EXCLUSIVE!

TANNOY CHEVIOT

loudspeakers

5 WINNERS TO WIN A GORDING E3 CARTRIDGE WORTH £99.95!
(UK ONLY)

AUDiolab M-DAC MINI
dac

Oppo uDP-205
universal player

ACOUSTIC ENERGY AE100
loudspeakers

PRO-JECT PRE BOX, DIGITAL AND AMP BOX DS2

QUESTYLE QP2R HI-RES MUSIC PLAYER

PIEGA CLASSIC 7 LOUDSPEAKERS

FIIO F5/F9 IN-EAR PHONES

8 PAGES OF LETTERS - THE BEST WINS A PAIR OF QUADRAL ARGENTUM 520 LOUDSPEAKERS! (UK ONLY)
“If you have a good system and want to give it a boost these may just be the most cost-effective way to do that”

Chord Shawline Range
Hi-Fi World October 2016

“The Shawlines are really top-class interconnects... Give them an audition and hear for yourself”

OUR VERDICT

Chord Shawline Analogue
Hi-Fi Choice July 2016

Connect with us

Designed and hand built in England by music lovers since 1985. Enjoyed by music lovers all over the world.

The Chord Company Ltd, Millsway Centre, Amesbury SP4 7RX, UK

To get more information and find your nearest retailer, please call us on:
+44 (0) 1980 625700 or visit:
www.chord.co.uk
complexity breeds bewilderment – and it shows as digital gets ever more complicated. Audio seems to be creeping toward AV where, these days, an AV receiver comes with arrays of proprietary technologies on-board, most of them pretty superfluous, like Hall mode where echo is added. Once a few technology logos from Dolby or DTS were acceptable, now you'll see lines of such logos.

Manufacturers in the audio sector are slowly taking on-board proprietary technologies such as apTX and DSD, a variant of FDM that is registered to Sony You'll see plenty of talk in our Letters this month about this technological creep. Some manufacturers tackle it head on though and Pro-ject's Pre Box Digital DS2 and its matching Class D Power Box DS2, reviewed on p14 by Martin Pipe, is a fine example of a compact, room friendly design that just about does it all when it comes to music replay.

Do you want to use a Class D 'digital' amplifier? Well, if you insist on large amounts of power meaning at least 100 Watts, in a compact case that runs cool, there's little else. Hypex Class D modules give great measured results nowadays and a sound that is squarely clean none of the 'broken glass' treble Class D was once infamous for. So don't be put off by the reputation of Class D – things have changed! That’s why Power Box DS2 is unusual in making simple what is inside very complex.

Whilst the world moves ahead technologically, some look back at old values and attempt to re-create them. Morgan do it in cars, Royal Enfield and Triumph in motorcycles and Tannoy in loudspeakers. Few manufacturers these days use big 12in drive units, where once it was the mark of a serious loudspeaker Tannoy move inexorably ahead with yet another model equipped with their massive 12in Dual Concentric drive unit. Read all about what old-tech (updated!) offers on p10 in this issue.

As hi-fi gets more and more complex we try to make it easier to understand and more enjoyable to use. I hope you like what we bring you in our great November issue of Hi-Fi World.

Noel Keywood
Editor

**testing**  (see [www.hi-fiworld.co.uk](http://www.hi-fiworld.co.uk) for full explanations of all our tests)

To ensure the upmost accuracy in our product reviews Hi-Fi World has extremely comprehensive in-house test facilities and our test equipment – from big names like Rohde & Schwarz and Hewlett Packard - is amongst the most advanced in the world.

Loudspeakers are measured using a calibrated Bruel & Kjaer microphone feeding a Cine based computer analyser, using pulsed and gated sinewaves; a large room to eliminate the room's influence. Pickup arm vibration is measured with a Bruel & Kjaer accelerometer

No other UK hi-fi magazine has in-house testing and none has access to such advanced tests across all types of equipment. That's why you can depend on Hi-Fi World reviews.

---

**verdicts**

<table>
<thead>
<tr>
<th>OUTSTANDING</th>
<th>EXCELLENT</th>
<th>GOOD</th>
<th>MEDIocre</th>
<th>POOR</th>
<th>£</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

amongst the best
everything capable
worth auditioning
unremarkable
flawed
keenly priced

---

**ELECTRONIC MAGAZINE**

Go to our website [www.hi-fiworld.co.uk](http://www.hi-fiworld.co.uk) to buy an electronic version of this magazine, individual issues, back issues or a subscription.
LOUDSPEAKERS
TANNOY CHEVIOT LOUDSPEAKERS 10
Small Tannoyes with a big sound, Noel Keywood finds.

ACOUSTIC ENERGY AE100 LOUDSPEAKERS 41
Just £200 but a great loudspeaker says Jon Myles.

PIEGA CLASSIC 7 LOUDSPEAKERS 80
Jon Myles checks out Swiss precision in audio.

DIGITAL
OPPO UDP-205 UNIVERSAL PLAYER 50
A new silver disc player from Oppo gets Jon Myles attention.

QUESTYLE OP2R HI-RES PLAYER 23
Portable expert Jon Myles looks at a new hi-end model.

AMPLIFICATION
AUDIOLAB M-DAC MINI 37
Audiolab shrink M-DAC – and Noel Keywood is impressed.

PRO-JECT PRE BOX DIGITAL/AMP BOX 14
Martin Pipe looks at the wide ability of Pro-ject’s new electronics.
CABLES
21 CHORD SARUM T LOUDSPEAKER CABLE
Chord use a new dielectric to lift sound, Jon Myres says.

FEATURES
84 BBC DRT-2 TURNTABLE
Dave Tutt revives a BBC 78 spinner from the past.

OLDE WORLDE
59 SONY ST-80F TUNER
Martin Pipe dissects a classic VHF/FM tuner from Sony.

VINYL
82 NEWS
All the latest and greatest vinyl releases for you, from the pen of Paul Rigby.

HEADPHONES
18 Fiio F5/F9 IN-EAR HEADPHONES
Affordable but high quality in-ears, says Jon Myles.

REGULARS
7 NEWS
Words from the world...

28 MAIL
Seven pages of your views, wonderful as always...

44 WORLD STANDARDS
Updated guide to the latest and greatest hi-fi hardware on sale.

54 SUBSCRIPTIONS
Ensure your copy every month and save money too!

57 COMPETITION
A chance for five entrants to win a Goldring E3 cartridge worth £99.95.

62 AUDIOPHILE VINYL
Paul Rigby rounds up the latest audiophile vinyl releases.

65,67,69,71,73 OPINION
The team get to grips with matters music, hi-fi and life!

74 WORLD CLASSICS
Brilliant designs that have stood the test of time...

88 DIAL-A-DEALER
A comprehensive guide to UK hi-fi retailers.

95 CLASSIFIEDS
This months second hand bargains.

96 NEXT MONTH
What we hope to bring you in the next sizzling issue...

97 ADVERTISERS INDEX

98 CLASSIC CUTS
The Sisters By Mercy - Some Girls Wander by Mistake.
Experience a New Dimension in Sound

The Model 15 could be described as "the ultimate in recovery vehicles", allowing the cartridge to retrieve the last nth of recorded material whether digital or analogue, from the vinyl disc and thus approaches the ultimate in perfection.

Receiving its inspiration from the superb Model 10 precision turntable the Model 15 seeks to emulate the excellence of our Models 20/3 & 30/2 turntable whilst retaining the more compact footprint preferred by many of our enthusiasts.

The Model 15 has been designed with the same attention to detail combined with simplicity of operation that has come to be expected from all SME products. Its superb performance together with laid back styling make it a glamorous addition to your sound system that will astound and amaze listeners for many years to come.
ONKYO ASSIST
Could this be the cleverest hi-fi loudspeaker yet?
Japanese consumer products giant Onkyo has unveiled the Smart Speaker G3 – bringing together the convenience of Google Assistant together with Chromecast multi-room streaming and claimed high-fidelity sound.

So the little box can answer questions, provide weather and traffic updates, read out recipes, set reminders, provide travel information, and enable online shopping just by voice.

You can also request music for playback from streaming services – say “OK, Google” and ask for a song. Operations such as volume control and song selection can be performed by voice too.

Inside is a device to eliminate standing waves, a custom-made woofer and soft dome tweeter, plus a Class D amplifier.

It should be available soon – prices to follow. So forget remote controls – the future’s your voice.
Log-on to www.uk.onkyo.com for more information.

BIG MACS
Legendary American manufacturer McIntosh has unveiled two new amplifiers – featuring both digital and analogue inputs plus a phonostage.

The MA7200 offers a healthy 200 Watts per channel with eight analogue connections – five unbalanced, one balanced – plus moving magnet and moving coil inputs. The digital inputs are housed in McIntosh’s upgradable D/AI module which can be replaced with upgraded versions in future if needed. The USB input accepts PCM signals up to 32bit/384kHz and DSD256 plus DXD384kHz. Price is £9500.

The MAC7200 builds upon the MA7200 by adding a built-in AM/FM tuner with 20 presets. Both come in the iconic McIntosh style with big, blue power meters and a green glowing logo. For more information visit McIntosh’s UK distributor’s website at www.jordano-acoustics.com.

T+A CALA
The trend towards all-in-one systems continues with Germany’s T+A, the latest company to announce new models – Cala SR and Cala CDR.

The former features a 55 Watts per channel amplifier (into 4 Ohms), internet radio, built-in support for Deezer, Qobuz and Tidal, Bluetooth for connecting to mobile devices as well as USB connection and UPnP for accessing music stored on home networks. There are also optical and co-axial digital inputs as well as a phonostage capable of handling both MM and MC cartridges.

The Cala CDR has the same functions but adds a CD transport and while upping the power to 100 Watts per channel (into 4 Ohms).

Both units are crafted from aluminium and their design features an LED strip light to create an ambient white, blue, green or red glow on the underside of the chassis. The light intensity and colour can be chosen by the user or turned off completely.

The Cala SR is priced at £2313 with the Cala CDR at £3242. For more information contact T+A’s UK distributor Kog Audio on 044 6074 7777 or log-on to www.kogaudio.com.
BBC INTERACTIVE
Ever wanted to get on BBC radio? Well soon you’ll be able to – sort of.

The corporation’s R&D department together with specialist audio technology agency Rosina Sound have created an interactive comedy/science fiction drama entitled The Inspection Chamber, enabling listeners to play an active part in the plot via their own voice.

It will be available on the BBC’s Taster platform later this year for people with smart speakers utilising Amazon’s or Google’s voice assistant software.

For more go to www.bbc.co.uk/radio/2017-09-voice-ui-inspection-chamber-audio-drama

iFi WORLD
British audio brand iFi has launched what it calls the ultimate noise-busting, sound-enhancing device for USB-connected computer audio systems.

The iGalvanic3.0 is aimed at banishing electrical noise and digital jitter from a computer’s USB output for increased sound quality.

Simply connect the iGalvanic3.0 between the computer acting as the source device and the USB-equipped amplifier or DAC.

It’s available now priced at £349. Go to www.ifi-audio.com for more details.

PIONEER A/V
Pioneer has announced the snappily-titled SC-LX502 - a 7.2-channel A/V receiver optimised for Dolby Atmos and DTS:X.

In addition to native Dolby Atmos and DTS:X object-based audio, Dolby Surround and DTS Neural:X allows standard multi-channel audio on DVD, Blu-ray Disc, and video streaming services via media players to be up-mixed for playback through a speaker configuration including height channels.

The SC-LX502 features Pioneer’s Direct Energy HD Amplification to deliver high power through all channels simultaneously. Spotify, Deezer, TuneIn, and Tidal support is built-in together with Apple AirPlay and Bluetooth. Price to be announced. More details at www.pioneer-audiovisual.eu

SOUND QUALITY IS KING
Sound quality is still key for most people when choosing a pair of wireless headphones, according to a new survey.

Some 78% of buyers ranked it as the priority when making their buying decision, according to a poll by Qualcomm – the people behind the aptX wireless Bluetooth codec.

The company questioned 4000 smartphone users in the UK and US – with some 53% saying they are considering buying a pair of wireless headphones.

MQA GAINS GROUND
Pioneer and Onkyo have announced a new firmware update for the award winning Pioneer XDP-30R and Onkyo DP-S1 Digital Audio Players that enables them to process downloaded MQA music.

MQA (Master Quality Authenticated) is the new high-resolution audio codec developed by Meridian Audio that delivers the inherent quality of master studio recordings but in file sizes that are a fraction of that taken up by traditional hi-res formats.

The enabling of MQA playback delivers on a promise that was made at the launch of the players earlier this year.

The update can be applied wirelessly or via a microSD card.
WILSON AUDIO WAMM!
They're big, very big. And they're expensive. Meet Wilson Audio's new WAMM Master Chronosonic loudspeakers – then whip out your credit card if you happen to have a spending limit of over £700,000.
It stands just over seven feet tall and features no less than eight drive units that can be adjusted in relation to each other to achieve perfect time alignment.
The high-end American company is limiting production to just 70 units – which is probably a wise move considering the price!

PREMIUM TECHNICS
Vinyl lovers – feast your eyes. Coming next year Technics describes this as the most premium turntable it has ever built. The direct-drive Reference Class SP-10R features a hefty 7kg brass, rubber and aluminium platter, plus an ultra-low noise power supply separated from the platter to reduce vibration. Technics says it also plans to market a complete turntable system based on the SP-10R with a tonearm and other components.
No word on pricing yet but don't expect it to be cheap!

SOUNDGYM
Ever fancied testing your hearing? Ear training website SoundGym is the place to go and the site now has a new, fun way to test stereo perception.
It's a Space Invaders-style video game – only the alien critters are invisible and have to be located by the sound they make. The idea is to locate them in the stereo soundfield so you can shoot them down, save the earth and find out just how acute your hearing is.
As an added bonus, anyone who zaps 25 aliens is entered into a competition to win a pair of Adam ASX studio monitors.
Even if you don’t win there’s plenty of other useful tools on the site to improve hearing. Log on to www.soundgym.cc.

LINN KATALYST
Linn has updated its high-end Akudorik and Akubanik loudspeakers with its fourth generation DAC technology.
Given the Scottish company’s predilection with the letter K you won’t be surprised to hear the new module is called Katalyst.
It includes multiple power supplies, a new master clock and low-distortion driver output.
Existing users of the loudspeakers can upgrade while new models of the loudspeakers will come bundled with the new DAC. For upgrade prices contact your local Linn dealer or find out more at www.linn.co.uk.

IPHONE FLAC
It looks like FLAC is coming to the iPhone. The specifications for the new iPhone 8 and X models mention the lossless compressed file format as supported under the audio settings section.
The fact that the support now also appears with the iPhone 7’s specification sheet suggests it’s a software update coming with the release of iOS 11. We’ll update you soon but in the meantime go to www.apple.com to see for yourself.
Way back in hi-fi’s heyday – the 1970s – serious loudspeakers came with a big 12in bass unit and commensurately big bass: think Leak 2060, Goodmans Magnum K, Wharfedale Glendale et al. They sounded pretty funky but the wide cabinets didn’t look it – now they are a lost breed. Or are they?

Not quite! Tannoy recently introduced a new Cheviot model – for all those listeners who today want big bass and a relaxed sound. It houses Tannoy’s massive 12in Dual Concentric drive unit in a cabinet of modest proportions.

The Cheviot is trad. and has a unique sound – one that brought a smile to my face immediately. Yes, here’s a big banger in a small cabinet with a price tag of £5200.

Although it may not appear so, a lot has happened in loudspeakers since the 1970s, making my opening comparison a bit outdated. We now have computers to optimise cabinet size and behaviour, and materials have improved, all of which raise the Cheviot well above what has gone before.

You get the gist I hope: here’s a loudspeaker that throws the modern design straightjacket out of the window in favour of an approach that has been abandoned mainly for cosmetic reasons. So I could hinge this review around the Cheviot’s
appearance: if you can accept a 45cm (17.6in) wide cabinet in your home then here you have access to a sound that is quite a lot different to all else. In a show room you’ll hear the difference alright.

OK, the Cheviot is a little wider than most other loudspeakers, but it isn’t visually intrusive. Standing just 86cms (34in) high it is lower than a typical I metre high floor stander, and shallow depth of 26cms (10.2in) means you can barely stand a vase on top – or whatever it is that often seems to end up on top of loudspeakers in real homes; I found the wide but low top face handy for LP covers and inner sleeves.

Although the Cheviot isn’t frighteningly large, it is much heavier than we anticipated. Weighing 29kgs (64lbs) it isn’t a single-person lift – and stands rock steady on four adjustable feet. The cabinet is made from 3/4in MDF with internal bracing, covered in a natural Walnut veneer – you even get a tin of polish.

Drive unit and ports are covered by a removable acoustically transparent nylon grille, whilst a heavy engraved brass adjustment panel that sits below has a similar but smaller grille. Leaving it off gives a view that is more ornate and intriguing than the bland face of most loudspeakers.

The adjustment plate allows treble level ('Energy') to be raised or lowered by 1.5dB or 3dB. High treble can also be raised by +2dB or rolled off by -2, -4 or -6dB. In the Level position measurement showed treble rolls down gently over the upper audio band, giving a fairly laid back presentation listening confirmed. This is not a bright sounding loudspeaker when set Level.

The adjustments are fairly subtle, but sufficient to bring the Cheviots to a flat frequency response with Energy set at +3dB – more in Sound Quality. The chunky adjustment thumbscrews are designed to withstand use over time, in a way modern connectors do not.

The rear carries a large connection panel with insulated gold plated biwire screw terminals that accept bare wires, spades or 4mm plugs. Tannoy supply wire links so single (mono wire) speaker cables can be used. There is also an earth terminal that bonds the drive unit frames back to ground to lessen the impact of RF interference. If shielded loudspeaker cables are used this terminal can be taken to the shield.

Tannoy’s computers must have worked out that their big 12in Dual Concentric drive unit didn’t necessarily need a big cabinet, or they tweaked its parameters to suit a small cabinet. Whatever, this drive unit is the best in Tannoy’s Dual-Concentric range I feel: it has more bass slam than their 10in Dual, and less colour than their 15in Dual. Twelve inches then is still a magic number when it comes to driver size.

