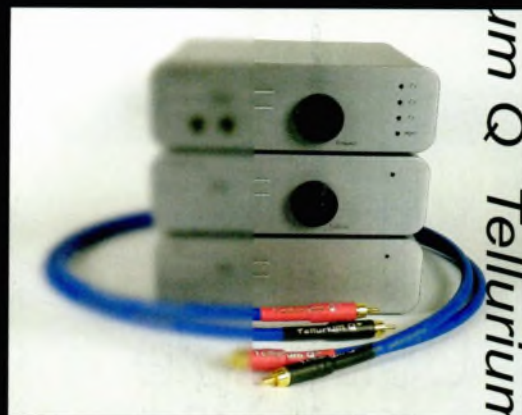
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Caig DeoxIT D5 cleaner

It probably comes as no surprise to people that it is vitally important that metal to metal contacts are kept as clean as possible. Audio systems are full of such contacts ranging from mains plugs through to plugs and sockets on interconnect and speaker cables. It is easy to appreciate that an imperfect contact can lead to resistance at least and rectification and noise at worst – highly undesirable unless you are building a ‘cats-whisker’ radio! Certainly, cleanliness is next to quietness in the world of audio.

Caig DeoxIT, available from Russ Andrews, is an excellent solution for cleaning surface oxides from mains plugs; interconnect and speaker cable connectors, as well as moving parts such as volume controls. The cleaner works by dissolving oxides and sulphides that form on metal contact surfaces and thus removing those sources of resistance. This restores the contact’s integrity and also leaves a thin organic layer that coats and protects the metal. Special additives prevent the dissolved oxides from re-attacking the metal surface. These additives keep the oxides in suspension and allows them to be easily dispersed by the mechanical action of the contact.

In use

Following a mass cleaning session with my system, not forgetting the mains fuses, I found that it had completely eliminated the odd noisy connection I had. One crackly RCA phono connection in particular was now, I’m pleased to say, completely silent during a test ‘wiggle’! Only a small amount is required, so a can of this size will keep your system in tip-top condition for years. Great value and an essential investment for any audio system. **NR**



DETAILS

PRICE: £17
CONTACT:
01539 797300
WEBSITE:
RUSSANDREWS.
COM

OUR VERDICT



Mains Cables R Us Audiolab M-DAC power supply

It was always going to happen, the question was *when*? Last year at the Munich show John Westlake told me he was doing an external power supply for his superb M-DAC in 2013, but Mains Cables R Us has got in first by a good many months, I suspect. Designed and built in conjunction with Longdog audio, it’s an external split rail fully regulated linear design, built in the UK by engineer and audiophile Nick Gorham. Although not quite a perfect visual match, it doesn’t look out of place nearby, although lacks the aesthetic purity of the Audiolab, as well as its all-of-a-piece feel. It sports a Furutech gold-plated IEC power inlet and Furutech fuse as standard, to which any IEC power lead can be fitted.

In use

First, some gripes – the blue LED is a bit bright and the captive power lead is too short. At the other end of the captive lead, the small multi-pin DIN power socket going into the M-DAC didn’t inspire confidence either. However, when the wee Audiolab DAC finally got going with the MCRUs power supply, it was a game changer. The stock DAC is superb at the price, but this add-on PSU makes it just plain *superb*.

Suddenly it was as if a layer of grime had been wiped away from the recording. Things flowed in a more natural way, and tonally the new power supply proved a revelation – a slight metallic feel to the M-DAC’s upper midband melted away to reveal a richer, warmer and more fulsome sound. Bass improved noticeably, surprising considering the fine quality of the original. Soundstaging widened and deepened too. Overall then, this is a brilliant sonic upgrade to an already excellent DAC. **DP**