On a small, obscure but important technical point, our measurements clearly show a 12in bass cone delivers less distortion than a modern 8in bass cone: think 1% against 3% – quite a big difference. This may well be why big 12s sound relaxed and why loudspeakers of yore sounded so good in this respect. Today’s loudspeakers have lost this quality.

Tannoy’s unique Dual-Concentric drive unit comprises two drivers: our pictures show a brass tube at the centre of the big bass cone – and that is in fact the mouth of a horn tweeter. A dome tweeter acoustically loaded by a horn fires high frequencies out through the centre of the bass/midrange unit, so all sounds come from the same point, where on most multi-way loudspeakers they come from different points. This gives strong image focus; the sound is always the same when you move your head, or move about a room, where most loudspeakers it changes all the time as you move. Horns also direct sound straight at the listener, making them technologically efficient and sonically punchy. Tannoy’s treble horn works over a wide range so it contributes strongly to the loudspeaker’s sound. The Cheviot is really built around this large, complex and expensive device unit. It has massive radiating area and port area has to be big too, hence the twin forward firing ports.

With Tannoy, best to think ‘fun’ first and academic perfection as secondary. I’m not trying to be wryly critical here, because Tannoy put considerable effort into the design of their loudspeakers and they are well developed and accurate as a result, but by the nature of its design and construction the Cheviot is going to have a sound quite unlike other loudspeakers in a showroom.

SOUND QUALITY

Being massively sensitive, just about any amplifier can drive the Cheviots; they’ll go loud from 10 Watts – and 50 Watts is about all necessary, assuming you don’t have close neighbours. The reason here being massive volume comes easily – there’s no strain at unsociable levels.

To drive them I used our in-house McIntosh MC152.

Our rear view makes plain the Cheviot is not a tall slim box in the modern design mould. It is, however, slim back-to-front.

Sturdy, gold plated, bi-wire terminals are fitted, together with an earth terminal – hence five connectors.
Tellurium Q

10 products of the year and most wanted components in just 2 years by preserving relative phase relationships in a signal

Introducing our new Black II Speaker Cable

"Tellurium Q have surpassed themselves here. It is often said that all cables colour the sound of a system to some extent, but the Silver Diamonds do it to a lesser extent than any other product I’ve heard so far."

John Myles, HiFi World

"If you’re looking for a major jump in your system’s performance, I’d suggest buying a pair of these instead of considering a hardware upgrade. Before you write this advice off to cable delusion, expectation bias, or the recent Mercury retrograde phase, please take note: I have never said this in TONE’s 11-year history"

Jeff Dorgay, Tone Audio

"Well, I have just stumbled upon a speaker cable that I’m very tempted to put in a class of its own."

Mono & Stereo

facebook.com/telluriumq  telluriumq.com  +44 (0)1458 251 997
unit. But not a bit of it! From the off, the Cheviots were pure Tannoy: big bodied and grippingly dynamic. Introductory meanderings on a National Steel guitar were fired at me by the horn tweeter and Hans Theessink’s gravelly voice hung big and bold centre stage, singing Mississippi. In true Tannoy fashion the Cheviot managed big dynamic contrasts, steel guitar strings cutting out strongly and sharply from a dark background. Hans Theessink sourced convincingly large and strong in his delivery; there was a great sense of body to the sound. A grumbling trombone interjected beside him whilst echoes from rim shots whistled out left and right across the sound stage.

And this is how the Cheviots continued, no matter what I played, coming over as massively strong and forceful with Rock. Tannoy’s are known as great Rock loudspeakers and the Cheviots stepped right up to enforce this view.

At low levels we agreed that the bungs could be left out, giving obvious and quite well defined bass. However, turning volume up with bass heavy tracks like Lady GaGa’s Bad Romance then made bass a tad excessive, as well as revealing obvious box boof, caused by energy within the shallow cabinet exiting through the big cone. Inserting one bung in each cabinet helped suppress this. Both bungs would be needed in rooms with more bass than ours (which is subjectively amodal due to its size).

With the adjustment screws at Level I felt the ‘speakers lacked bite; they were a tad too laid back for my tastes. After experimenting with various Energy and Roll Off settings I chose to run the Energy at +3dB and Roll Off at Level. This gives flat frequency response, measurement showed.

Classical was handled with aplomb; large orchestras like the LSO playing The Planets bringing a big, thunderous presence to Mars. Bringer of War; kettle drums shock our room convincingly when I turned volume up. The horn tweeter is fast and projective but has a slightly hard quality to it; all the same I enjoyed! Nigel Kennedy playing Vivaldi’s Spring Energy went down a notch to +1.5dB here as slight amelioration, and the Cheviots gave an impressively dense and detailed sound, putting Nigel up in big solid form before me, his own energy made.

**Excitingly obvious!**

On excitement, all Tannos can construct the full scale and imposing dynamics of an open grand piano and the Cheviots were no exception. The precise but perfect key strokes of Arcand Volodos, playing Liszt’s Valee d’Oberman had vivid dynamic impact that emphasised his perfect modulation. The scale of his Steinway Grand was conveyed by the wonderfully rich sound of its body and the decays of the strings.

With the looser bass of LP I preferred to use both bungs in place to keep the lower end sounding tight. This is contrary to many loudspeakers where LP bass acco to the picture. Otherwise, digital in the form of CD and hi-res, and LP, were handled equally well by these ‘speakers.

The Cheviots are largely colour free, ignoring that box boof I have talked about. What I heard was an amalgam of big, easy and well damped paper cone bass/lower midrange lazily powerful plus a hard projective midband that rolled at my ears.

**MEASURED PERFORMANCE**

Our analysis of frequency response shows the Cheviot has pronounced lift in output from 200Hz down to 60Hz, with low bass being raised a significant +6dB above the midband – enough to give very obvious bass under all conditions. This is rather more accentuation than other Tannos, that are generally closer to flat. The effect can be tamed to produce an almost flat response, however, by inserting the supplied foam.

**FREQUENCY RESPONSE**

- Green - driver output
- Red - port output

**MEASUREMENTS**

- Sensitivity measured a whopping 91.5dB from one nominal Watt of input (2.8V) and since impedance measured a very high 11 Ohms overall, in reality the Cheviot was drawing 0.7 Watts. So it runs massively loud from just a few Watts and amplifiers have a very easy time driving them.

**Conclusion**

The Cheviot is a Tannoy for the smaller home. It can be tweaked to suit with foam bungs that affect bass quite strongly and extensive treble adjustment too. The big 12in Dual Concentric drive unit gives an equivalently big, relaxed sound with muscular dynamics – in typical Tannoy style. If you want to be blown away by an exciting sound, listen to the Cheviot. It retrieves old values and combines them with today’s technologies to yield a loudspeaker cute unlike any other. I found them viscerally exciting.
New Pro-ject

Martin Pipe discovers that, when it comes to Pro-Ject’s new Box Design DS2 components, small is still beautiful.

The turntable stalwarts Pro-Ject recently gave their mid-range DS series of electronic products a major revamp – and, judging by what’s on offer, the exercise was worthwhile. The new DS2 line of components comprise mono and stereo Class-D power amps, solid-state and tubed analogue pre-amps, an upsampling DAC, a versatile digital pre-amp with added analogue flexibility, a CD transport, a MC/MM phono stage with digital as well as analogue outputs and an analogue headphone amp with balanced output provision.

In this article, I will examine two of them – the digital preamp – the £785 Pre Box DS2 Digital – and the stereo power amplifier – the £520 Amp Box DS2 Stereo. As with what went before, these new goodies are mid-sized. Cutting-edge technology allows Pro-Ject to physically scale-down high-grade audio gear into unobtrusive packages with no sonic or functional compromise. Tiny surface-mounted components (among them complex digital ICs) on carefully-designed multi-layer circuit boards help to achieve this goal, together with efficient PWM amp modules and external power supplies that can be tucked away out of sight. Audiophile-grade parts (resistors, capacitors and op-amps) are used where they’ll provide the greatest benefit, notably in the analogue signal sections.

Let’s start with the preamp. The Pre Box DS2 Digital does an awful lot for such a tiny box. Asynchronous USB with DSD (up to DSD256) and hi-res PCM (up to 32-bit/768kHz) support – you got it. Bluetooth wireless linking with apt-X? Yup! Three sound modes offer, amongst other things, upsampling and conversion of PCM to DSD. You’d better believe it! Five digital filters, courtesy of AKM’s ‘premium’ AK4490 hi-res PCM/DSD DAC chip.

Here they are – and while we’re at it, I would be shirking my duties not to mention the two optical inputs, the coaxial input and the optical output! And that’s just the digital side. My only criticism is that although the neat brushed-aluminium front panel sports blue LEDs to show you which inputs and filter/sound modes are selected, you have no way of confirming the makeup of the incoming digital signal for troubleshooting purposes. When using USB, though, relays can be heard to click when changing from a PCM track to a DSD one or vice-versa.

And so to analogue. This new Pre Box contains a decent phono stage with MC/MM compatibility (and switchable subsonic filter), a line-level input and a brace of (unbalanced) phono outputs - subwoofer (mono), fixed (stereo) and variable (stereo, with switchable 6dB boost i.e. a doubling of signal level). Control of volume is in the analogue domain.
with an ALPS pot that’s motorised, paving the way for remote-control of sound level - as well as muting, source-selection and Bluetooth pairing. Add to this the headphone amplifier for personal listening, and the 12-volt triggers that can switch on the matching power amplifier, and it should be evident that Pro-Ject have crammed into the Pre Box’s modest (and wooden end-capped) frame more than some full-sized components are capable of.

There are no balanced outputs, but to be honest there’s just not enough space on the rear panel. But then again the inputs of the matching DS2 Amp Box, which is powered by a +/-48V, 2.5A power ‘brick’ not much smaller (or for that matter lighter), are only of the phono variety. They share panel space with ‘loopthrough’ line outputs, two pairs of enormous gold-plated speaker terminals (bare wire or 4mm banana plugs) and a trigger port that allows it to be automatically switched into or out of standby by the Pre Box (the necessary 2.5mm-to-2.5mm cable isn’t included, though). The Class D amp boards inside this veritable pocket Hercules are claimed to deliver 100W into eight ohms, or 140W into four. That should be more than enough to effortlessly reproduce the width of dynamic swings in most UK living rooms.

**SOUND QUALITY**

Thanks to its versatility, there’s not much you cannot plug into this Pre Box/Power Box combo. My digital sources consisted of a Samsung smartphone (via Bluetooth), Windows 7 PC and Cambridge CXN streamer. Content consisted of FLAC (CD-derived and hi-res) and DSD tracks held on both NAS and local storage.

For analogue, I turned to a Rega Planar 3 turntable, fitted with RB300 arm and Bias MM cartridge; transducers included Quadral Aurum Wotan VIII loudspeakers and Focal Utopia headphones. With the ‘Rio Remix’ of Depeche Mode’s Shout, the B-side of their early 12in New Life single – a personal favourite - the sequenced electronic drums drove along nicely, providing a correctly-proportioned percussive backdrop for the moody synths and vocal.

This propulsive rhythmic drive was also evident in another 12in Mute single – Nitzer Ebb’s Join In The Chant. Yes, this combo is happy with electronic and dance music - in all but one regard. If you’re looking for plenty of bass, you’re probably best advised to look elsewhere. What you get is tuneful and tightly-controlled - evidence: the drumming towards the end of Love My Way and the bass-guitar of Sleep Comes Down, both tracks on the Psychedelic Furs’ Forever Now LP - but it’s not in the expected amounts. Personally, though, I prefer quality over quantity - and it was easy to follow the artificately-reproduced Moog bass of Boogie Down, as On Reggae Woman, from Stevie Wonder Fulfillingness’ First Finale. The subsonic filter worked well, with little or no significant audible effect but that sound. Clean, detailed and fast, but a little lacking in low-end slam. Measurement shows slight roll off in both Pre Box and Amp Box DS2 that together likely cause this. The power amp’s innards are Hypex Class-D modules similar to the ones that live inside NAD’s C368. In the Amp Box DS2, though, they’re 180 Watt UcDI80s and employ interface circuitry of project’s design. Those power ratings, by the way, depend on the DC supplies they’re working from. I found that bass slam was restored after substituting an Arcam A49 (fed via a line input) for the Pro-Ject amplification. Comparing a £300-oold power amp with an integrated that sells for £3,500 is hardly fair: the Amp Box DS2 Stereo nevertheless does a good job where it counts - musical delivery. Funnily enough, bass output was fine with the Utregis; headphone listening also impressed when it came to clarity. Disappointingly, though, plugging cans into the pre-amp doesn’t automatically-mute the signal going to the power amp.

Next, digital - beginning with USB. Windows users need to install the ‘Uni Project’ driver, which is supplied on CD-ROM. You then need to configure your player software (usually something like Foobar2000 - as used here - or JRiver Media Center) so that DSD streams can pass unmolested to the Pre Box. The supplied instructions are virtually useless, but I have plenty of experience configuring Foobar2000. DSD files sounded great; musical detail was finely etched, and an analogue warmth and sense of space
Great headphones deserve a great amplifier

Questyle’s award winning and patented ‘Current Mode Amplification’ is common throughout their range.

The Golden Series stack represents the pinnacle of fully balanced headphone listening.

Now, with the CMA400i DAC and amplifier, experience exceptional audio quality at a very affordable price.

And with the new QP2R DAP on the move too!
MEASURED PERFORMANCE

The Pre Box DS2 acting as a digital-to-analogue converter (DAC) gave a respectable 111dB dynamic range (24bit) – good but 117dB is common and 125dB the best, a subtle reduction of subjective contrast being the usual result. Distortion (24bit) was low 0.06% and frequency response at widest (Filter 1) measured 15Hz to 43kHz (192kHz sample rate) within ±1dB limits, about normal for hi-res digital. Filter 3 gave a useful alternative roll off for a softer sound. Unfortunately, with CD only Filter 1 & 2 options were available and made no difference to response.

As an analogue preamplifier it offers either 0dB gain that actually measured a small -1dB loss, or +6dB gain selectable on a rear slide switch. Frequency response was very wide at 3Hz-100kHz at mid volume position, altering little at max and min. Distortion and noise were low and max output adequately high at 5.8V. The headphone amplifier gave 7V output maximum and had a gain of x3 from the Line inputs. Flat response low distortion and noise were plus points. Both MM and MC phono stages measured very well, although MC has low gain (x44) unless the -6dB gain switch is used (x922). MM was normal enough at x6 gain. Equalisation was superbly accurate and the Subsonic filter very effective, not affecting audible bass whilst imposing massive attenuation of warps.

The Amp Box DS2 produced 112Watts into 8 Ohms and 200 Watts into 4 Ohms so is massively powerful for its size. Better still, distortion was very low even at high frequencies, at all power outputs, frequencies and load values, returning 0.06% at 10kHz, 1 V, 4 Ohms and worst case 0.1% at 10kHz, full power. Frequency response was satisfactorily wide at 20Hz - 25kHz (1dB) and did not change with load value, but there is low bass roll off our analysis shows.

The Pre Box DS2 offers a superb phono stage and good, if unexceptional, digital input. The Filters and Mode options were ineffective and will have little audible impact, but this apart all worked very well. The Power Box DS2 measured well in all areas.

<table>
<thead>
<tr>
<th>Output</th>
<th>2V</th>
<th>AMP BOX DS2</th>
<th>Power (8 Ohms)</th>
<th>112W</th>
<th>Frequency response (-1dB)</th>
<th>20Hz-25kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distortion (10kHz, 1W, 4 Ohms)</td>
<td>0.06%</td>
<td>2V</td>
<td>AMP BOX DS2</td>
<td>112W</td>
<td>20Hz-25kHz</td>
<td></td>
</tr>
</tbody>
</table>

FREQUENCY RESPONSE

DIGITAL ANALOGUE

The phono socket inputs (and DC standby trigger) are accompanied by loop through outputs and decent speaker terminals. Note that the power supply is external.

PRO-JECT

PRE BOX DS2

DIGITAL £785.00

AMP BOX DS2

STEREO £520.00

EXCELLENT - extremely capable

VALUE - keenly priced

VERDICT

Fun and functionality in small packages

FOR

- incredibly versatile
- clean, detailed and musical
- looks good and occupies little space

AGAINST

- USB streaming glitches with PCM material
- a little bass shy
- lacklustre Bluetooth

Henley Designs +44(0)1235 511 166 www.henleydesigns.co.uk

is evident in albums like The Alan Parsons Project - 1 Robust (2.8MHz DSD64 remaster). But then again, tubed equipment was involved during that classic album’s transfer from analogue tape. In terms of emotional engagement, it’s like listening to an audiophile LP - but without the clicks. My only criticism was a very slight ‘splashiness’ that I could hear on the hi-hats of I Wouldn’t Want To Be Like You.

That’s not to say clicks weren’t a problem during my time with this system - and they had nothing to do with analogue. Playback of PCM-derived FLAC material via USB - from hi-res as well as CD-quality music - suffered from occasional random glitches. It was evident with Pye Corner Audio’s Sleep Games, especially during the album’s quieter and more introspective moments. It didn’t matter whether the tracks were networked or locally stored, and no amount of tweaking with Foobar2000’s DoF configuration or the Pre Box’s filtering/sound settings made any significant improvement. No such glitches were audible during DSD playback – or when the very same FLACs were introduced to the system via the CXN.

Having become used to sampling the delights of vinyl and hi-res through this system, I found Bluetooth playback to be something of a culture shock: with a strange lack of involvement. But then again it’s there more for convenience (and ‘musical wallpaper’ at parties) than serious listening.

CONCLUSION

There’s some great stuff in this system, which is ready for any source you might care to throw at it. And with the right material it can deliver the goods sonically. DSD and - hardly surprisingly, given Pro-ject’s background - vinyl playback were particularly noteworthy I found. But it was a little compromised by glitchy USB PCM playback, poor documentation and a lack of low-bass weight.