DETAILS

PRICE: £360
CONTACT:
07908 056978
WEBSITE:
MAINS-CABLES-
R-US.CO.UK

OUR VERDICT



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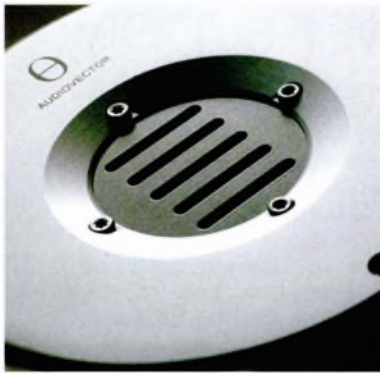
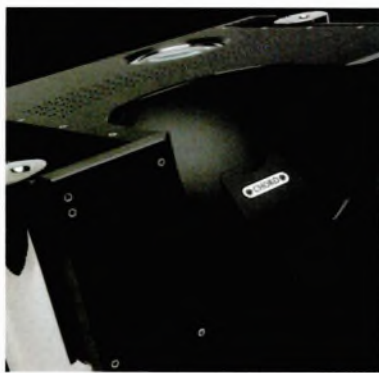
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IsoTek EVO3 Polaris and Premier

IsoTek is on a mission to convince those of us that appreciate sound quality that the condition of the mains is equally as important as the components we use to reproduce sound. The argument is that without electricity there would be no audio reproduction, it is intrinsic to everything that CD players, turntables and amplifiers do. The theory is that if you put in dirty power you will get out dirty sound.

The likelihood of polluted mains is greater now than it has ever been. The main culprit is the confounded computer – most of us have them at home and they are renowned for emitting all sorts of nasties into the mains. The other scourge of good sound is RFI, airborne interference created by the wireless networks that so many of us depend on today. That too gets into the power lines, and if you use a home plug to send broadband around your home you are surely making matters even worse.

To combat this, IsoTek has been building serious power conditioners for quite some time, but they are expensive things and many are yet to be convinced of their worth. The company has introduced the EVO3 products so that we can find out what benefits might accrue without spending too much. EVO3 consists of an extension block and a power cable at entry level prices but with high quality build. This is not mere hyperbole either, these components offer remarkable value by comparison with the competitors I've seen.

The EVO3 Premier power cable plugs have solid copper connectors with 24k gold plating, the cable itself uses silver plated six nines oxygen free copper (OFC) conductors in a Teflon FEP dielectric, the sort of thing that also makes an excellent audio cable. The cables are pressure terminated and encased in a moulded plug assembly.

The EVO3 Polaris is a six outlet distributor that removes common mode and differential noise, with a claimed reduction in RFI of 30dB. Each outlet is independent to avoid cross contamination and internal wiring is also in silver plated OFC with a PTFE dielectric. You need to buy a separate power cable to connect it to the wall but it's very nicely put together and looks a lot better than most as well.

Sound quality

I tested these components with a Leema Tucana integrated amplifier and Metrum Acoustics Hex DAC, the source was a Naim Unitiserve, but it takes a while to boot up and so was left out of the loop. Firstly I changed from a regular black mains cable to the Premier on the amp, using my existing Russ Andrews extension block. This resulted in a distinct cleaning up of the sound, one that notably lowered the noise floor which let through more high frequency sparkle and more of the acoustic in the recording. That seemed pretty impressive but what I didn't expect was for the timing to get better as well. Moving the DAC from standard to Premier cable had

a marked benefit for dynamic range, a consequence of lowering the noise floor, as well as a refinement and a general opening up of the soundstage. Going back to the standard cables made things sound coarse.

Moving from the Russ Andrews extension to the Polaris with standard cables was also beneficial with more space, lower noise and greater resolution becoming apparent. To get a better idea of the potential of this extension I also dug out a cheap Duraplug extension block and contrasted that with the Polaris, the improvement was unsurprisingly even greater with an increase in timing precision, depth of bass and a much greater sense of musical flow. I also compared standard and Premier power leads from the Duraplug extension and discovered that their benefits were not as clear-cut as they are with the Polaris or Russ Andrews. In other words if you can't connect the system directly to the wall then the Polaris is the thing to get first.

These two products work well on their own but the sum is clearly greater than the parts. There is a cumulative effect in using both together that makes a striking difference to the overall performance of the system. They really open up the soundstage and let you hear more music because noise is reduced. This was the effect that they had on a DAC and amp that already have some serious power supply regulation onboard, so I would expect the change to be even greater with more affordable equipment. Highly recommended then, and particularly good value for money in these straitened times. **JK**



DETAILS

PRICE: £250 (POLARIS), £85 (PREMIER)

CONTACT: 01276 501392

WEBSITE: ISOTEKSYSTEMS.COM

OUR VERDICT



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Missing Link Silver Surfer Mk II interconnects

One thing about the hi-fi world is the sheer diversity of the people in it – and that goes for the manufacturers too. At one end you've got the big corporates doing polished and slickly presented products, and on the other you've got small teams of hardcore enthusiasts who are absolutely passionate about what they do. It's fair to say that The Missing Link fall into this category, and founders Mark Sears and Jan Morten wouldn't disagree.