Nearly all of the source equipment you’ll encounter in everyday life can be plugged into the Pre Box DS2. Note the Bluetooth aerial, USB port and various conventional analogue/digital inputs and outputs. The ‘var gain’ switch adds a 6dB gain boost.
FiiO has forged a considerable reputation for engineering quality high-resolution digital audio players (DAPs) at prices well below most of their rivals. I’ve used and enjoyed a number of their products over the past few years, starting with the £99 X1 and going all the way up to the flagship X7ii - which features an ESS DAC chip and can handle sample rates all the way up to 384kHz as well as DSD.

Now, though, the Chinese company has turned its attention to in-ear headphones - promising the same value-for-money ethos that marks out their DAPs.

So what we have are two new sets of ‘phones – the entry-level F5s priced at £66 and the more upmarket F9s that come in at £110.

Both come with two detachable cables, one 3.5mm single-ended featuring an in-line control for taking calls, playing and pausing songs plus volume adjustment, while the other is a 2.5mm balanced for high-resolution players that support the feature. They fit to the earbuds via standard MMCX connectors that facilitate upgrades or replacement if needed.

The big difference between the two is that the F5 has a single, tinium coated driver while the F9
features a 9.2 mm dynamic unit for the bass allied to a pair of balanced armature drivers for the midband and treble.

In both cases the drivers are housed in an aluminium enclosure, making them light and comfortable in use but sturdy enough to withstand the inevitable pulling in and out of pockets when on the move.

Six different sized ear-tips are provided for getting the right fit and sound isolation. As well, there’s a hard plastic carry case – unusual at these price points.

**SOUND QUALITY**

Both pair of earphones were plugged into a variety of DAPs and smartphones – including FiiO’s own players, an ATC HDA-DP20 as well as an iPhone 7 Plus and a Samsung Galaxy S8.

Starting with the F5, it didn’t take long for me to realise that the titanium driver offers a good degree of precision and detail. Earphones around the £66 mark can be something of a mixed bag, quite often sounding too bass heavy or having a muddy quality.

These FiiOs, by contrast, are admirably clear. Playing Echo And The Bunnymen’s ‘The Cutter’ the guitar lines were clearly delineated while Ian McCulloch’s vocals were placed well to the fore with his distinctive phrasing framed accurately.

Bass was also punchy but never overly intrusive. If anything, I’d have preferred a little more low-end at times. With New Order’s ‘The Perfect Kiss’ Peter Hook’s rhythmic bass lines tended to sound a little recessed. Switching to the balanced cable from a FiiO X5 3rd generation player helped ameliorate this to some extent – but those looking for the last few low octaves may want to look elsewhere.

That said, the rest of the frequency spectrum was present and correct and had a pleasing quality. Nigel Kennedy’s violin on Elgar’s ‘The Four Seasons’ came over with exceptional body without any trace of harshness. I’ve heard some more expensive in-ear ‘phones that would struggle to match this performance.

Moving to the F9s produced an immediate upgrade in the quality of sound. As well as the triple driver array these also feature a different shaped headshell which is claimed to enhance definition. And so it proved.

The F9s have an appreciably greater bandwidth featuring smoother mids and extended treble, alongside better low-end depth.

With ‘The Perfect Kiss’ – again with the balanced cable – the bass lines sounded full and rich with excellent tonality. I could hear Peter Hook’s fingers sliding up and down the strings.

Moving on to some classic pop in the shape of The Beautiful South’s ‘I’ll Sail This Ship Alone’ there was strong stereo imagery – Paul Heaton’s vocals were sent well forward, but never overwhelmed the gentle piano and bass backing track.

There’s no doubt the F9s are the stars here and can match or better other earphones heading into the £200-plus bracket. For that they have to be a bargain. The F5s are not quite as refined but if your budget only stretches this far then they are well worth an audition.

**CONCLUSION**

Just as with their DAPs, FiiO’s earphones present tremendous value for money. These are refined performers – the F9 especially so – that will not put too much of a dent in your wallet. Add in the fact that they are solidly constructed and come packed with both balanced and unbalanced cables (the latter with a line controller for both Apple and Android devices), they are firmly recommended.

---

**FII O F5 £66**

**OUTSTANDING** - amongst the best.

**VERDICT**

An excellent pair of in-ears with a nice, cleanly-balanced sound, if a little shy in the bass.

**FOR**

- clean treble
- smooth midband
- price
- balanced and unbalanced cables

**AGAINST**

- lack some outright bass

**FII O F9 £110**

**OUTSTANDING** - amongst the best.

**VALUE** - keenly priced

**VERDICT**

An appreciable step up in quality with its triple driver array. Great bass allied to excellent midband and extended treble make this a superb buy.

**FOR**

- bass depth
- crisp treble
- balanced/unbalanced cables

**AGAINST**

- nothing at the price

Advanced MP3 Players
+44 (0)343 289 6880
www.advancedmp3players.co.uk
CS 8.2
Compact Streaming CD Receiver
2 x 500 W, TIDAL, Qobuz, FM tuner, Valve line stage, Quad DAC DSD, Pure CD drive, Class-A headphone amplifier, Remote & app control

Hearing is believing. Book a demonstration at:
Adventures in Hi-Fi, Chester | Basically Sound, Norfolk | Fanthorpes Hi-Fi, Hull | Hi-Fi Lounge, Bedfordshire
KJ West One, London | Lintone Audio, Gateshead | Six Audio, West Sussex | Soundcraft Hi-Fi, Kent

www.avm-audio-uk.com
The T Factor

Chord Company’s new Sarum T loudspeaker cables use proprietary insulation to produce a stellar sound, says Jon Myles.

Many things go into making high-performance loudspeaker cables; the conductors used, terminations, quality of connectors, screening and the dielectric all have a significant effect.

Of these, the latter is probably the least well understood – but they play a significant part in the whole equation. In essence their role is to reduce the signal leakage and aid the accurate flow of information from the amplifier into your loudspeakers.

There are many types in use – from relatively cheap PVC to polyethylene, polypropylene and the more popular PTFE used in many higher grade cables. New variants are rare – so when a company such as Chord Cables with 32 years in the business comes up with one it piques interest.

The material in question is Tylon – which under a different name is used in military applications to secure signal integrity at all operating temperatures. Chord says this dielectric is only available to them and has been implemented across the whole new Sarum T range – which also includes a digital cable and power lead at the moment.

It first surfaced as a component in the ChordMusic range – where the loudspeaker cables start from £3300. But the Sarum T start from £1800 for a 1.5 metre pair. Other important features are silver-plated oxygen free copper conductors, a heavy braid foil for shielding and a thick outer jacket.

The cables also come in twisted pairs and are hand-built in Chord’s own plant in Wiltshire.

**SOUND QUALITY**

I first heard the new Sarum T range during a visit to their Wiltshire headquarters. Compared to the previous Sarum cables they were impressive.

But with longer listening through my own system the step-change was dramatic in both dynamics and the extra musical information.

Plugging them into both a Naim Supernait 2 integrated amplifier and a Naim Uniti Atom all-in-one streamer/amp showed just how clear and open these cables are.

What was immediately noticeable is how natural they sound. Music flowed effortlessly and instruments were given room to breathe. It’s an effect that works from top to bottom – so big bass tracks like Led Zeppelin’s ‘When The Levee Breaks’ had increased punch and authority, while gentler pieces such as Arvo Pärt’s ‘Spiegel im Spiegel’ were put across with delicious delicacy.

Many cables impart a particular character on the music but the most impressive thing here is the absence of just that. It means the performance comes to the front with no smear or sense of constriction; I forgot I was listening to electronic components and transducers. Everything seemed improved – from timing to instrumental cohesion.

Only the very best ‘speaker cables do that and these warrant a place among that elite group.

**CONCLUSION**

£1800 might seem a lot for a loudspeaker cable but the Sarum Ts justify the price. They are easily as good as some much more expensive rivals, being open, uncoloured and superbly natural – letting you hear the sound of your amplifier and loudspeakers as they should be.

---

**CHORD SARUM T**

£1800 (1.5 METRE PAIR)

OUTSTANDING - amongst the best.

**VERDICT**

Proprietary materials and construction translate into a cable that can bring the best out of any system. Supremely open and unsullied, they can compete with rivals costing many times more.

**FOR**

- wide bandwidth
- open, natural sound
- tonally accurate

**AGAINST**

- nothing

The Chord Company
+44 (0)1980 625700
www.chord.co.uk
THE CLASSIC

The Classic was released to celebrate Pro-Ject Audio Systems’ 25th Anniversary. This retro-inspired turntable has been designed from the ground-up by analogue audio experts to combine timeless aesthetics with modern technology and audiophile sound performance.

The striking frame design is available in three wood finishes, and provides clever decoupling between the acoustically treated aluminium platter and the motor.

The new motor is powered by a built-in generator, for a consistent performance, and drives a sub-platter that sits atop a precision-engineered main bearing.

The all-new 9” Classic Tonearm is made of aluminium and carbon fibre, for unrivalled rigidity while retaining a low mass. The arm benefits from a new bearing system for completely free movement and is supplied as standard with an Ortofon 2M Silver cartridge.

AVAILABLE ACROSS THE UK NOW
**Style Que**

Questyle’s new QP2R high-resolution digital audio player is a class act, says Jon Myles.

Portable digital audio players (DAPs) come in all shapes and sizes these days – as well as prices. Perfectly decent models from the likes of Fiio can be had for less than £100, while at the upper end of the market units costing well north of £1000 are not unusual.

Most of them, though, are pretty similar in design – it’s just that the costlier products tend to feature sturdier casing, larger memory capacity and (hopefully) superior sound.

It’s rare that something rather different comes along but the new QP2R from Chinese company Questyle is just that. If the name is new to you the firm was founded by electronics engineer Jason Wang some five years ago with the goal of making high-resolution DAPs, headphone amplifiers and studio monitoring equipment.

It caused quite a stir just over 12 months ago with its first two models – the QPI and the QPIR. Now it’s hoping to do the same with its new £1299 QP2R – a significant upgrade on its predecessor.

So what’s so different from other players? Well, not a lot when you look at it from the outside. But peek inside the sleek machined aluminium case and things get a lot more interesting.

For inside the Questyle uses current mode amplification with all discrete circuitry and pure Class A working. In fact the amplification section takes up almost 70% of the interior – something you won’t find in most other players.

Four groups of current mode amplifier circuits are mounted on the front and back of the PCB to give the shortest signal path and improve audio performance. Questyle says distortion measures just 0.0005% although we measured slightly higher (see Measured Performance).

This does mean, though, that it gets slightly warm over a long period of use but not uncomfortably so.

The DAC section consists of an AKM AK4490 chip which can process file sizes up to 32bit/384kHz, as well as 64/128/256 DSD. Both 3.5mm balanced and 2.5mm balanced headphone jacks are provided while there’s 64GB of internal memory and a microSD slot that can accommodate cards of up to 200GB.

Externally the player looks good with its machined aluminium sides and Gorilla Glass for the front and rear coverings. Amazingly Questyle says it has the “impressive design of tucked waist derived from a curvaceous woman’s body” (I have to say, I doubt many women would appreciate having their figure compared to a DAP).

It measures 134mm x 65mm x 14.5mm so is easily pocketable and feels nice and sturdy in the hand. The control system is Linux-based which I must say I prefer to most Android variants.

A large knurled volume control sits at the top of the player while the fascia sports a colour display beneath which sit an iPod-like click wheel for navigating through menus surrounded by four touch sensitive buttons. Unlike the iPod, though, it’s mechanical instead of touch sensitive.

Questyle came in for a good deal of criticism regarding the operation of the wheel on the QPIR and they’ve obviously worked on that this one is firm and responsive making navigating menus easy.
The new 700 Series

Born out of our award-winning CM Series, the new 700 Series are the best loudspeakers we’ve ever made in their class. Borrowing features from the 800 Series Diamond, the series introduces groundbreaking studio-quality technologies to raise the bar for home audio performance. And all in a range of speakers designed to fit beautifully into the home environment. The new 700 Series. Studio sound comes home.

Bowers & Wilkins

bowers-wilkins.co.uk/700series
A mechanical click wheel on the fascia is the main control interface while charging is via the USB connection on the bottom of the unit.

What you won’t get with this player are any additional features like wireless operation or Bluetooth. Questyle say they like to keep it simple.

**SOUND QUALITY**

I paired the QP2R with a set of the excellent new FiIO F9 earphones (see review this issue) as well as my reference Noble K10s, using the former through both the balanced and unbalanced outputs.

The QP2R is made for high-end headphones and it brought the best from the Nobles.

With Daft Punk’s ‘Random Access Memories’ (24bit/88.2kHz) the bass was firm and meaty, without overwhelming the midband – which was both smooth and detailed. The imposing organ that heralds the start of ‘Contact’ had excellent body while I could almost feel the force of the pounding drums towards the end.

This is a player that really digs into the soul of the music, homing in on the rhythm and keeping a tight hold of it. Tonaly it’s pretty neutral so you don’t get exaggerated highs or booming lows. Instead you get a sense of ease and clarity.

With ‘Blue Rondo a la Turk’ from Dave Brubeck’s ‘Time Out’ in DSD64, Paul Desmond’s saxophone was pushed well to the fore with a fine sense of precision, but without being too sterile, so I could easily hear the other instruments.

Switching to the FiIO earphones, although they don’t match the Nobles for absolute sound clarity, that same sense of naturalness prevailed.

Bass on The Chemical Brothers’ ‘Block Rockin’ Beats’ was again tuneful and the electronic effects ricocheted across my ears.

The QP2R is not short of power through its 3.5mm unbalanced stereo jack output, but using the FiOos via a balanced cable (with mini 2.5mm jack plug) gave even more punch. It also brought a greater sense of separation between instruments and a seemingly wider soundstage. So if you have suitable earphones with 2.5mm terminated balanced cables I’d suggest this is the way to go.

**CONCLUSION**

The Questyle QP2R is a superb sounding player that offers strong output with Class A operation. It’s not cheap but brings the best out of higher-end headphones.

**QUESTYLE QP2R**
£1299

**VERDICT**
A well-built, well-specified digital audio player that has a natural, smooth sound.

**FOR**
- build quality
- Class A amplifier
- discrete components
- smooth, even sound

**AGAINST**
- no Bluetooth or wireless
- not cheap

SCV Distribution
+ 44 (0)3301 222500
www.scvdistribution.co.uk

![The menus allow adjustment of various features - including DSD gain, various EQ settings and balance.](image)

A large knurled wheel (left) acts as the volume control while next to it are both balanced and unbalanced headphone outputs.

![A large knurled wheel (left) acts as the volume control while next to it are both balanced and unbalanced headphone outputs.](image)

---

**MEASURED PERFORMANCE**

The 3.5mm headphone jack output (unbalanced) gave 1.8V maximum (High output) which is plenty enough for most headphones, if a little lower than some. It is also enough to drive an external amplifier, including power amplifiers, most of which need 1V.

The balanced 2.5mm four-pole output socket gave double, 3.6V, so it goes 6dB louder – and by any standard very loud.

Both outputs returned a dynamic range value of 112dB with 24bit digital – good but not up with the best that nowadays can manage 117dB or so in portables. This is still plenty enough to resolve the benefits of hi-res digital though, CD managing 103dB at best by way of contrast. Distortion at full output measured a low 0.0009% and at -60dB 0.04%, again via both outputs.

Frequency response with 192kHz sample rate PCM digital measured flat to 33kHz before a slow roll off to the 96kHz upper theoretical limit, as our analysis shows, so the player will sound tonally even. There are no filters to alter this.

The QP2R measured well in all areas but it doesn’t match the best.

**NK**

Frequency response (-1dB)
4Hz-33kHz: 0.04%
20Hz-40kHz: 0.04%

Distortion (24bit, -60dB) 0.04%
Separation 2kHz: 86dB
Dynamic range 112dB
Noise -110dB
Output (unbalanced/bal) 1.8 / 3.6V out

**FREQUENCY RESPONSE**

**DISTORTION**
Marantz 10 Series Reference (new)
Home Trial scheme

For a limited time only and exclusively from Jordan Acoustics:
To keep up with the high demand, we have put together 3 x DEMONSTRATION Marantz 10 Series Systems (PM-10 & SA-10). Each system will be available* to customers to trial in the comfort of their own home for a period of 7 days*. Experience these ground-breaking new products for yourself with the option to purchase the finest reference amplifier and CD/SACD Marantz has ever created.

1. Delivery
We will deliver in person/courier* (depending on location) the loan Marantz 10 Series Product/System to you. Delivery can be AM or PM or a Saturday delivery if you prefer. There is a small charge for shipping*.

2. Confirmation
If shipped we will send you confirmation/tracking for the loan Marantz 10 Series Product/System. Once it arrives with you, we will make sure everything is OK and answer any questions.

3. Listen
The incredible Marantz 10 Series Product/System is yours for 7 days* (from day/date of delivery) to audition and enjoy in the comfort of your own home.

4. Catchup
Half-way through the 7-day Home Trial*, we will call you to check how you are getting on and to answer any questions.

5. Return
After the 7-day Home Trial* is up, we will then arrange to collect the loan Marantz 10 Series Product/System from you. If collection is via courier, there will be a small charge to arrange this*.

6. A Thank you
If you decide to purchase a Marantz 10 Series Product/System after the 7-day Home Trial* has ended, as a thank you, if you paid shipping/collection, we will subtract those charges from the total purchase price.

7. Special 0% Finance** package offer to Home Trial customers only
For Home Trial customers of the Marantz 10 Series Product/System, we offer a special 0% Finance** package: 20% Deposit, then remaining balance over an exclusive 36 months.

Finance Example: Marantz SA-10 - £5,999.00. Initial 20% deposit of £1,199.80, then £133.31 per month for 36 months.
PM-10
INTEGRATED AMPLIFIER
£6,999
(BLACK OR CHAMPAGNE FINISH)

SA-10
SUPER AUDIO CD PLAYER
£5,999
(BLACK OR CHAMPAGNE FINISH)
GET OFF THE FENCE!