They can be found at any sort of show around – it seems they'd almost be there for the opening of an envelope. Designer Mark has studied physics, electronics and material science with a passion, and says his is the only UK hi-fi cable company to control and manufacture their own custom conductors from the drawing of wires from laboratory grade base metal to the finished product.

This is a budget cable, but still uses their Ultrapure silver plating process, claimed to give the quietest connectors in the world no less. It's said to be 'hand built from the finest materials available' and assembled to the highest standards. Certainly it's very well hewn for the £59 (for 0.5m, add £20 per subsequent 0.5 metre) asking price, using a silver plated oxygen-free copper conductor and PTFE Teflon insulator. It comes with a choice of terminations – Teflon insulated Reference RCAs are standard.

Sound quality

Considering the price, this is superb sounding interconnect – some £250 designs should be worried! Smooth, even, crisp and open, it makes music in an uncomplicated and effortless way. There's absolutely no sense of this being a budget wire, which is surely the best recommendation we can give. Excellent value for money. **DP**



DETAILS

PRICE: £59
(0.5M)
CONTACT:
01623 844478
WEBSITE:
THE-MISSING-
LINK.NET

OUR VERDICT



Revo PiXiS radio

It has been interesting to watch the ascent of Revo. This British company is one of the few that's prepared to duke it out in the lower reaches of the consumer electronics market, competing with Chinese and Japanese manufacturers making affordable audio products.

The new PiXiS is essentially an AXiS hybrid digital radio without the streaming capability, so you get DAB and FM radio only – but still in its nice rubberised plastic box, with an attractive and decently useable touchscreen. Along with the large volume knob on the left and sensibly written menu software, it makes operating the new Revo a breeze.

The PiXiS party trick is DAB Slideshow, a new feature that allows images to be broadcast alongside standard digital audio transmissions, providing a colourful backdrop to DAB radio broadcasts. Content includes 'Now Playing' screens, news headlines, sports, weather and traffic updates. The system is a sort of twenty first century RDS EON, and is supported by a growing number of broadcasters in the main DAB markets, including the UK, Germany and Australia. Pretty patterns being beamed to a small screen is nice, but some still may think it gimmicky.

In use

This radio's quality engineering makes it great value. The latest Frontier Silicon Venice 8.1 DAB module is sensitive and gives relatively glitch-free playback. The package is completed by a 65mm speaker and 3W Class D amplifier which gives smooth, crisp sound. Overall finish is very good, and it comes in a range of three tasteful finishes. Recommended. **ES**

DETAILS

PRICE: £100
WEBSITE:
REVO.CO.UK

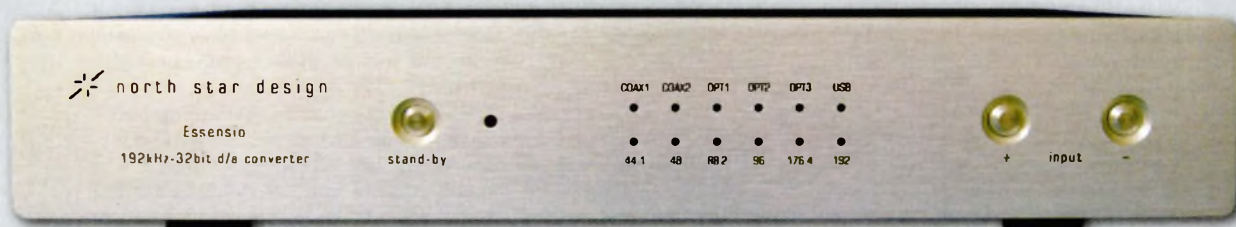
OUR VERDICT



HiFi News & Record Review Ultimate HiFi 2011 awards



ARIAND FV34B, 40w per channel. Pictured is the 2011 MK IV model, available with remote. FV34B MK III model review HFN Feb 2011 Issue, ask for copy.