There does seem to be a shortage of good hi-fi shops selling mid to hi-end these days – not like the good old days. There’s Deco in Aylesbury, their new shop is well worth a visit, and there are others dotted about the country, but many of the small independents seem to have been snaffled up by the larger chains and moved over to home cinema systems. And they all seem to sell the same limited lower-end consumer products.

What this means is that Hi-Fi World is more important than ever. Most Dealers have a very limited stock and, I find, are very interested in streaming, phones and DAPs but once you get onto the subject of valve amplifiers and turntables their eyes glaze over.

Your reviews have two ubiquitous phrases which have always troubled me and do seem a tad like boiler plate. I’m talking about “One you should audition” and the appalling “at this price point”, which always seems to be damning with faint praise.

Have you ever tried to audition a cartridge in the real world – as opposed to the rarefied atmosphere of Hi-Fi World Towers where everything comes to your door? The Dealer will say something to the effect, “I have to buy it to try it and once I’ve used it for a demo then I can’t sell it as new.”

And what Dealer is going to fork out for half a dozen high end cartridges just so that they can be used in a demo? And even if they do have a box of cartridges, the installation and set-up is time they won’t spend.

And the next problem of course is that they are unlikely to have your precise turntable and arm; once again if they do they won’t have the same step-up transformer or phono stage, unlikely to have the same preamp or power amp and certainly not the same cables.

Michell Orbe turntable. “Had I known that the Orbe would be so much better than the Rega I would have saved for longer and bought the Orbe first off” says Edward Martin.
And so the challenge of being able to audition a range of cartridges on different turntables really is insurmountable. Perhaps if you are prepared to travel all over the country you just might manage it, but an A-B comparison between kit in different dealers really doesn’t work. So this means that we have to rely on the magazine to make a decision and, probably, many of us just buy blind based on your recommendation.

So please don’t tell us to “audition this one” it can’t be done and just smacks of a rather weak way of wrapping a review and remain sitting on the fence.

Which brings me to the phrase I hate most “at this price point.” And I raise the question: how many audiophiles buy on price? And if they do buy on price then one might argue they are not really interested in music. I buy commodities on price. These are the things I must have to live with in the real world: TVs, computers, phones, cars, etc. You might baulk at “cars” and yes I might fancy a new Aston, but in truth it’s just a car. Its gets from A to B and will inevitably pick up a load of dings whenever I park it. The British like to “ding” an expensive car, makes them feel better about their tin box – and why not you may say.

But for music I buy on quality and “at this price point” reduces music to a commodity. Both the FiiO X5(iii) and the AK70 are one of the best “at this price point” but the AK costs £100 more – how do you compare? If I knew that the AK70 was better than the FiiO then I’ll wait until next month and pay a little more.

Twenty years ago I bought a Rega Planar 3 which was reviewed as the best “at this price point.” I could have waited another 3 months, saved a bit, and bought a Gyrodec. But I didn’t. In the event the Rega was fine but nowhere near the Gyrodec for musicality and two months later, having saved a bit, I swapped the Rega for the Gyrodec. Later I changed the Gyrodec for an Orbe. But had I known that the Orbe would be so much better than the Rega I would have saved for longer and bought the Orbe first off.

And so I accuse Hi-Fi World and all reviewers of being the cause of “upgrade-itis” by their constant use of the phrase “at this price point.” What we’d like to see is not “the FiiO X5 is one of the best at this price point” but “The FiiO X5 is excellent but if you can afford another £100 then the AK70 is better, and if you could spring to £750...”

So which is best? It really comes down to personal preferences here. In cartridge reviews I specifically attempt to explain the sound balance so a reader can reasonably decide whether the product’s sound may suit them.

Another issue of recommending one “best” is a perception of bias, perhaps for background commercial reasons – and this is a very delicate topic. If we continually recommend the Ortofon 2M Black (to stay with this product example) people – both readers and manufacturers – then understandably become suspicious about background motive and complain about that too.

**Edward Martin**

Hi Edward. I am not aware we do ask reviewers to audition pickup cartridges, as they are peculiarly difficult to assess in a store for the reasons you explain. Being sophisticated and complex mechanical contrivances though, they have a bewildering array of sonic differences that at times leave me unsure at making absolute judgements such as “the best”.

You’ll perhaps know we recommend Ortofon’s 2M Black as about the best moving magnet (MM) cartridge currently available, but when new it was £150 better, and you’d wait until next month and pay more.

Twenty years ago I bought a Rega Planar 3 which was reviewed as the best “at this price point.” I could have waited another 3 months, saved a bit, and bought a Gyrodec. But I didn’t. In the event the Rega was fine but nowhere near the Gyrodec for musicality and two months later, having saved a bit, I swapped the Rega for the Gyrodec. Later I changed the Gyrodec for an Orbe. But had I known that the Orbe would be so much better than the Rega I would have saved for longer and bought the Orbe first off.

And so I accuse Hi-Fi World and all reviewers of being the cause of “upgrade-itis” by their constant use of the phrase “at this price point.” What we’d like to see is not “the FiiO X5 is one of the best at this price point” but “The FiiO X5 is excellent but if you can afford another £100 then the AK70 is better, and if you could spring to £750...”

So which is best? It really comes down to personal preferences here. In cartridge reviews I specifically attempt to explain the sound balance so a reader can reasonably decide whether the product’s sound may suit them.

Another issue of recommending one “best” is a perception of bias, perhaps for background commercial reasons – and this is a very delicate topic. If we continually recommend the Ortofon 2M Black (to stay with this product example) people – both readers and manufacturers – then understandably become suspicious about background motive and complain about that too.
review so the picture is changing. We most commonly recommend readers audition loudspeakers, because being electromechanical transducers like pickup cartridges, they also vary widely in sound quality. Our measurements make quite clear what we hear, especially with today’s trend to emphasise the upper mid-band and treble to give a sense of clarity and detail retrieval. Sometimes this goes so far as to be questionable and we point this out, but perhaps those with hearing loss may not mind, although I suspect the brain tends to compensate for such loss.

The biggy here though is the electrostatic loudspeaker – and here I’ll punt you a proposition. All box loudspeakers are wrong and we are deluded to think they are right. I can make that argument and defend it quite easily, using measurement as proof. However, you’d think I was barmy if I ended every review with such a statement. Few would take any notice irrespective of any truth in it, and it wouldn’t persuade even those who did listen to electrostatics to shout “hallelujah!” and make the change, their lives forever enriched. That’s because what we like isn’t necessarily perfect or the best.

What I am illustrating here is that absolutes are difficult to come across and absolutist statements dangerous and potentially misleading. Even when differences are so large as to be monumental in the case of open panel electrostats versus enclosed boxes with dynamic drivers, even though the technical argument against closed boxes is strong. To illustrate this, I am transfixed by Martin Logan’s big XStat electrostatic panel, but it offers such a different sound I would have to ask anyone to listen first.

Irrespective of all technical arguments, the box is what we know and judge to be right, making it absurd for a reviewer to simply come out and state something entirely contrary to the common view.

In a nutshell then, at this end we cannot make the definitive statements about good, better and best you and many readers wish for. Instead we wheedle the bad from the good (and tend not to review it) then present the good to you in detail so you can make an informed final judgement. [NK]

Musical Fidelity M300CR power amplifier – best not replaced with an AV receiver. It drives electrostatic loudspeakers well.

IN A SPIN
In March 2015, you replied to my request for suggestions of a replacement CD player by recommending an Oppo BDP-105D. Not long after I was offered a brand new Creek Evolution CD player at a price I couldn’t refuse, so that’s what is currently the CD player in my system. I’m wondering, with hindsight, if this was the right action.

My system currently consists of a Garrard 401 in a home built plinth (similar to the Basin plinth), with a Hadcock 242 Integra arm and Benz Micro ACE L cartridge. This feeds a Creek Wyndrail phono stage that then connects to a Musical Fidelity A3CR pre amp. The power amp is a Musical Fidelity A300 CR and the speakers are Geschka modified Audiostatic DCI electrostats. For watching films etc. I have a Sony KD-55X8509C 55 TV and would like to connect this to my hi-fi system to vastly improve the TV sound over the in-built speakers.

As you can see, I enjoy top quality listening, vinyl in particular. From what I can see, I have two options; firstly replace the MF amps with a home theatre style amp and connect the TV to that, or (hoping that I’ve not misunderstood matters!) that I buy an Oppo BDP-105D and connect the digital output from the TV to the digital input on the Oppo.

My concern is whether there is an AV amp that will give me the same sound quality as the MF amps? Due to their high current output, the MF amps work exceptionally well with the Audiostatics and I certainly don’t want the sound quality to suffer. Also, at the moment, I don’t need anything more than two channel sound. In my position, would you consider either of these options, or is there something else you would recommend that I have missed?

My second quandary concerns sub-woofers. Although the bass of the Audiostatics is good, I feel it could be improved and to match the sound quality of the speakers, I’m currently thinking that adding two small sub-woofers such as REL T7 would be the best option. I would appreciate your thoughts and suggestions on this matter.

Many thanks in advance for your help.

Phil Cowling

Hi Phil. As good as they are, big AV amps will not match your Musical Fidelity A3CR pre amp. and A300 CR.

Audiostatic DC1®
Full Range Electrostatics

Audiostatic DC1 loudspeakers "I certainly don't want their sound quality to suffer" says Phil Cowling.
power amplifier – especially through electrostatic loudspeakers. The solution to your problem is to buy the new Oppo BDP-203 universal player we review in this issue. It even provides surround-sound output to power amplifiers if you wish to expand into multichannel later on.

Subwoofers do add low end power and will very noticeably improve video sound, giving explosions and such like a nice bit of extra kick and presence in the scheme of things; cinemas after all rely on low-end effects to add a sense of realism to big events. You won’t find it so easy to ignore the slightly divorced bottom-end they produce with electrostatics but I have found turning them down a bit helps, so you get bass but not obvious boom. RELs do a fine job and are about the best for this purpose.

**LENIGHT MATTERS**

I was intrigued by the concept behind the ‘tuned-length’ mains cable reviewed in the October issue. So much so that I checked out the manufacturer’s press release. This states that the cable is ‘optimised for the best sound quality by its length’ and that this aligns very closely with the quarter wavelength of the 50Hz mains frequency of 1.7m. 

Now, the acoustic wavelength of a 50Hz sound wave travelling at 340m/s in air is 6.8m. This gives a quarter wavelength of 1.7m, which happens to correspond to the preferred length of the above cable. But surely the wavelength of a sound wave in air can have no correlation with the electrical properties of a mains cable!

Furthermore, the electrical wavelength of a 50Hz signal travelling close to the speed of light in a cable can be calculated to be in excess of five million metres. This gives a quarter wavelength of over one million metres, which would be one heck of a length for a mains cable!

So, what am I to conclude regarding the concept of ‘tuned-length’? Could there be a misunderstanding of the mechanism of signal propagation in electrical cables, either on my part, or on the part of the manufacturer?

**Alan Scott**

Hi Alan. Er - yes! The propagation of an electrical signal in a copper cable is affected by the dielectric but is still around 2/3 the speed of light, or 200,000km/s and as you say the wavelength is then 4000km and a quarter wavelength one million metres or 2480 miles. So

I think we can safely say we are talking about the impact of sound in the room upon the cable here!

At the last Bristol Show I received a long lecture on this by the earnest Martin Colloms who had carried out measurements proving its influence, so best to suspend disbelief.

**MAKING SENSE OF DIGITAL**

After a while of being confused by the plethora of digital terms & abbreviations being used generally in Hi-Fi I thought that I’d marshal those thoughts onto paper. What I’ve come up with may help others trying to grapple with terminology within reviews. For example DSD can be referred to as DSD, 2.8MHz or 64, all meaning the same thing!

Also facts such as if a DAC says 24/192 max or PCM it will deal with the top half of the diagram but not DSD. The top half including MP3, AAC, FLAC CD files etc.

I think, for me, separating the various methods (PCM, DSD and DoP) up the page and then laying the quality across the page has really clarified what everything is. Also how they relate to each other methodology-wise and quality-wise.

Thoughts –

1. DSD seems to be similar quality to 24/192 (slightly under)
2. Should we start referring to MP3/AAC etc as LowRes, CD as StandardRes/StdRes and anything above as HighRes and if so would that be the 16bit being StdRes and 24 being HiRes or the move from 44.1kHz or 48kHz?

Anyway, maybe you could consider a short article addressing this area as I’m sure there are many who find it baffling, as I did. I’ve shared my finding with friends who’ve found it helpful. I believe that it’s one of the reasons that most people (general population) stick with iTunes etc and streaming, as it’s simple, convenient and works well. It’s a bit like CD 30 years ago inasmuch as you buy a disc, put it in a player and press go.

Convenience trumps sound quality.

---

**How to make sense of digital – a diagram from Paul Grele. "I've shared my finding with friends who've found it helpful" he says.**

---

Black Rhodium Stream mains cable. “A quarter wavelength is over one million metres, which would be one heck of a length for a mains cable!” says Alan Scott.
I would say that as I’ve always been a vinyl chap, but that’s another story. However, I do like DSD and 24/92 and above files.

I hope this has been of interest. Keep up the good work writing the most interesting magazine on the subject!

Kind regards,
Paul Grele
Reigate

Hmmm... We have published your diagrams as-is Paul. I am a bit confused by them, but perhaps that’s me just having a bad day! Readers may want to comment.

I will break it down like this: digital audio traditionally comes in one form, known as PCM, an acronym for Pulse Code Modulation. In this scheme a signal is sampled very fast (44,100 times per second with CD) and each sample is given a numerical amplitude value. I explain this because I have to talk about DSD later, which is quite different.

I think anyone can understand the idea behind PCM at this level. You split the signal into thousands of pieces, as it were, giving each one a value. The digital data can then be processed, transmitted or stored. It cannot be understood as-is, it must be passed through a digital-to-analogue convertor, which is why it was used to encode Winston Churchill’s voice communications at the end of World War 2, using an early coding system from America’s Bell Labs.

So that’s digital audio, plain and simple. Now let’s look at its many variants that have come to confuse us all.

I’ll start at the start with CD, that uses basic PCM, sampling the signal at 44,100 times per second (44.1kHz), giving each sample a 16bit amplitude description. It is fairly obvious to say that if either sample rate or bit depth is increased the resolution with which analogue is turned to digital will increase, giving us better sound quality. So higher figures mean better sound quality, it’s as simple as that.

In a loose sense, anything better than CD spec, is high resolution digital. In practice it is bit depth that matters most and anything with 24bit resolution of amplitude is hi-res, at any sample rate, including 24/48. By common consent 24/96 (24bit resolution at 96kHz sample rate) is, however, taken as the hi-res threshold and 24/192 icing on the cake.

Philips first CD player, launched in 1983. Back then CD stood alone as a way to store and play digital music. It used basic PCM code where the music was sampled at 44.1kHz, amplitude being described with 16bit resolution.

That’s the basic situation with normal digital. The big issue here is that as resolution increases more data has to be transmitted every second and there is more of it to store as well; this is the down side to achieving better quality.

Long ago, or so it seems, when we were using dial-up-modems within a network of old copper telephone cables to receive digital audio, and then we had to store it on arthritic floppy discs, there was a need to reduce the quantity of this data.

A way of doing it was to take out all the stuff the ear could not possibly hear, a data reduction technique that was entirely subjective I will note, because what cannot be heard can’t be strictly defined. So we got endless data-reduction techniques thrown at us, euphemistically termed ‘compression’. Examples are MP3 and AAC, in your diagram, but there are many more. Such methods offer dramatic reduction, only one-tenth of the music is left remaining nine-tenths is thrown away and cannot be retrieved, so ‘de-compression’ is not lower data rate; those better a higher data rate. The data rate is stated as bits per second, or ‘bps’. And to avoid another digital confusion I must immediately point out that this is ‘bits’ (lower case b) and not Bytes per second (upper case B) where there are 8 bits to a Byte, by common convention (there don’t have to be, but I won’t get into that).

Using data rate as a quality indicator is useful. CD has a data rate of 1.4Mbs (Million bits per

Sony of Japan introduced SACD (Super Audio CD) as CD’s replacement, using DSD code instead of PCM. It never caught on outside Japan – the days of the silver audio disc were over, it seemed. Now however, DSD is gaining traction as a high quality audio file format.
second) and it’s a useful digital quality benchmark. Compressed files like MP3 typically run at 128kbps, ten times less than CD, so their data rate and file size is commensurately ten times smaller. This suited digital systems 10 years ago or more, but are less relevant today where both digital transmission systems (e.g. the internet) and storage systems (memory sticks, computer hard discs) are much larger and able to cope with such high amounts of data. Maintaining digital quality is less of a problem these days. Hi-res gives us data rates up to 9.6Mbps — way above CD.

Another confusing differentiation that has to be made is computer file format. To store PCM PCs running Windows create a WAV file (.wav), whilst Macs running macOS create an AIFF file (.aiff). Nowadays both platforms commonly recognise the other’s file format.

DSO is an altogether different form of ‘digital’ to that we are accustomed to. It does not have an intrinsic numeric value, like PCM. It can be transmitted and stored as a series of pulses, but it cannot be digitally processed. Digital systems such as computers cannot process it, they can only pass it through and store it.

DSO can be converted to PCM however, and this commonly happens, usually in the background. DXD is one format, being 24bit PCM running at 352.8kHz — very high resolution. So as you note in 1) 24/192 PCM is a “slightly under” version of DSD.

As you say in 2) AAC and MP3 are low-res, CD standard-res and anything with bigger numbers hi-res.

I haven’t produced too much detail here, deliberately so — and whole lists of proprietary file types have been omitted. But I hope it gets the situation into picture all the same. NK

CEILING SOUND

The increase in home improvements in the UK has given many audio enthusiasts the option of installing integral wall, or ceiling speakers in extensions and conversions. I don’t see many reviews of ceiling speakers or those to be built-in to the house structure, in the hi-fi journals.

My local audio dealer is selling more and more of these, but difficult to get a demo, as the sound will vary dependent upon the final enclosure, I suspect.