NorthStar Essensio DAC ask for copy review



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Ariand Pro 845, Pro 845/211

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NAD DAC 1 wireless USB DAC

Despite the nomenclature, there is no need for the owner of a NAD DAC 1 Wireless DAC to have a wireless network: the DAC 1 provides its own discrete communications. Plug the DAC into your preamplifier and plug the transmitter dongle into a USB port on your computer and you are all set to go with music travelling through its dedicated, point-to-point wireless (2.4GHz) connection – as long as the DAC 1 and computer are within 40 metres of each other (NAD's suggested range limitation).

There is no need to faff about with the usual network set-up: no worries about broadcasting SSIDs, access passwords, or MAC numbers and all the palaver required with 'normal' Wi-Fi. All you need do is ensure that the transmitter is set to use the same channel – there is a choice of three – as the DAC 1. Wi-Fi networking has never been so simple.

The DAC 1 is powered by a universal wall wart switching power supply and will sit close to your preamplifier or integrated amplifier digital or analogue inputs, to which it connects with RCA/phono analogue leads or an RCA/phono-terminated digital cable. NAD claims that the DAC 1 handles 'true CD sound quality: 16-bit/48kHz resolution' – surely that should be 44.1kHz? It is also said to be capable of handling uncompressed 24/192 data. These numbers suggest sample-rate conversion happening somewhere in the chain, which isn't always a great idea. The DAC 1, says NAD, uses Texas Instruments op-amps and 24/192 DACs (PCM1781) with selected passive components in a proprietary circuit.

I admit that I was surprised that the NAD worked from the off with my Windows 7 laptop with no need for installation CDs or any such messing about – genuine plug and play operation! However, the sound of the DAC 1 struck me as that of a convenience product rather than an audiophile one. The transmitter on my laptop was only a few metres from the receiver/DAC but the music was sometimes 'stuttery' when playing CD-resolution 16/44 rips through Media Monkey Gold software. I changed wireless channels, which appeared to help a little, although I suspect the glitches were predominantly the fault of the USB system and not the DAC 1.

Sound quality

24/96 rips played smoothly – smooth being very much the word as the presentation often veered towards sounding a little too safe and polite. Robert Plant, for instance, sounded a touch too refined on *Please Read the Letter* from his album with Alison Krauss, *Raising Sand*. Dynamically his voice appeared muted and tonally

it was a little too 'polished' – it definitely was not the edgy, gritty shriek that once produced *Whole Lotta Love*.

The DAC 1 played the 24/192 recording of William Carter playing Fernando Sor's *Early Works* without any fuss or need for fiddling about. It was a first class effort on the part of the NAD to manage to squeeze nearly 5,000kbps over a USB/wireless link. It has to be said, though, that while the system played the tune okay it was not the most rewarding or revealing recreation of the event I have come across. It seemed dynamically muted and there was neither the ambience nor stereo image I am used to hearing normally.

The DAC 1 did not seem able to exploit the full range offered by the 24-bit rip. Neither did it seem able to render the full tonal colour of the recording, sounding distinctly pasty and thin compared to a true audiophile DAC, which afforded Carter's baroque guitar much more substance and a much richer palette of tonal colour. The superior – and far more costly – DAC, not surprisingly, took full advantage of those extra bits in the recording and revealed a host of low-level detail that the NAD failed to present.

Ultimately though, one has to congratulate NAD for taking two of my least favourite and flakiest technologies – USB and wireless – and making them perform together adequately. The results are not audiophile grade, but it is so rare that this quality goes hand in hand with such convenience, and the NAD DAC 1 is supremely convenient. If you want to transmit your music from a computer to your hi-fi, are not overly fussed about audiophile sound quality, and loathe wires and networks – and do not want to spend much money – the DAC 1 could be for you. **MS**



DETAILS

PRICE: £295
CONTACT:
01279 501111
WEBSITE:
NADELECTRONICS.
COM

OUR VERDICT



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Tapatalk for iOS and Android

Ever dawdled at a gig or a bus stop with nothing to do and been assailed by an unavoidable need to know what they're withering on about in the Steve Hoffman forums? This used to be a fiddly job on a mobile browser, but thanks to Tapatalk you can now do it in a much tidier manner, both on your iPhone or iPod Touch, your iPads mini and maxi, and on Android devices...

Since before the dawn of the worldwide web, special interest groups such as our own have communicated, bonded, flamed and argued in virtual space, whether via usenet, listservs, yahoo groups and most ubiquitously these days, web-based forums. It's not an experience for the faint-hearted but hi-fi has spawned many, many forums. I would be surprised if any of our readers had not at least dabbled in trying to find hardware, software or fix recommendations, especially as what we do has now become so computing based. Go overboard and you can lose days at a time...

I initially downloaded Tapatalk on my phone and it proved ideal for whiling away the time waiting for the band to start at gigs. Thankfully the same £1.99 purchase runs in a full Retina screen mode for iPad, although there has recently been the addition of a Tapatalk HD version for £2.99 for tablets of Apple and other hues. Personally I can't really see the point of upgrading to get some slightly richer forum icons and a more sophisticated, sidebar-based navigation method.

Not all forums are available but many of the hi-fi big names are, and as long as your favourite is vBulletin or phpBB based you're on! **PC**



PICTURE COURTESY OF APPLE

DETAILS
PRICE: £1.99
WEBSITE:
TAPATALK.COM

OUR VERDICT



DOWNLOAD

Discovr Music for iOS and Mac

Another app less at the forefront of actual audio applications but which does give an interesting spin on finding new artists of interest is Discovr Music. It is great for actually sparking some connections and enriching those music searches.

Its appealing interface lets you simply enter the name of an artist of interest and then you just watch as it elegantly spawns an attractive spider diagram of associated acts. Tapping on one of the new nodes leads to further offshoots or sometimes, if the networks interlink, a creepy Gordian knot of supposed similarities.

Hours of fun can ensue in simply disagreeing with the similarities between artists' music the recommendation engine claims, but in the end, much like the related artist information you get in Naim's excellent N-stream controller app, it can do a good job in forcing you to think about listening to the obscurities it references it digs up. It is quite hard to fox as it seems to know about most of my favourite eighties never-quite-made-it bands...

So far there is no link to any server-based music you already own, so it is all about sparking new-to-you artist choices you can then audition on the device itself using hooks into the iTunes music store samples or via Spotify.

The next thing to dig into is the other offerings from these enterprising developers – there are equivalent apps for Movies, People (via Twitter) and even Apps themselves. Thus far choices for these reviews have not been automatically generated, but in the future, who knows? **PC**



PICTURE COURTESY OF APPLE

DETAILS
PRICE: £1.49
WEBSITE:
DISCOVER.INFO

OUR VERDICT



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Listening to Music – the Benefits

There have been many studies carried out over the years that have shown remarkable benefits for mankind through listening to music. It is an activity that is intrinsic to all cultures and is one of the few that involves using the whole brain. Listening to music is now often used for various therapeutic purposes because it is believed to improve memory and intelligence, improve physical development and coordination, reduce stress and blood pressure, and even reduce levels of pain.

However, music can also be irritating if it's too loud or distorted, or if it distracts from other activities we are involved in. Most of the studies have been carried out using a reasonably good quality of musical reproduction. Quite remarkably, many people today and probably a majority of teens and late teens, are listening to a considerably lower quality level of music than their peers back in the 1970's. Back then a basic hi-fi system, often consisting of just a turntable, amplifier and a pair of speakers, was a 'must have'. Students going off to university would make it a priority to set themselves up with a decent hi-fi system – and the quality was, in retrospect, surprisingly good.

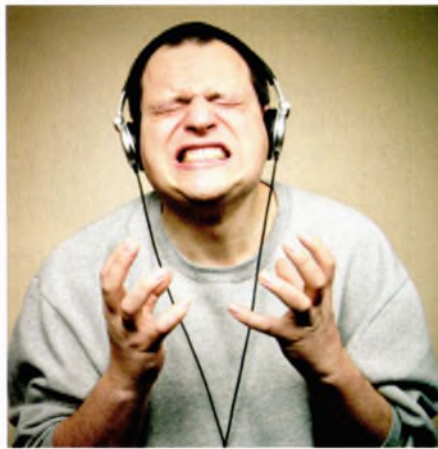


Quality vs Quantity

How different it is today where advances in technology have driven the desire for convenience and quantity at the considerable expense of quality. For many young people especially, the iPod, MP3 player or mobile telephone, connected to a pair of in-ear headphones, is their primary source of listening to music. The problem with this is that low-grade reproduced music is not going to deliver any significant beneficial outcomes for the listener. Probably the opposite will be true.

Style over substance?