Then there’s the misinformation

“I was surprised how many ceiling speakers there are in the Monitor Audio range”, says Ronald Koorm. “Surely, it’s time for some testing”.

out there, stating you need special fire-rated cabling and intumescent fireproofs in every ceiling void of every extension and loft conversion — simply not true. The building inspector will want fire protection where there are rooms above the ceiling, just like he would for recessed lights. (See Approved Document B: Volumes 1 and 2 of the Building Regulations)

It is, however, appreciated that any void in a ceiling or a partition wall will effectively make the passage of smoke and flame easier, but many homes have multiple recessed lighting and fans which have no fire protection, so a balance needs to be struck here

It would be useful to have some Hi-Fi World testing of several of the speakers made by KEF, Monitor Audio and others, even if you used a basic made-up MDF enclosure with a bit of Rockwool fibre insulation above, and a bit of 12.5mm plasterboard as the soffit. After all, the manufacturers of the speakers must have a facility to test the speakers, surely?

I was surprised how many ceiling speakers there are in the Monitor Audio range, even some with dual tweeters, which can be pivoted to angle them. Some look very sophisticated, and the fixings seem to be very versatile. Some have paintable magnetic grilles.

Surely, it’s time for some testing to indicate the quality of these and other units, the cabling options, anti-vibration fixings, the pros and cons of positioning different fibre insulation above them, and even the acoustic effects of intumescent fire hoods, where those are necessary.

An opportunity in an ever growing market, to inform your readers, perhaps?

Ronald Koorm
Pinner
Harrow

Hi Ron. I think this is an area that’s a bit outside our remit. Building a test rig that represents a ceiling void, however you can define such a thing in acoustical terms, is a bit beyond us. And since the back loading will affect bass performance, whatever we created would be immediately challenged as unrepresentative by a manufacturer whose product didn’t give decent bass in such a rig. Ceiling speakers I’m sure can be entertaining, but sound from

the heavens isn’t quite a normal representation of most rock bands or orchestras that play at you from front, not above. A heavenly idea then, but not one that us mortals at Hi-Fi World can easily get involved with.

**SONY PS-HX500**

Sony have stirred things up with the PS-HX500! Until I get the nerve to attempt a cartridge upgrade (and, thanks to you, a speed calibration), I’m only playing secondhand vinyl, just in case any chance of a quick upgrade article for all us HX500-ites out there who are all thumbs and thumbs with this sort of thing, especially as you mentioned it’s not the easiest thing to do.

However, surely all this converting between formats (I.e. analogue to PCM or not...) is losing something at every stage. OK so the Sony’s cartridge is not the best, but to transform its output twice is the opposite of guiding the lily. I record at 24/96 (or is that 96/24?) and that’s good enough for me - it’s all those damn clicks that annoy us!

On another note, due to personal circumstances I am moving to a smaller house (hopefully soon), and will have a budget of about £1500 for a hi-fi surround system, based around an Oppo have enough HDMI inputs to handle Sky HD, a Universal BD player, an Xbox One, my computer and (yes, they do still exist) a Toshiba HD DVD player (150 discs - yes, I know...) A USB input for a 2TB external drive (my CDrip and hi-res music collection) would be nice, but the Oppo would handle that better than a basic DAC in the amp wouldn’t it?

Music tastes; mainly rock (Floyd, Genesis, Dire Straits etc)/pop/classic electronic (Kraftwerk, Jarre, Tangerine Dream), with the occasional well-known classical piece thrown in.

Yes, I know the mag is Hi-Fi World not Home Cinema World or Surround Sound World, but AV kit has been favourably reviewed by you in the past, so here’s hoping.

Yours sincerely

**John Malcolm**

Hi John, Sony’s PS-HX500 does seem to have caught the imagination of many. Perhaps they will follow Technics down the path of producing more serious vinyl playing equipment as a result. It does most need a better cartridge to reveal what its internal analogue-to-digital converter is capable of, and also to produce a decent analogue sound from its Line outputs. One of the new Goldring E-Series would suit a top E3 if possible.

---

**CONCERT SOUND**

I have been listening to the proms in ‘the highest quality sound’ as said by the BRC Having been a lifelong listener via FM, I was keen to give this a try, listening to a selection of concerts via FLAC Having the facility to switch between FM and FLAC, I concluded that FM is the preferable listening medium for me.

My tuner is a Marantz ST7001, nothing special, but it uses an external stack mounted aerial, which is currently aligned on the Sutton Coldfield transmitter.

Another issue which is noticeable is how much the sound quality varies within the same venue such as the Albert Hall, one day sounding superb, the following day a muddling sound.

Why should this be? I would be interested if other listeners experience the same friend also commented about this recently too.

Regards

**Mike Bickley.**

Most laptops and PCs have horrendous analogue outputs. You can get excellent results from a decent USB DAC, or one of the better soundcards with a digital output that can drive a ‘regular’ DAC.

My ‘guinea pig’ Linux PC has a Creative Soundblaster Live card, and
"My Marantz ST7001 VHF/FM tuner uses an external stack mounted aerial, which is correctly aligned on the Sutton Coldfield transmitter" says Mike Bickley.

that has a digital output. The Live’s digital output, going through a Prism Callia DAC, trounced the Live’s own analogue output with a far more immersive and engaging presentation. I get the best results of all using recent versions of VLC Media Player to convert the decoded FLAC (i.e. lossless) stream into a PCM/WAV file that can be handled by modern hi-fi gear. I discuss this in my column this month.

Ensure the audio signal is not being processed unnecessarily (disengage DSP effects, ensure volume is 100%, audio output 16-bit/48kHz).

You’re using a decent aerial pointed at the relevant transmitter. That will give the tuner a good signal to work with. With decent gear, I find that even the lossy-compressed 320kbps 16-bit/48kHz-sampled Radio 3 ("HD") stream, experienced via a Cambridge CXN, outshines FM. MP

With a live venue like the Albert Hall I suspect quality differences you are hearing are due to the recording system’s front-end, meaning microphones, their directional sensitivity pattern, their positioning and so on. Each producer has preferred arrangements. The presentations can be dramatically different.

NK

CABLES?

Hi. It has been a while since I contacted you regarding my systems. I am currently based in the US and used this as an opportunity to upgrade, resulting in a system consisting of VPI Prime Signature turntable, Ortofon Quintet Black MC cartridge, ADS feeding a Devialet Expert 120 Pro amplifier. I still use my trusty

Sonus Faber Cremona loudspeakers and supplement with a Vortexbox NAS drive. Today I use low range Chord cables but wonder if there are better options without spending stupid amounts, for both speaker and interconnect cables. Please advise shortlist both in US and U.K as I travel a lot and am open to suggestions.

I would recommend Hi-Fi Racks, great products at sensible price point. Last point, Stoneaudio, Alex and Chris thx, both have been amazing helping me over last few weeks. Can I also recommend that u bring back system reviews re: readers or reviewers etc. – really good to hear about combinations.

Kind regards

John Speight

Hi John. That’s a nice system you have which I would think sounds excellent. You do not specify which Chord cables you are using but with the Sonus Faber Cremonas I would recommend having a listen to Tellurium Qs new Black II (£324 for a 3 metre pair) for the loudspeakers and the same company’s Black RCAs for the interconnects. They are tremendously open and revealing with a superb sense of timing.

Alternatively, if you like the sound of your current Chord cables have a listen to their Epic range – which I’ve found work well with most loudspeakers and amplifiers.

If you want to spend a little more then QED’s Supremus is one of the best value for money high-end cables available at around £1000 for a 3 metre pair (see our review in Hi-Fi World February 2017). All these will work well with your equipment but, as ever, the advice is to give them a listen first and then decide.

JM

QED’s Supremus "is one of the best value for money high-end cables" says Jon Myles.
IsoTek delivers highly effective, class-leading power cleaning products that dramatically improve both sound and picture quality, whilst also protecting your valuable audio equipment from power surges and voltage spikes.

Introducing: **EV03 CORVUS**

- 3680W of clean power
- 13,500A of protection
- Fully stressed system
- Removes both common mode and differential mode mains noise
- Free Premier power cable included.

**Find out more:** [www.isoteksysten.com](http://www.isoteksysten.com)

**Available in:** UK, EU, US, Swiss & Australian specification

...build something **unique**

“People haven’t always been there for me but music always has.”

Taylor Swift

Blue Horizon’s Professional Rack System is used exclusively at MCRU’s listening rooms.

**For your free brochure call:** 01484 538438
Mini Marvel

Audiolab’s M-DAC Mini is ideal for boosting the sound from a portable player or your home computer, says Noel Keywood.

I use Audiolab’s M-DAC+ as a reference headphone amplifier – useful when reviewing portable digital players. Battery driven portable can’t easily match its sound, because it uses a power hungry Sabre32 Series DAC from ESS of California was purposed for mains powered equipment. Audiolab have come up with the M-DAC Mini I am reviewing here to try and replicate its strengths – but in a small portable that works from large internal batteries as an option. This then is an M-DAC you can carry with you to pop up a portable, or run at home from the mains to preserve its internal batteries.

The small Mini is portable – but it isn’t easily pocketable. Measuring 176mm deep, 136mm wide and 31mm high it will fit only the large pockets of cargo trousers and you’d know it was there. Weighing 433gms on our scales it isn’t heavy however, and the lightweight plastic casing feels sturdy – able to survive portable life.

The internal batteries charge from a wall-wart supply rated at 5V, 3A through a conventional circular co-axial power plug, so if the power unit did disappear a replacement could be easily found, from Maplins in the UK for example. It accepts 100V-240V so can be used anywhere in the world, and the low voltage output lead is long enough (6ft, 183cm) to sit on the floor below a desk. Being marked Audiolab it can also be identified from all the other wall warts we all have under our desks these days – important because many of them are 12V and wouldn’t be suitable. The Mini also charges from the 5V line within a USB cable, so when connected to a computer doesn’t need its charger.

The 5000mAh Li-ion internal rechargeable battery has ‘up to 7 hours’ life Audiolab quote – and that is what I got from it. Unfortunately, there is no indication of time remaining, so it dies without warning.

The front panel has a volume control with on/off switch. Turning clockwise switches on, lighting a small, low power red LED (orange when charging), plus a similarly small blue LED showing the selected input. There are five in all: USB, PC (computer), coax, opt (optical) and BT (Bluetooth). USB refers to a USB-A input for IOS devices like iPad and iPhone, PC to a micro-USB socket for connection to any computer, whilst opt and coax are for connection to devices like CD players and portables with an S/PDIF digital output. BT allows connection to a phone or portable with Bluetooth wireless linking, so you or others can play music easily via the hi-fi – a family friendly feature. The S/PDIF optical input accepts 192kHz sample rate digital, tests showed. Driver software is provided on CD for PCs.

Connecting via PC (micro-USB) to a Mac brought up a drop-down menu showing up to 24/384 transfer can be accommodated, although 24/192 maximum is best to keep file sizes down, and for most of us 24/96 is sufficient for hi-res quality with reasonable file sizes. There are digital outputs too: optical and coaxial pass throughs.

The Mini has two analogue outputs, from the usual Line phono sockets (unbalanced) at rear, as well as a 1/4in (6.3mm) front panel headphone jack. They gave identical results under test – and output level of both is adjusted by the front panel volume control. Line has no fixed output option – unnecessary since when volume is turned to maximum the volume control is effectively out.
Looking for a valve amplifier? But with a myriad of designs to choose from which one will be right for you? Our Stereo 60 MKIII is a true high end versatile solution that will suit almost any situation. If you are looking for superb listening quality, high and low power modes, reliability with first class back up service and an affordable price then the Stereo 60 is for you.

Choose from 40 Watts of silky smooth pure Triode power or switch to Ultralinear for 80 Watts with a more modern dynamic presentation, yet without the tiring "mechanical" sound of many solid state designs. Good sensitivity from the built in "passive" pre amplifier ensures good results from virtually any type of input. The ST60 offers high definition easy listening. This is achieved by using time-honoured design, hand built construction and our unique transformers designed and manufactured "in house".

Designed to get the best results from virtually any kind of speaker or source, both modern and vintage. You are assured of high definition easy listening totally without fatigue. The all-important high definition drive circuit for the KT150 output valve is achieved by using the venerable 6SN7 valves.

The "easy bias" meter enables simple checking that the excellent KT150 is at optimum performance, the meter also gives an approximate indication of the output power. Remote control is also included for the precise control of the volume level from your armchair.

Icon Audio amplifiers are hand built in our own factory using the finest components including our own designed and built transformers.

For more details about this and other Icon Audio designs ask for a brochure or see our website.

You are welcome to contact us for more information by phone or email. Colour brochure on request. Phone, email or see our website.

UK price inc VAT £3299 with UK mainland delivery. PART EXCHANGE WELCOME (subject to Ts & Cs)

www.iconaudio.com sales@iconaudio.com (+44) 0116 2440593 Leicester UK
of circuit. Because Line output is both high at 5V and adjustable, the unit can be used to drive a power amp direct.

Although the Mini is neat and well built it is sombre in appearance. The front legends are tiny and being grey on a black background, low in contrast, making them difficult to read in daylight and impossible in low light. A push button selects inputs in sequence but quite what has been selected is difficult to tell; unlike units from Chord Electronics LED colour doesn’t change: all five are dull blue. Similarly, rear panel legends are low contrast and although larger still not easy to make out in low light. The Mini is stylistically minimalist, shall I say?

SOUND QUALITY
Fed from the digital optical output of a Questyle QP2R portable digital player Audiolab’s Mini came over as warm and fulsome, but also smooth and very atmospheric. Using Oppo PM1 planar magnetic headphones Norah Jones (DSO) sounded languid but captivatingly real singing ‘Don’t Know Why’. There was a silky smoothness to her vocals and a fine sense of divorce of her performance from earthy matters – ethereal.

The Mini painted up a lovely soundstage, full of atmosphere and cozy smoothness; it sounded very analogue.

Harder recordings like Jeff Beck’s You Know What I Mean? (24/176.4) were propelled outward through Philips Fidelio X1 headphones, as well as the Oppo PM1’s. Again, the Mini had an easy and smooth delivery fully bodied and with impressive bass. Live recordings like the Rolling Stones ‘Get Yer Ya-Ya’s Out’ (24/176.4 remaster) sounded airy conveying the live atmosphere captured by the microphones. The Doors ‘Love Her Madly’ (24/96) was bracingly speezy a broad soundstage bristling with life as the Hammond organ dominated the pace and Jim Morrison jumped out at me from centre stage; the Mini puts plenty of power behind a performance giving grit, high quality analogue recordings like this life and pace.

This is not a digital converter to throw digital at you; far from it, it turns digital to something more palatable. I found listening to CD courtesy of Santana’s ‘Samba Pa Ti’ (16bit/44.1kHz) an easy experience.

What the Mini lacks is the low-end grip and drive of big mains powered units. However, with DSD via a Pure Music player the sheer sense of space and scale made such matters seem trivial – more a PCM concern than much else.

Bluetooth connected instantly without difficulty and Gerry Rafferty’s ‘Time’s Caught Up On You’ (16bit/44.1kHz) rolled through sounding big bodied and spacious, the old and often confused sounding production being magically sorted out by the ES9018 K2M (low power portable chip) DAC, a trick I have heard the mains power 9018 pull off in the M-DAC+. This isn’t something to be underestimated: old CDs are revived by the sophisticated processing of this chip – and you get to hear it in the Mini, even via Bluetooth (which has a very good proprietary compression system quite different from all else).

Benjamin Grosvenor played ‘Chopin’s Nocturne No 5’ (24/48) from my iPhone slid along smoothly, piano sounding harmonically rich and powerful.

CONCLUSION
The M-DAC mini is a simple desktop DAC and headphone amp, powered from either mains, USB or batteries. It is light and portable, if not pocketable. Five inputs including Bluetooth for wireless connection to a ‘phone (or Bluetooth equipped portable) make for flexibility. Sound quality was full bodied, warm and analogue like, making this a fine unit for general headphone use, or as a digital front-end driving a power amp.

The rear panel has an array of digital inputs: S/PDIF optical and electrical (coax), micro-USB for PC and USB A to accept the charging/signal lead from iPhones and iPads. Internal batteries charge from the DC power input at right or the USB connections.

Audiolab M-DAC MINI £300

OUTSTANDING - amongst the best

VALUE - keenly priced

VERDICT
Affordable high quality headphone preamp and DAC with big, warm yet clear sound. Impressive with DSD.

FOR
- clear and easy going sound
- light weight and portable
- Bluetooth wireless

AGAINST
- illegible front panel

Audiolab UK +44 (0) 1480 447700 www.audiolab.co.uk

MEASURED PERFORMANCE
Audiolab’s M-DAC Mini headphone amplifier produced a very high 5V output from its rear Line output phono sockets and its front panel 1/4in (6.3mm) headphone output jack socket, both having identical performance.

Headphones need no more than 1V to go unrestrainedly loud, so there is plenty of leeway here for insensitive units. The volume control affects both outputs, so the Mini can be used to drive power amplifiers direct, as 1-2V is all needed for all power amplifiers.

Distortion was low at 0.05% from a 1V-res (60dB, 24bit) digital input, through electrical, optical and USB. This was no noise rather than distortion harmonics, our analysis shows. From CD the figure was 0.21% which is as expected, being determined by quantisation noise from 16bit digital, not the internal circuitry.

Dynamic range of the ES9018 DAC is in excess of 120dB – 124dB in Audiolab’s M-DAC+. In the Mini however it measured a mediocre 112dB, due to noise in its output circuits. This will cause a subtle loss of depth in the soundstage.

Frequency response was very wide, reaching 82kHz before a sharp roll-off to the 96kHz upper limit with 192kHz sample rate digital. Our analysis shows a smooth response with little peaking. All inputs, including optical, accepted 192kHz sample rate. USB could process 2ch, 24bit at up to 384kHz.

The M-DAC Mini measured well but lacks the exceptional dynamic range of M-DAC+, running from its own external mains supply or internal batteries, measurement showed. NK

Frequency response (filter 1)

<table>
<thead>
<tr>
<th>Frequency range (1V-res)</th>
<th>4Hz-82kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distortion (24bit, -60dB)</td>
<td>0.05%</td>
</tr>
<tr>
<td>Separation</td>
<td>87dB</td>
</tr>
<tr>
<td>Dynamic range</td>
<td>112dB</td>
</tr>
<tr>
<td>Noise</td>
<td>-121dB</td>
</tr>
<tr>
<td>Output</td>
<td>5V</td>
</tr>
</tbody>
</table>
Connect your home to a deeper music experience

Channelling forty years of audio engineering, we present Mu-so.
A range of compact, yet commanding wireless music systems, that will unleash your music wherever it's stored, in breathtaking quality. Advanced connectivity includes AirPlay, Bluetooth®, Spotify Connect®, TIDAL, iRadio and multiroom streaming.

naimaudio.com

Go Deeper

Experience at John Lewis, selected Apple stores and our network of specialist audio retailers.
Acoustic Energy’s new AE100 standmount loudspeaker sounds fabulous for just £200, says Jon Myles.

Join the 100 Club

The budget end of the market for standmount/bookshelf loudspeakers is one of the most hotly contested sectors in the hi-fi industry. Not everyone has the money or the desire to own large, exotic loudspeakers. I have been told that £200 is one of the magic price-points for buyers. So no wonder there’s competition at the price point.

But building a good loudspeaker for this kind of money is no easy feat. Give a designer a limitless budget and the chances are they’ll come up with something seriously impressive in terms of materials and drive units. Bring the cost price down to a mere £200 and certain compromises have to be made which makes the job much harder.

So credit to the Gloucester-based Acoustic Energy for taking on the challenge. The company was recently the subject of a management buy-out and this is one of the first products to emerge from the team.

In designing it they’ve also revived an old name - that of the AE100 which first appeared way back in 1996. In doing so they say their goal was to get the highest possible sound pressure levels from a small enclosure without ruining sound quality - something the laws of physics don’t exactly make easy.

And small the AE100 certainly is, measuring just 270mm x 160mm x 240mm (HxWxD). It’s a traditional two way with a 4-inch mid/bass paper cone drive unit built around an ultra high force, long throw motor system. This crosses over at 3.6kHz to a 28mm soft dome tweeter which...
CHORD Electronics Ltd.

Hugo 2
Transportable DAC/headphone amplifier

WHAT HI-FI?
★ Stars of CES | 2017 ★

THE LEGEND, REMASTERED

SUPERCHARGE YOUR LISTENING EXPERIENCE
NOW

49.152-tap FPGA DAC - twice the original Hugo
More output power - 1.9W into 8Ω
Lower distortion - 0.0001% THD
768kHz PCM
Future-proof PCM support
Native DSD
Advanced Native DSD support up to 512x
4 new playback filters to choose from
Remote control functionality

We're in the midst of a digital audio revolution and Chord Electronics is at the forefront

visit chordelectronics.co.uk for more information and to locate your nearest dealer
uses Acoustic Energy’s own Wide Dispersion Technology to project sound further into the room.

Low frequencies are augmented by a rear-facing slot port that is said to minimise air turbulence and sound cleaner than traditional round reflex ports. This positioning ensures that box colour is not projected at listeners, keeping colouration down.

Fit and finish are good for the price, the cabinet is sturdy and the speakers are available in either satin black or Walnut.

**SOUND QUALITY**

While these ‘speakers can be used on a bookshelf, they benefit from a pair of sturdy stands – which is where I placed them in the listening room with a slight toe-in. Amplification duties came from a Creek Evolution 100A, McIntosh MC152 and an Icon Auto-400 stereo 30SE with a variety of CD-quality and high-resolution tracks.

Big sound from a small box is a goal often banded around by loudspeaker manufacturers and Acoustic Energy have certainly achieved here. But they’ve done it in a way that doesn’t sound artificial or unrealistically pumped up. Instead the AE100s are smooth and evenly balanced with just a slight treble lift.

On Led Zeppelin’s ‘Kashmir’ (24/96) I could turn the volume up to fit Hi-Fi World’s large listening room without any distortion creeping in. That done Jimmy Page’s bowed guitar work came across with exceptional power for the size of the boxes. There was energy plus resolution with the tweeter, revealing plentiful detail. Pushing the loudspeakers closer to a rear wall helped strengthen bass depth – although the 100s lack the outright definition of larger loudspeakers. With Ian Dury’s ‘Hit Me With Your Rhythm Stick’, for example, the swift changes in bass notes tended to slip under radar. That aside, the lower registers were always fast with a bouncy quality that brought an air of excitement to proceedings.

The tweeter also pushes music out into the room so female vocals floated well clear of the cabinets. Margo Timmins’ voice on Cowboy Junkies’ ‘The Trinity Sessions’ hung high between the ‘speakers and possessed an ethereal, haunting quality. Stanceaways of this size traditionally image well and the Acoustic Energies were no exception with instruments placed accurately in the soundstage.

I was constantly surprised at just how smooth and fuss-free the AE100s sounded on all types of music - simply getting out of the way and letting the sound flow in a natural, unforced manner.

Yes, they really are built to the likes of our big McIntosh power amplifier and they’ll eventually reach their tipping point and start to become congested but you have to go a long way with the volume knob to get there.

Keep them within a sensible range, however, and they’ll keep you entertained for many hours a day with their toe-tapping sound and easy-going nature.

**CONCLUSION**

The AE100s are a fantastic budget loudspeaker that sound much more expensive than their price. Don’t be fooled by their size - they can punch out a tone with great resolution and no sign of strain. They are one of the best £200 loudspeakers I’ve heard and deserve an audition.

---

**MEASURED PERFORMANCE**

The small AE100 has an even frequency response that provides correct tonal balance, our third-octave analysis of pink noise shows. Look closely however and the tweeter is slightly lifted by 1dB-2dB, to avoid dullness.

**FREQUENCY RESPONSE**

Green - driver output

Red - port output

**IMPEDANCE**

Bass shelves down below 150Hz in a classic manner to compensate for rear wall reflection, in order to give balanced sound quality. With forward output reaching down to 55Hz, aided by the port, the AE100 will deliver fast bass. Narrow port tuning shown in our red port output trace and the pronounced dip in our impedance trace means bass will have a lively dynamic quality, if not with the note definition of more damped systems in bigger cabinets.

Sensitivity was relatively high for a small cabinet, measuring 85dB Sound Pressure from one nominal Watt (2.8V) input. They will go very loud from 60 Watts or so; high power amplifiers are not essential. A measured impedance of 6 Ohms is a normal enough load, if with some reactance due to high residual peaks around the port at 60Hz, our impedance trace shows.

The small AE100 measured well all round. It is accurate, low in colouration, with well balanced and enthusiastic bass. NK

---

**ACOUSTIC ENERGY**

**AE100 £200**

**OUTSTANDING - amongst the best.**

**VALUE - keenly priced.**

**VERDICT**

A potent pair of small speakers with excellent tonality and a big sound from a small box.

**FOR**

- big sound
- smooth delivery
- price

**AGAINST**

- nothing at the price

Acoustic Energy
+44 (0)1285 654432
www.acousticenergy.co.uk
TURN TABLES

AVID INGENIUM £600
Great bass response and upper mid-range detail allied to clarity makes this a must-hear at its price point.

CLEARAUDIO INNOVATION £6400
Expensive, but offers great results from a finely honed and beautifully finished belt drive turntable with servo control from the platter to keep a grip on tempo like few others. Can be fitted with a Clearaudio tonearm, or any conventional design. Awesome.

INSPIRE MONARCH £4350
A rebuild from the ground up Technics Direct Drive having blistering pace and dynamics allied to smoothness, sophistication and purity of tone. A true reference.

LINN LP125F £3660
The UK's most iconic turntable, the legendary Sondek goes from strength to strength. New Keil Kraft tonearm and Radical DC motor add precision and grip to one of the world’s most musical disc spinners. Expensive, through.

MICHELL CYRO DEC £1700
Wonderful styling coupled with great build and finish make this turntable a delight for friends and family. It has an attractive acrylic dust cover and you can mount just about any arm. A current design standard.

PROJECT ESSENTIAL DIGITAL £300
A budget turntable that turns in a great analogue performance, but also has a hi-res digital output. Send 24/192 across your lounge via optical cable to a DAC and get great audio quality. Or record LP to your laptop.

REGA RP3 £550
The first of the super-quality Regas, little compromised by price and featuring Rega’s outstanding RB303 tonearm, suitable for MM and MC cartridges. A standard at the price point.

TIMESTEP Evo £2100
The famous Technics SL-1210 Mk2 Direct Drive but with improved plinth, isolation, man bearing and power supply, plus an SME arm (add £1500) to convenience, rock steady pitch and top sound at a great price. Our in-house reference.

TONEARMS

ORIGIN LIVE ENCOUNTER MK3C £1745
Origin Live continues carbon fibre and ebony to marvellous effect in its new 12-inch arm. Creamy and rich in presentation, the Encounter delivers deep into the mix for a satisfying listen.

KARCOCK GT-240 EXPORT £1250
Consistently succulent, lyrical sounding tonearm, but needs the right turntable.

ORIGIN LIVE OXY £450
Flat, smooth, creamy nature that reminds you why you’re listening to vinyl in the first place. Essential audition at the price.

CARTRIDGES

AUDIO TECHNICA AT-OCD ML III MC £420
A fine sounding MC with strong bass and super fine treble from a great stylus – yet inexpensive.

SERIES 5 £245
Smooth, lucid and full bodied, award winning, hand-made cartridge from Switzerland.

SME 309 £1650
A one-piece tapered arm finished like a camera and slick to use. Superlative SME quality and sound at affordable price.

TONEARMS

ORIGIN LIVE ENCOUNTER MK3C £1745
Origin Live continues carbon fibre and ebony to marvellous effect in its new 12-inch arm. Creamy and rich in presentation, the Encounter delivers deep into the mix for a satisfying listen.

KARCOCK GT-240 EXPORT £1250
Consistently succulent, lyrical sounding tonearm, but needs the right turntable.

ORIGIN LIVE OXY £450
Flat, smooth, creamy nature that reminds you why you’re listening to vinyl in the first place. Essential audition at the price.

CARTRIDGES

AUDIO TECHNICA AT-F70ML III MC £150
Great value entry level moving coil with detail and grip you just can’t get from similarly priced moving magnets.

BENZ MICRO ACE SL MC £955
Smooth, lucid and full bodied, award winning, hand-made cartridge from Switzerland.

BENZ MICRO WOOD SL MC £945
Highly finished Swiss moving coil that plays music with riflebolt precision.

DENON DL-103 £180
A popular and much loved budget MC with big bass, smooth treble and deep sound stage. Fantastic value.
**LYRA TITAN I MC** £3,500
Breathtaking speed and dynamics from L.P. helped by diamond coated, baron rod cantilever.

**ORTOFON 2M MONO SE MM** £80
A mono cartridge purposed for The Beatles in Mono microgroove L.Ps. Fitted with a top quality Shibata tip. Fab for the four.

**ORTOFON 2M BLACK MM** £400
As good as it gets from MM. Fabulous detail and insight from a Shibata stylus, good bass and excellent tracking.

**ORTOFON Cadenza Bronze MC** £1,400
A mid-price MC with a slightly sweeter presentation than the super smooth Cadenza Black. High-end sound at midband price – great value.

**ORTOFON Cadenza Black MC** £1,800
Ultra smooth and dimensional moving coil with bass and punch aplenty. Lovely Stylus.

**ORTOFON AR5 MC** £3,750
Fast and extremely detailed, this is an MC cartridge that sets standards.

**REGA Carbon MM** £35
Budget price for a competent cartridge with a fairly unflappable nature, ideal for beginners.

**GOLDRING 1012G/2 MM** £250
A genuine sounding cartridge with solid base and slamming dynamic punch, plus excellent treble from its Fritz Geiger stylus. Fun and affordable.

**SHURE M57XE** £40
Big warm sound, but great tracking and bullet proof stylus protection from damped guard. A no-brainer.

**Van Den Hul DDT-II Special MC** £995
Long-established cartridge from Holland with an open and dynamic sound.

**PHONO PREAMPS**

**Cambridge Audio 651P** £200
Liene, concise sound from MM and MC cartridges at a very low price. A real bargain.

**ICON Audio VS3 MKII** £2,500
All valve MM phono stage with MC transformer option, graced by big, spacious and relaxed sound.

**IFI Phonos** £350
Mark EQ phono stage from British manufacturer that punches well above its weight. Substantial bass and open midband.

**LEEMA ACOUSTICS ELEMENTS ULTRA** £1,199
Smooth and detailed sound with the ability to accommodate most modern cartridges. Exceptional value for money.

**PRO-JEC-CT TUBE BOX DS** £425
Compact MM and MC phono stage with valve output circuit and a big sound.

**Preamplifiers**

**ICON Audio LA-4 MKIII** £1,400
Uses early 6SN7/6G6P for liquid sound. Has ground of gain and a remote control into the bargain.

**TIMESTEP T-01MC** £995
New, minimalist phono stage that sonically punches well above its weight.

**MF Audio Classic Silver** £4,500
One of the best preamps we’ve heard at any price, this transformer-coupled marvel does very little wrong. It’s powerful, clean and open, yet delicate. Its sound is unmatched at or near the price.

**MING DA MD7-SE** £1,520
A valve preamplifier with an open, effortless sound and a big soundstage. It has plenty of gain so will accept any source and drive any power amp. A real beauty.

**INTEGRATED AMPLIFIERS**

**ARIANO iPRO845sE** £1,499
Pure single ended valve magic. Low powered but immediately gorgeous, easy-going yet forcefully dynamic at the same time.

**Audio Research VSi60** £3,500
Propriy home-rolled with immense gain and punch from traditional U.S. music master Audio Research. Breathtaking, but expensive.

**Cambridge Audio Azur 661A** £350
Dual-mono construction and meaty toroidal power supply promise to produce a solid and sharp sound with reserves for beyond its price point.

**Creek Evolution 100A** £1,500
Superb build and smooth confident sound make this powerful amplifier a benchmark.

**Exposure 1010** £495
Entry-level integrated from Exposure has excellent upper mid-performance with an almost value-like sound.

**Cyrus DAC** £1,400
Trademark shoebox-sized Cyrus integrated now offering 88Watts per channel, plus DAC. Swift delivery from a dainty case that fits in anywhere – and isn’t Class D!
WORLD STANDARDS

ICON AUDIO STEREO 60 MKII £2,800
Excellent tube integrated with plenty of power and an expansive soundstage, plus KT150 inverse triode option and bias meter for easy adjustment.

QUAD II-EIGHTY MONOBLOCKS £6,000 PR
Powerful and expansive sound from modern design monoblocks that also look lovely. Superb – used by us as a reference.

NAIM NAIT 555 £392
Naim’s faithful entry-level integrated amplifier is updated to its status. Does Naim’s superbly muscular sound at entry level.

SUGDEN A21SE £2,100
Class A amp with fantastic sound quality producing hard, sculpted images, deep detail and tight bass. Just don’t expect disco-like sound levels!

LOUDSPEAKER FLOORSTANDER

B&W 803 D3 £12,500
B&W’s updated statement floorstanders deliver depth and definition with breathtaking speed and authority, aided by a diamond coated tweeter. Expensive – but enormously impressive.

CASTLE AVON £1,600
A big floorstander at a modest price that suits the average room – defined ribbon treble and deep bass give it a great delivery.

EMINENT TECHNOLOGY LEFT-88 £2,500
Excellent U.S. planar magnetic loudspeaker at bargain price. Utterly superb - a must hear.

FOCAL ARIA 926 £1,400
Simple, clean, neutral sound – easy going but well engineered and affordable.

MARTIN LOGAN SUMMIT X £16,198
Matches Martin Logan’s KSX1 electrostatic panel to a powerful subwoofer to provide extended, powerful bass. Dynamic even purity Awesome – all but unmatched.

MARTIN LOGAN ELECTROMOTION £2,500
Martin Logan’s budget baby KSX1 electrostatic. Fits into any lounge to give electrostatic levels of clarity and imaging.

QUADRAL ORKAN VIII AKTIV £6,200
Active loudspeaker with tight, powerful bass, perfect accuracy and detailed treble from a ribbon tweeter.

Q ACOUSTICS 2056i £480
A large floorstander at a budget price. Offers high sensitivity and big sound and has very few flaws for the price.

SPINNAKER SP110 R2 £16,495
Retro looks but a sound that’s hard to match. Spinnaker’s 12” bass unit provides massive low-end grunt with a room-filling sound.

SPINNAKER A3 £1,348
Fine little floorstander with a smooth, natural midband and even tonal balance. Ideal for smaller rooms.

TANNOY DEFINITION DC10 Ti £8,000
Enormous power with great projection. Glorious openness and fine detail. It goes very loud and has superb levels into the bargain.

TANNOY KENSINGTON £9,995
Big but not overpowering, punchy modern sound from ribbon tweeter. Needs little power to go very loud and suit a traditional home, or castle.

LOUDSPEAKERS STANDMOUNT

ACOUSTIC ENERGY AE1 CLASSIC £845
Brilliantly successful remake of an iconic design, not flawless, but surely one of the most musical loudspeakers ever made.

ACOUSTIC ENERGY AE1 MKI £325
Clever sounding speaker with fast and tuneful bass.

POWER AMPLIFIERS

AUDIO RESEARCH VS175 £7,498
Powerful, fast valve sound that makes everything else look weak at times. Needs careful matching but well worth the effort.

AUDIO RESEARCH VS115 £5,000
Odious of power with enormous punch. Rafael Tades said it provided “shock and awe” while refining invaluable smallness and feature.

ICN AUDIO MR45 MKII £7,600
With 120W from big 845 valves right down to low frequencies, this power amplifier has reserve dynamics and bass swing, yet is easy on the ear.

ICN AUDIO MB1PP £15,000
Big Russian transmitter valves deliver 200W from these massive monoblock amplifiers. frightening in every sense.