Have advances in technology driven the desire for convenience and quantity at the expense of quality?



Low-grade music in this context is the result of two main factors, a) the delivery system (the hardware) and b) the source material (the 'music'). Although the amplification section of the mobile device is a technological wonder, it's not hi-fi! Nor are in-ear headphones. They can't hold a candle to the stereo-typical system from the 1970's. As far as the source material is concerned, it's being over-generous to call it music if it's a typical MP3 or AAC (the iTunes default format) download. These are both highly compressed formats with the most

popular download speed of 128 kbps being about one-eleventh the size of a full resolution CD track (1411 kbps), so the quality is inevitably far inferior. Information is irretrievably lost and the full dynamic range is lacking. Using an iPod while jogging does not really raise a quality issue but playing low-resolution tracks through, for example, an iPod docking station that feeds into a decent hi-fi system, is a disaster area. It is very poor quality made louder and this even affects the type of music listened to. For example, most classical recordings downloaded as an MP3 or

AAC file are a complete waste of time because there is so much information missing, all the complexities of the music are lost, and the recordings are reduced to just the essence of a tune.

Future of Recorded Music

If convenience has trumped quality for many people, we must ask what the future prospects are of maintaining high quality music recordings. Fortunately audiophiles, or hi-fi connoisseurs, or perhaps most accurately described, music lovers, continue to drive the demand for quality because there are some wonderful hi-end systems available and being sold today. Another important reason for hope within the mass-market is that there is no longer any over-riding reason for MP3 and AAC to have such a following. These formats were designed to overcome very slow download speeds pre-broadband and expensive memory capacity. These are not significant factors for most people now. Even iPods, if loaded with full resolution tracks, can deliver acceptable results through a good system. The trade-off is a smaller selection of stored music. Full resolution audio streaming, as well as CD quality downloads, are already available and will become the norm as the wider public becomes aware of the tremendous quality benefit.



Audiophiles and Hi-Fi Connoisseurs

Hi-fi connoisseurs and audiophiles are very important to the music industry. By their nature, they are generally avid music lovers who enhance their enjoyment through listening to music at its very best quality level, which means playing great recordings through hi-end hi-fi to achieve the most outstanding results. Without them, the main driver for quality would probably be removed from the music industry.



Specialist Dealers

Specialist hi-fi retailers also come into this category because it's their interest that has driven them into their particular business. These specialist retailers also perform another very important function because, without them, hi-fi manufacturers would have to rely on the internet and hi-fi magazine reviewers to try and assess the relative merits of different brands for potential customers – a notoriously unreliable decision making process. Specialist hi-fi retailers are constantly being offered new products for assessment and potential stocking and, as it is also their hobby as well as their livelihood, they are greatly interested in achieving the best performance and seeking out the most outstanding combinations. More than that though is their relationship with audiophiles and hi-fi connoisseurs for, if they are to stay in business, they must satisfy the most discerning customers in the industry. The reality is that audiophiles and specialist hi-fi retailers (and the ones listed on this page represent the UK's finest) are essential to each other.

Specialist dealers know how to choose the products that combine as a superb

system and how to get the best out of it by expert installation in the home. They also appreciate how exciting and involving music can be and how it can deliver a powerful emotional experience. If there's a price premium over an internet purchase by choosing a specialist dealer, it's probably a small one, but it's unquestionably worth the difference.

Listed below is our selection of **THE BEST HI-FI DEALERS IN THE UK.**

They have been chosen because they are known to do an excellent job in guiding customers towards hi-fi that will give years of musical enjoyment and total satisfaction.

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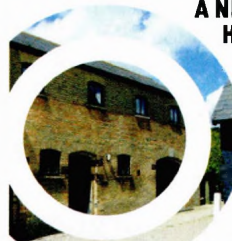
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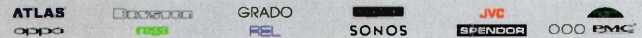


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WE HEAR...

IT WON'T HAVE ESCAPED REGULAR READERS' NOTICE THAT THIS MAGAZINE IS A BIG FAN OF AUDIOLAB. The current range has generally done very well in *Hi-Fi Choice* group tests and standalone reviews, and the M-DAC won our product of the year Award last year too. Well, building on this, *Backchat* hears that the company has a new Q-DAC coming this summer, said to give "85 percent of the performance at 50 percent of the price" of the M-DAC. That should bring a few grimaces to the faces of rival DAC manufacturers, then!