MCINTOSH MC-152 £4,995
Stunningly insightful sound with enormous bass punch from a uniquely designed transistor amp. Amazing audio, a league up, if expensive.

QUAD ELITE OAMP MONOBLOCK £2400 PR
The proverbial iron fist in a velvet glove. Plenty of power but delivered with an assured and confident nature. Smooth on top and easy on the ear but can rock out when needed.

QUADRAL CHROMIUM STYLE 8 £1,700
A supremely smooth yet open sounding loudspeaker. Clean and detailed treble from a fine ribbon tweeter. Accurate yet informative and enjoyable. Pure class.
ELAC BS243 £1,000
More transparent and spacious than they've a right to be at this price, these refined mid-price standmounters represent top value.

EMINENT TECHNOLOGY LFT-16A £1,200
U.S. piano magnet bookshelf loudspeaker with unrivalled mid-band treble. Hear it before you buy.

WHARFEDALE DIAMOND 220 £200
Builds on the success of previous Diamond ranges with better tone, more detail and a greater sense of scale.

KEF LS50 £800
Supremely musical mini-monitors which sound much bigger than they are.

MARTIN LOGAN MOTION 35 £1,300
Folded Air-Motion tweeter gives a taste of Martin Logan's electrostatic sound in a standmount. Different from the standard monitor and all the better for it.

PAC TWENTY 21 £1,575
Transmission line loaded standmount with a big box sound from a compact cabinet. Punches well above its weight.

WHARFEDALE DENTON £500
A beguiling mixture of retro looks with modern, high-technology drive units. The Denton has an easy-going, big-hearted sound with a touch of trad warmth that should appeal to many.

KEF LS50 £800
Supremely musical mini-monitors which sound much bigger than they are.

OPPO HA-2 £290
Remarkable performance and sound from ESS Sabre DAC in a slim portable package.

HEADPHONE AMPLIFIERS

CREEK OBH11 £150
Designed specifically for low to medium impedance (30 Ohm - 300 Ohm) headphones the little Creek has a marvellously well-judged sound.

CHORD MOJO £999
Class leading portable DAC and headphone amp with ability beyond all else. 5g, open spacious sound.

EPHANY EHP-02 £99
PP3 battery-powered portable gives great sound quality at an almost giveaway price. Happy with the output from an iPod or CD player, the little epiphany is a true bargain.

ICON AUDIO HP6 MKII £850
The HP6 MKII valve-based headphone amplifier brings the spacious sound of valves to headphones. And it matches 'em all.

FIDELITY AUDIO HP4 100 £350
Great little headphone amplifier with a lovely yet refined sound.

MUSIC FIRST PHONE BOX £276
Brings a big stage, plenty of detail and rich, deep colours to the sound.

Q ACOUSTICS 2020i £165
Great little bargain-priced stand-mount with a friendly, fun yet surprisingly refined sound. Hard to beat for a pair of starter loudspeakers.

CANON CD7+ £3,100
Musically coherent and tuneful valve-driven CD player from Japan. Lovely liquid sound.

CAMBRIDGE AUDIO AZUR 651C £410
Snappy modern presentation from this budget CD player. Cracking audiophile entry point for any digital fan.

CHORD RED REFERENCE MKIII £16,000
A unique and massive engineering exercise by Chord. A perfectly coherent DAC technology produces a musical experience like few others. A true reference player.

ESOTERIC K-03 £9,495
Superb high-end silver disc spinner that is beyond criticism. Devoid of its own character but has a flagship presentation.

EXPOSURE 101 £395
Retained player with fine sense of timing should be an automatic entry on any demo list at this price.

The world's best music.

www.hi-fiworld.co.uk  
NOVEMBER 2017 HI-FI WORLD  
47
Epic in scale, lavish in tone and exuberant in its musicality - this is a memorable SACD-spinner. Quirky in operation and modest in finish, though.

Universal player and DAC that makes CD and Blu-ray (+DVD) sound deep, spacious and full bodied. Reference quality that’s affordable.

Rega comes up with a fine CD player again. Tremendous detail and an easy, unforced sound at all times. Few bells and whistles but made up for by its super sonic ability.

A charmingly musical performer at the price - this is a surprisingly sophisticated CD player for the money.

Value-packed AM/FM/DAB and DAB+ ready tuner. Precise and detailed with excellent resolution of spoken word.

Creek’s tuner expertise shines through in the Destiny 2. This AM/FM receiver is wonderfully three-dimensional and smooth.

Exceptionally able, but commensurately priced, a simple tuner that cannot fail to charm:

DACs

Excellent sound from ESS Sabre32 DAC and impressive flexibility with a unique range of filter options make this a stand-out product. Low price is the icing on the cake.

Striped-down version of AudioLab’s M-DAC loses some features but retains much of the sound, making it a veritable bargain.

DAC/ preamp/power supply combination majors on detail but has a remarkable un-digital sound. One of the best at its price.

Superb build quality and exceptional sound from this compact unit. Boasts the ability to handle DSD direct via USB and has an exceptional soundstage. One of the best DACs you can buy.

DCS Debussy

DCS’s bespoke ‘Ring DAC’ circuit gives a beautifully fluid, almost analogue sound that encourages long listening sessions. Not cheap but worth every penny.

Packaged full of features, including Bluetooth and USB, this ESS Sabre32 equipped DAC offers crisp, insightful sound at low price.

Superb high-end digital converter with a probing, pacy and forensically detailed sound.

Great sound quality with traditional Naim feel. A wonderful DAC with full 24/192 handling. Only the display could be better.

Feature-packed DAC with benefit of DSD playback. Superb sound means little to touch it at the price.

One of the most highly spec’d DACs available, with a smooth yet enthralling presentation. Few approach it.

Chord’s proprietary DAC shines in their top-of-the-range streamer. Hear-through clarity with a sound rich in detail, dynamics and grandeur.

Budget offering from Cambridge offers a great introduction to network streaming.

Gorgeous sound quality even from compressed digital music. New control app makes everyday operation a doddle.

A network player with amplifier that does it all, including turn LP to hi-resolution digital, and add cover artwork from the ‘net.

Clean, inexcusively and very detailed sound with Naim’s traditional pace and timing makes this one of the best network music players around.

Great sound quality with traditional Naim feel. A wonderful DAC with full 24/192 handling. Only the display could be better.
NAIM NAC-N172 XS £1,850
A pre-amp/DAC/streamer package provides a taught, rock-sold presentation with a tonally rich midband and a superior sense of rhythm.

PORTABLE SPEAKERS

BAYAN SOUNDBOOK £49.99
Superb design and great sound make for one of the best portable Bluetooth speaker/radios on the market. Not the cheapest – but worth every penny.

HEADPHONES

AUDEZE LCD-3 £1,725
A planar magnetic ‘phone that offers monitor quality/bright sound with silky, dark quality that others struggle to match.

DIGITAL SOURCES

ASTELL&KERN AK100 MKII £569
Portable high-definition digital player with superb sound quality. Punchy and fast.

FIO X3 £150
Fabulous value player with nice easy sound and full range of abilities. Small and light. For in-ear use.

DIGITAL SOURCES

LOTTOO PAW GOLD £1,500
Reference quality sound; it’s like carrying your hi-fi in your pocket. Equally large too, but draining headphone quality.

TELLURIUM Q BLACK £280/3M
A deep, dark, velvety performer that’s nevertheless highly musical, it represents excellent value for mid-price headphones.

TELLURIUM Q SILVER DIAMOND £804/M
An open, natural and transparent sound that is difficult to beat, from these great loudspeaker ranges.

HEADPHONES

YAMAHA HPH-MT220 £150
Perfect for indoor monitoring yet light and comfortable enough to be used on the move. Excellent sound quality marred only by a slight warmth to vocals.
**Oppo-tunity**

Oppo’s new flagship UDP-205 universal disc player has almost every feature you could want, says Jon Myles. It also performs brilliantly.

Regular readers will know we are big fans of Oppo’s BDP-105D universal disc player. It’s been resident in our listening room ever since we reviewed it in our December 2014 issue, acting as a reference for other disc spinners.

As years have slid by, however, the question arose – when would Oppo bring out an update? The answer is ‘now’ with the arrival of the £1399 UDP-205. It’s their flagship model in a two-strong range, accompanied by the £649 UDP-203 which came out a couple of months ago. The 205 is flagged by Oppo as being a true audiophile machine when used for two channel stereo.

Of course, being an Oppo it can do much, much more as it’s also designed to appeal to A/V enthusiasts. So it comes with 4K Ultra High Definition (UHD) Blue-ray decoding via a quad core OP8591 chip from MediaTek, dual HDMI outputs, 7.1 channel surround-sound as well as Dolby Vision support and a host of options for tweaking its picture output.

For those interested in all this there’s more information on Oppo’s UK website (www.oppodigital.co.uk). But our main concern here is its audio quality and at first glance the specifications look impressive.

Inside there are two of the top-line ESS ES9038 Sabre DAC chips - one for surround sound, the other for two-channel. We’ve tested these before and they produce the highest dynamic range currently possible. Separate power supplies are provided for the digital and analogue circuitry, the latter from a hefty toroidal transformer.

There’s an asynchronous USB DAC input offering support for up to 768kHz files (if you happen to have any) plus optical and coaxial digital connections supporting file sizes up to 24bit/192kHz as well as DSD64/128. Note that DSD64 is played back natively while 128 is
converted to PCM – although in practice this shouldn’t make much difference. Three other USB inputs (one front, two on the back) allow the use of thumb drives for high-resolution playback.

Both balanced XLRs and unbalanced RCAs are available for output to an amplifier with the former having a true differential path from the DAC. Power amps can be fed direct, since the Oppo has a volume control.

There’s a bespoke silver-disc disc loader that feels much more substantial than the BDP-105D’s – and offers marginally faster read times.

The UDP-205 connects to a home network – both wired or wirelessly – to allow streaming from network attached devices. Finally, there are a variety of digital filter options on offer but the default is MP (Minimum Phase) Fast which Oppo has selected as giving the best all-round sound.

Not surprisingly, all this technology means the Oppo occupies a rather substantial box - at 123mm x 430mm x 311mm (H/ W/D) much larger than a standard CD player. But it is well-built with a brushed aluminium and metal frame that features a vibration-damping chassis.

"This player seduces you with its sound from the very first note."

Control is via a set of buttons on the fascia or the supplied remote control - which, while rather heavy with buttons, is easy to navigate once mastered and features backlights for late-night listening.

The only thing missing is any form of integrated support for music streaming services such as Tidal and Spotify - which is rather curious as more and more players now feature this as standard.

SOUND QUALITY
I connected the Oppo to a McIntosh MC152 power amplifier and played digital files from an Astell&Kern high-resolution player via a QED glass optical cable. It also acted as a streamer for network stored files.

With the Allegri Quartet’s String Quartet’s by Alec Roth’ CD the combination of violins, viola and cello was exceptionally punchy yet also smooth and mellifluous. These tracks blend some soft, melodious passages with pizzicato elements having a strong rhythmic drive. The Oppo handled the contrasts expertly while allowing each instrument its own space.

Switching to the more frenetic ‘Ouch Evil Slow Hop’ - a combination of ferocious drumming from Seb Rochford accompanied by the electronic sounds of Pamela Kurstin’s Theremin plus a variety of studio effects - proved no less impressive. The opening drum salvo pulsed with power and then the Theremin floated ethereally over it - both distinctly occupying their own space yet blending wonderfully.

Generally, I was struck by the precision the unit brings to replaying music. It is able to pick apart tracks, allowing deep insight into the mixes with a level of detail other players struggle to match.

Moving onto higher resolution material brought extra gains. Miles Davis’s ‘Bitches Brew’ (24/96) had Miles Davis’s trumpet placed well to the fore and anchored well centre yet floating high above the loudspeakers while the twin electric pianos of Joe Zawinul and Chick Corea were accurately placed in the left and right channels alongside the twin drum sets. Not many players manage to get this right but the Oppo did.

It’s not all about precision though - like its predecessor the UDP-205 manages to combine this with an easy-going flow, so music didn’t sounded clinical. Listening to Jan Garbarek’s ‘In Praise of Dreams’, while the saxophone was pin-sharp I was also able to let the lush electronic backing wash over me.

I experimented with this collection of songs on a variety of the digital filters - there are five with fast roll-off and two with sharper ones - I consistently came back to the MP Fast. However, tastes vary and it’s worth experimenting to find the one that suits you best.

Most important, though, is the fact that this latest Oppo plays almost any sort of digital file with supreme confidence coupled with innate muscality. It’s feature-packed, versatile but above all a joy to listen to.

CONCLUSION
The Oppo UDP-205 could easily be described as the Swiss Army
Distributors of exquisite audio equipment
Tel +44 (0)1900 601954
WWW.LUMINMUSIC.COM

LUMÍN
THE AUDIOPHILE NETWORK
MUSIC PLAYER FAMILY
S1/A1/T1/D1
NOW WITH NATIVE TIDAL SUPPORT

selectaudio
Distributors of exquisite audio equipment
Tel +44 (0)1900 601954
WWW.LUMINMUSIC.COM
knife of universal disc players. it features just about every facility you could need whether it's for straight audio or AV duties. As such it could be seen as overkill if you just want to play CDs/SACDs or high-resolution tracks.

But that's nothing to worry about because its performance is superb with these formats. Exceptionally open, detailed and rhythmically accurate, it pulls the best from silver discs and imbues high-resolution tracks with an analogue-like feel. This player seduces you with its sound from the very first note.

**NOEL SAYS -**

There are many compelling reasons to buy this player, not all of them obvious. Oppo are part of China's second largest mobile phone manufacturer (BBK), behind Huawei in top slot, so they're rather larger than most hi-fi outfits and have real R&D weight. As a massive purchaser of silicon chips they also are a prized customer, if you are a chipmaker.

So we all got lucky when Oppo decided to build the best silver disc player going, no holds barred. For this they had to use the best digital-to-analogue converter (DAC) chip on the planet, irrespective of cost, aligning upon the ES9018 from chipmaker ESS, based in Milpitas, California (silicon valley). That was for their initial UDP-105D universal disc player (that we use in-house as a reference). ESS launched a new chip range early 2016 and these are now coming to market in commercial product, spawning the new UDP-205 reviewed here. It uses the top ES9038Pro chip in their Sabre32 series, which doesn't come cheap; think around $30 each, in small-ish quantity (100s). With retail price around x5 parts cost, that's $300 just for the two DAC chips – impossible.

All this is to illustrate that Oppo defy common economics to be able to supply this player with two Sabre32s on board – and so much else. Looking at the internal parts I would cost it at £5k minimum. Needless to say, there are no rivals.

That's why the UDP-205 is a CD player like no other and – I know from experience – one that sounds utterly superb. Oppo even fit an audiophile linear power supply, rather than a cheap switch-mode. It doesn't get any better!

**MEASURED PERFORMANCE**

Fed from an S/PDIF digital input, the UDP-205 produced a range-leading 124dB dynamic range through its balanced XLR output sockets, the unbalanced Phono socketed outputs being fractionally less at 123dB, both fed a 24bit resolution signal. These values are as good as it gets from today’s digital-to-analogue converters (DACs), putting this universal player up with the best.

With CD the value was 103dB, limited not by the technology of the player but the limitations of 16bit that suffers measurable quantisation noise intrinsic to its resolution limit.

Distortion at full output measured 0.0001% from both XLR and Phono sockets, with both 24bit and 16bit code. At -60dB the figures were 0.015% and 0.21% – as low as it gets.

In line with convention, XLR delivered a nominal 4V (4.3V measured) and the Phono output 2V (2.2V measured), the same level as any silver disc player.

Frequency response from a 192kHz sample rate input stretched from 4Hz to a very high 91kHz (-1dB), this player having steep ‘brick wall’ filter that cut off output sharply close to the 96kHz upper theoretical limit. Our analysis shows perfect flatness across the audio band and upwards, with no peaking.

The USB input gave a similar result to S/PDIF, dynamic range measuring 124.4dB, distortion at -60dB 0.013% and bandwidth flat from 4Hz to 91kHz – very wide by the highest standards. These are excellent figures all round and suggest superb sound quality.

The UDP-205 produced excellent measured figures in all areas, as expected from its ESS ES9038Pro DAC well implemented.

**FREQUENCY RESPONSE**

<table>
<thead>
<tr>
<th>Frequency response (filter 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4Hz - 91kHz</td>
</tr>
<tr>
<td>Distortion (24bit, -60dB)</td>
</tr>
<tr>
<td>Separation</td>
</tr>
<tr>
<td>Dynamic range</td>
</tr>
<tr>
<td>Noise</td>
</tr>
<tr>
<td>Output (Phono/XLR)</td>
</tr>
</tbody>
</table>

**DISTORTION**

The Oppo’s busy rear panel includes both balanced and unbalanced outputs (left) as well as optical, coaxial and digital inputs, plus USB. There’s also facilities for multi-channel output for surround sound.
A LITTLE AUTUMN CHEER

VISIT OUR WEBSITE: www.hi-fiworld.co.uk

A SUBSCRIPTION TO HI-FI WORLD MAKES THE PERFECT GIFT FOR YOUR NEAREST AND DEAREST.

SAVE ...up to 26%

Subscribe today and you will get a special discounted rate giving a saving of 15% to 26% off the cover price. That’s an amazing £3.83 - £3.33 per issue including postage.

So don’t delay, take out a subscription today!

FOR BACK ISSUES ENQUIRIES PLEASE CALL 01442 820580

OVERSEAS SUBSCRIPTIONS IF YOU LIVE OUTSIDE THE UK, PLEASE CALL FOR OUR LATEST PRICES +44 (0) 1442 820580

SO WHAT ARE YOU WAITING FOR? CALL NOW!!! SUBSCRIPTION HOTLINE 01442 820 580
Lines open Mon-Fri 9.00-5.00 or (weekend answering service available)

FOR OUR ON-LINE MAGAZINE GO TO WWW.HI-FIWORLD.CO.UK

email: hifiworld@webscribe.co.uk
WHY SUBSCRIBE TO HI-FI WORLD?