Going back to the M-DAC, there's a partnering power amplifier coming – using the same form factor as the M-DAC – called the M-Power. Whereas the M-DAC and Q-DAC are from the pen of digital boffin John Westlake, the M-Power is an in-house Audiolab design using a Class AB transistor output stage. Apparently the company thinks Class D "isn't quite there yet". Also just around the corner is a bespoke power supply for the M-DAC from John Westlake, likely to be released under his LakeWest electronics brand rather than an Audiolab branded box. If it's anywhere near as good as the MCRUs PSU we review in this issue, it should be a corker. Watch this space, as ever...

HAVE YOU EVER HEARD A QUAD CURRENT DUMPING POWER AMPLIFIER? The original 405 – which was where the technology made its debut back in 1978 – won all sorts of gongs for its clever design back in the day, and since then subsequent iterations of the power amp – the 606 and 909 – have continued to impress with a very clean, open and engaging sound. They've also proved a popular choice with tweaky types, whose idea of a fun night in is replacing the capacitors with fancy Japanese ones! We now hear there's a monoblock power amp coming in the shape of the new QMP, out May.

THROUGH THE PAST, SMARTLY...



HI-FI CHOICE ISSUE 239
MARCH 2003

A group test of four desirable turntables proved that vinyl had no intention of going away even during a time when the Compact Disc was still considered the big cheese. Reviewer Jason Kennedy opined that "vinyl has carved out a surprisingly buoyant niche and not just among the DJ fraternity". What was most apparent by the brands on display in the test was that CD had forced the turntable manufacturers to up their game to compete. The Best Buy accolade fell to the Michell GyroDec SE at just over a grand. "Reveling in tonal colour while presenting the dynamic energy and range of each recording with considerable accuracy", efused JK, who then added, "the sort of deck that's guaranteed to turn its owners in vinyl junkies!" Stereo amps filled the rest of this month's pages, an essential component for a well-loved turntable. Things were a bit more turbulent in the world at large with US President George W Bush giving Saddam Hussein and his sons just 48 hours to get out of Dodge... sorry, Iraq. The warning fell on deaf ears and troops from the United States, Britain, Australia and Poland launched the first offensive...



HI-FI CHOICE ISSUE 68
MARCH 1989

Vinyl was also alive and well in the very expensive Bang & Olufsen set up of Lord and Lady Ashcombe, whose fancy family castle was the destination of reviewer Dan Houston in the custom install feature. Set in the ornate surroundings of the billiard room, the B&O 5000 'all-singing, all-dancing' system was able to rock the ramparts and rattle the portcullis!

Philips' headquarters in Eindhoven however, was a very different destination for Paul Messenger when he toured the Dutch factory for the latest on the future of digital amplification. Finally, there was around-up of loudspeakers, the choosing of which, opined the listening panel, is as personal as buying a pair of shoes. Mind you, if the sound from your loudspeakers was beginning to sound as muddy as the coating found on a good pair of trainers after a run in bad weather, then it might just be the fault of the famously reported geomagnetic storm that bombarded the Earth with charged particles during March 1989. We don't know about your standmounting loudspeakers, but it certainly knocked the hell out of Canada's Hydro-Quebec electricity transmission system!

In the past couple of years, a quiet revolution has been taking place in Cambridge, as ARCAM

has slowly reinvented itself. The company was king of high quality, sensibly-priced separates for many years, but suddenly started making all sorts of affordable gadgets that better reflect the way audiophiles do their listening today. The fine sounding rDAC digital convertor was the first, and now there's the airDAC, an Airplay-enabled version of the same, letting you network any audio system to an Apple Airplay-enabled music source.

It also features a secondary digital audio input and Wi-Fi compatibility, plus a hard wired Ethernet connector. It comes in an elegant cast aluminium enclosure that reduces microphony effects and has a non-slip rubber base. The DAC works at 44.1, 48, 88.2 and 96kHz sampling frequencies, at 16 or 24-bit resolution. Vital statistics are 140x100x40mm and 700g. It will be out in April, costing around £400. For details see www.arcam.co.uk.



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DESERT ISLAND DISCS

This month, hi-fi writer **James Michael Hughes** chooses four of his favourite albums...



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