- 12 issues a year delivered straight to your door.
- Be first to grab a bargain in our “Free Reader Classified Ads” section.
- Run by dedicated hi-fi engineers and enthusiasts.
- Subscribers receive a minimum 10% Discount annually.
- HI-FI World has become famous for its informative reviews and radical kit designs.

PLUS! Subscribe by Direct Debit and receive a 16.5% discount on a yearly subscription (UK only).

<table>
<thead>
<tr>
<th>Instruction to your Bank or Building Society to pay by Direct Debit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please fill in this form and send to:</td>
</tr>
<tr>
<td>Name and full Postal Address of your Bank/Building Society</td>
</tr>
<tr>
<td>To: The Manager</td>
</tr>
<tr>
<td>Address</td>
</tr>
<tr>
<td>Name(s) of Account Holder(s)</td>
</tr>
<tr>
<td>Branch Sort Code</td>
</tr>
<tr>
<td>Bank/Building Society Account Number</td>
</tr>
<tr>
<td>Reference</td>
</tr>
<tr>
<td>Instruction to your Bank or Building Society</td>
</tr>
<tr>
<td>Please pay Webscribe Ltd Direct Debits from the account in this Instruction subject to the safeguards assured by the Direct Debit Guarantee. I understand that this instruction may remain with Webscribe Ltd and, if so, details will be passed electronically to my Bank/Building Society.</td>
</tr>
<tr>
<td>Signature(s)</td>
</tr>
<tr>
<td>Date</td>
</tr>
<tr>
<td>Bank and Building Society may accept Direct Debit Instructions for some types of accounts. The guarantee should be detached and retained by the Payer.</td>
</tr>
</tbody>
</table>

| The Guarantee is offered by all banks and building societies that accept instructions to pay Direct Debits. |
| If there are any changes to the amount, date or frequency of your Direct Debit, Webscribe Ltd will notify you 10 working days in advance of your account being debited or as otherwise agreed. If you request Webscribe Ltd to stop a Direct Debit within 14 calendar days of it taking place, they will require a written confirmation. If you notify Webscribe Ltd after 14 calendar days of the Debit taking place, they will require a statement confirming the transaction. |
| If any extra amount is debited from your account Webscribe Ltd will notify you within 5 calendar days. |
| Please contact Webscribe Ltd if you want to cancel this Instruction or have any other questions related to Direct Debits. |

TERMS & CONDITIONS: You will receive 12 issues per year. Minimum subscription term is 12 months. Prices include P&P and are correct at the time of going to press. All prices are quoted in sterling. Offer available for UK subscribers only. For enquiries relating to overseas pricing call +44 (0) 1442 800 580.

| I would like a years subscription to HI-FI World and receive a discount off the cover price (I have read and accept the terms and conditions). |
| I would like to pay for my 12 issues by: |
| 6 monthly Direct Debit: Pay £22.00 every 6 months saving 19% off the yearly subscription rate of £54.00 |
| Annual Direct Debit: Pay £40.00 every 12 months saving 26% off the yearly subscription rate of £54.00 |
| Annual cheque/credit card: Pay £46.00 saving 15% off the yearly subscription rate of £54.00 |

Cheques made payable to Audio Web Publishing Ltd.

| Your Details |
| Title | Forename |
| Surname | |
| Address | |
| Post Code | |
| Daytime Tel: | |
| Email: | |

Please debit my □ VISA □ MASTER □ MAESTRO □ AMEX (SWITCH)

| Security No: | [last three digits printed on the signature strip] |
| Valid from Date: / | Expiry Date: / |

Switch card issue No: □

Cardholder Signature: □

Outside UK:

| EUROPE | Airmail | £50.00 |
| OVERSEAS | Airmail | £70.00 |

Send this form to:

HI-FI World, Subscriptions Department Unit 4 College Road, Business Park, College Road North, Aston Clinton HP22 5EZ
SOPRA,
REVEAL THE INVISIBLE

Combining twenty years of engineering heritage from Focal’s flagship Utopia loudspeaker range with innovative new technologies in a stylish and compact design, the new Sopra N°2 will reveal the true essence of your music.

With three major innovations and two patents – the Neutral Inductance Circuit, the Tuned Mass Damper midrange suspension, and the Infinite Horn Loading housing for its Beryllium tweeter – Sopra brings unprecedented technical ingenuity and matchless performance, thrilling the senses like never before. The longing for exceptional speakers in your living room is over.

Visit www.focal.com to discover more.
Here’s your chance to win a Goldring E3 pickup cartridge reviewed last month. Five will be sent, after a draw, to those who get the questions right. Read the review excerpt below and answer the questions.

“At the bottom of Goldring’s new E range of MM pickup cartridges lies the E1 with its red stylus carrier. Priced at £59 it is the toughy of the three, designed to withstand rough handling. The cantilever is made from reinforced carbon fibre, a recent alternative to the traditional aluminium tube that bends so easily. The stylus is a simple 0.6mil spherical.

Above it is the £75 E2 that reverts to an aluminium tube for light weight and better tracking, but has the same stylus profile.

The top E3 comes in at £99 and has the aluminium cantilever of the E2, but with an elliptical stylus to better retrieve high frequency information from the groove.

There are clear differences in stylus construction from E1 up to E3, increasing price offering better sound at the expense of durability.

The body of all three is the same, only the removable stylus assembly differs, E1 being red, E2 green and E3 blue. The E1 is for those new to playing LP and worried about accidental damage. The E2 offers – in theory at least – lower cantilever weight and better high frequency tracking. Goldring suggests it reduces ‘spitch’ on vocals.

The E3 has this benefit, plus an elliptical stylus better able to dig detail from the groove.

The E Series cartridges come in a simple, square black cardboard box. You get the cartridge held in black foam packing, together with socket-head mounting screws and a matching key to tighten them. Instructions comprise a single printed sheet but are also available on the ‘net. These are moving magnet (MM) cartridges, by the way, not budget moving coils (MC).

The very good news is Goldring have fitted the bodies with captive nuts, making fitment super easy. You don’t have to slot the bolts into tiny nuts beneath the cartridge, a nightmare – especially when a nut decides to make a break for freedom through a gap in the floorboards.”

For a chance to win an E3, just answer the four easy questions at right. Send your entries on a postcard only, by 10th November 2017 to:

November 2017 Competition, Hi-Fi World magazine, Studio 204, Buspace Studio, Conlan Street, Notting Hill, London W10 5AP

**RULES AND CONDITIONS OF ENTRY**
- ONLY ONE ENTRY PER HOUSEHOLD
- MULTIPLE ENTRIES WILL BE AUTOMATICALLY DISQUALIFIED
- PURCHASE OF THE MAGAZINE IS NOT A PRE-CONDITION OF ENTRY
- NO CORRESPONDENCE WILL BE ENTERED INTO
- THE EDITOR’S DECISION IS FINAL
- NO EMPLOYEES OF AUDIO WEB PUBLISHING LIMITED, OR OF ANY COMPANIES ASSOCIATED WITH THE PRODUCTION OR DISTRIBUTION OF THE PRIZES, MAY ENTER

**QUESTIONS**

1. What colour is the E3 stylus assembly?
   - [a] green
   - [b] pink
   - [c] blue
   - [d] white

2. Is the E3 stylus -
   - [a] elliptical
   - [b] conical
   - [c] Shibata
   - [d] Geger

3. Is the cardboard packing box -
   - [a] round
   - [b] oblong
   - [c] triangular
   - [d] square

4. Are the nuts -
   - [a] captive
   - [b] loose
   - [c] not supplied
   - [d] nuts

**entries will be accepted on a postcard only**

**AUGUST 2017 WINNER:** OPPO HA-2 SE HEADPHONE AMPLIFIER
Jim Hartland of Guisborough, North Yorkshire
quadral

AURUM RODAN 9

RRP £4,999.00

For your nearest dealer call 020 3 544 2338
More fantastic products from NuNu Distribution Limited
www.nunudistribution.co.uk

NuNu Distribution Ltd
Sony ST-80F

Martin Pipe examines a 1969-vintage Sony tuner, which was poised to exploit an explosion of off-air musical choice from the BBC, in new fangled stereo.

The distinctive-looking piece of equipment here is a Sony ST-80F FM/AM (MW) tuner acquired at a car boot sale. In the UK it sold for £49 8s (including purchase tax) when launched in 1969. Translated to 2017 prices, that's the thick end of £800! The same money would have bought you 30 or so stereo LPs, were you to have walked into the record shop next door to the hi-fi emporium. Yes, it was expensive - but stereo radio was a New Thing back then, and hi-fi was a rich man's hobby. Quite a lot to pay, given the limited choice of stereo radio at the time.

It was just three years earlier, in 1966, that BBC FM broadcasting went stereo. After various trials and experiments (including Saturday-morning affairs in which TV sound was used for one channel, and Third Programme FM radio for the other); the BBC adopted the American Zenith-GE multiplex system for stereo broadcasting. This meant 'multiplex-ready' gear from the US and Japan, like the Sony here, was able to fully reveal the quality of BBC stereo broadcasts. Initially, a small proportion of Third Programme material, accessible only to those within range of the Wrotham transmitter was in stereo, however. All the same, this little tuner was then at the forefront of what was happening in radio broadcasting, so it was for me a somewhat historic find at a 'car boot'.

By 1969 standards, the Sony's vertical styling was attractive and contemporary - brushed aluminium, flip-switches and wood-effect cabinet. Yet the backlight circular tuning-dial - half for FM, half for AM - gives it a curiously 'retro' look that evoked the 'golden age' of radio broadcasting.

Its controls are simple, ensuring ease of use. A row of switches on the lower part of the ST-80F's front panel toggle between FM and AM reception, force the mono mode (if reception is unbearably-hissy; stereo FM reception requires a stronger signal than mono), engage automatic frequency control (which 'locks' the signal to the current station, thereby compensating for drift) and remove or apply mains power.

Between these controls and the dial are a signal-strength meter and a tuning knob that's free of backlash. Around the back are two stereo audio outputs of different level, alongside AM and FM aerial connections. The latter are 300-ohm, meaning that a matching transformer...
Exposure Electronics Limited
Unit 18, Winston Business Centre, 43 Chartwell Road
Lancing, West Sussex, BN15 8TU, United Kingdom

www.exposurehifi.com
Cleary visible here is the circuit board that contains the IF (intermediate frequency) amplifier and filters, the FM demodulator and the stereo decoder. The prominent red ‘lump’ is a 38kHz-tuned transformer that forms part of the decoder – a fairly standard design that performs reasonably well. Integrated circuits (‘chips’) are conspicuous by their absence.

(known as a ‘balun’) is needed for most of the rooftop aerials essential for the best results.

There’s an internal ‘ferrite rod’ aerial for AM, the orientation of which can be changed slightly through a rear-panel aperture. In 1970 a physically-similar replacement – the slightly-redesigned ST-88 – had a better spec and a ‘stereo’ beacon that lived on the front panel instead of inside the tuning meter.

After getting it home I found that all of the original internal bulbs still worked – as, for that matter, did the tuner itself! Pretty good, it has to be said, for a piece of gear that’s nearly fifty years old. Out of interest I removed the main electrolytic smoothing-capacitor from the power supply and, on testing it with an LCR bridge discovered that it was still within 20% of its stated value.

The tuner’s published spec is, by today’s standards, rather modest. Yet the ST-80F gives a surprisingly-good account of itself. AM broadcasting is not hi-fi, but the ST-80F’s circuitry is audibly-superior to that of many more modern tuners with a full-bodied yet balanced tone. And to the main course.

I was surprised at the ‘real-world’ FM sensitivity of this little tuner, which was able to bring in a fair few stations in acceptable stereo with little more than a two-foot length of wire masquerading as an aerial! This is perhaps intentional – when the unit was introduced, stereo FM stations were few and far between; you could be on the ‘fringes’ of the desired transmitter’s broadcast coverage. With a proper rooftop aerial, more stations could be received with ‘mush-free’ stereo. The majority of FM radio stations sound awful nowadays thanks to the over-use of compression, but Radio 3 – the nation’s first (and possibly last) quality-conscious FM broadcaster – gave a better account of the ST-80F’s potential, with an open and surprisingly-detailed presentation.

To get a better idea of what’s possible, I drove it from a piece of lab equipment known as a stereo FM generator. Outputs from the source feeding the generator and from this tuner were fed to an Arcam A49 amp feeding Quadral Aurum Wotan VIII speakers, enabling me to compare the source ‘direct’ and as received via the ST-80F. Despite the more convoluted FM path, music emerged from the Sony surprisingly-intact. Compared to the source, there was a more compressed stereo image, less bass articulation and a perceptible reduction of airiness (especially in the upper registers). Some coarseness is also evident. But the result was far better than I was expecting from a tuner that is almost as old as me, the

Part of the ST-80F’s tuner ‘front-end’, this truly ‘old-school’ 5-gang (3 FM, 2 AM) variable-capacitor is a physically-smaller version of the sort of component you would find inside a 1930s ‘steam radio’. Within this unit, there’s not single varicap diode or frequency-synthesiser chip – much cheaper-to-make parts that are essential to more modern digital tuners.

To enable a good match to the rest of your system, the ST-80F offers separate low-level (770mV/10k) and high-level (2V/10k) outputs. They can be used simultaneously – a tape deck and amplifier without tape-loop can both be connected. Separate AM and VHF/FM aerial terminals are provided. The later has a 300-ohm impedance, meaning that a ‘balun’ transformer is necessary for some external aerials.

essentials of the performance being communicated.

As I write this, the days of FM are numbered; it can only be a matter of time before those FM transmitters go off-air for good. Which makes it rather poignant to go ‘back in time’ and recreate the joy of seeing that ‘stereo’ light glow for the first time, appreciating the ‘spread of sound’ across the speakers that allowed you to pin-point instrumental groups within the orchestra - just as one could when attending a concert ‘in the flesh’. The little Sony was a car boot bargain that invoked the glory of past stereo broadcasts and the way we received music yesterday – but not for much longer it seems.
THE TUBES

Live at German Television: The Musikladen Concert 1981
Sirena

Greatest Hits
Mobile Fidelity

L

ead by supreme frontman, Fee Waybill (former roadie for the band during its earlier incarnation, the Beans), The Tubes were – and still are – a mighty, live force. The band’s live concerts are something to behold. Based upon a particular slanted sense of humour that resides firmly in the realms of parodicity (including wholly sympathetic lyrics from guitarist, Bill Spooner), the band almost sway into music hall farce via the delightful acting antics of lead singer, Waybill and his often bizarre personae that range from a drug-addled British pop star to a crippled Nazi. In fact, in the late seventies, the media loved to cover them. Partly because many of those early shows were banned.

After several failed attempts at chart success, the Capitol-backed, 1981 album, ‘Completion Backwards Principle’ (based on a sales training instruction manual, would you believe) saw the band’s first Top 40 LP hit.

Which is where this live LP comes in. Pressed on blue vinyl and recorded for Radio Bremer in 1981, in a local TV studio, replete with dancers and extras, this “elaborately” rehearsed and staged show is basically a live version of ‘The Completion Backwards Principle’.

When looking at mastering, you have to give this double album allowances. This release is all about the performance, the occasion, the music as entertainment. It’s not about the audiophile presentation. It’s, as the old saying has it, ‘what it is’. Which is a relief because the sound quality sounds very ‘live’. You know that sort of thing – percussion somewhat veiled and bloomy, microphones often placed too close to the mouth, midrange lacking in air and reach...and so on. As an entertainment package, though, this LP creation is superb. All Tubes fans need a copy.

I’ve always been confused by Billy Joel. Actually, not Joel himself but the critics’ relationship with him. One of the most popular singer-songwriters in the late seventies and early eighties, Joel has been a popular target of derision from many elements of the media. They accuse him of producing “muzak”, say that his work is “insipid”, “superficial”, “bland” and exudes “unearned contempt”. The sort of vitriol that only Phil Collins normally attracts. It bemuses me. Joel’s work is full of sometimes excellent, sometimes good and, yes, sometimes average work but many other artists of long standing have the same issue. Paul McCartney, Elton John...you name them.

What we have here, for those who actually like the guy, are two albums ‘Greatest Hits Volume I’ and ‘Volume II’, squeezed onto three slabs of vinyl and placed into a sturdy box. The original volumes have been the subject to some criticism in audiophile terms, being accused of sounding rather lifeless. Mobile Fidelity have been allowed access to the original master tapes to, in effect, start again – resulting in this limited-edition release containing almost all of Joel’s peak-era chart hits from 1973 to 1985, as well as a selection of album favourites.

As for mastering, the sound quality is a tad warm and I thought that dynamics were just a bit constricted, I wanted the music to really let loose but, on the whole, the sonics remain very attractive. The music encourages you to increase the volume, which is what I did – by four notches on my preamp, allowing Joel to belt out his music and for the detail to spring to life. There’s no smearing or bloom and the balance, especially in how the vocal sits alongside the piano and background music, is judged well.
The thing about Slade is that the band was around for a long, long time before it started producing those glam rock-inspired hits in the early seventies. They began in the mid-sixties as a soul-rock outfit and then, after a suggestion by Hendrix manager and ex-Animals bass guitarist Chas Chandler, shaved off all their hair and produced skinhead-friendly rock music. Eventually, the band grew their hair again and had their first hit in 1971, the No. 16 dirty 'Get Down and Get With It.'

This 1972 album was released before the classics really started to flow. As such, the release of a live album at this stage of their career could be seen as a bit odd. Normally, live albums are released later in a working artist's successful career. They serve as pseudo greatest hits releases...but with manic crowd noise stuck on the side.

The reason for this album, though, surely reflects their deserved reputation as a superb live band. Way before Slade ever had a hit, the group was entertaining appreciative fans in live arenas. This album lumbers about - but in a good way. Big bass, big drums, big beats and big vocals, lead singer Noddy Holder screams the place down and gets his teeth right into the soul of the fans. Encouraging, supporting and cheering them on just as much as they do the same to him and the rest of the band as the band tear a gamut of their own songs and covers (e.g. "Born to Be Wild") to pieces.

As for the mastering? There's no obvious or irritating compression here and plenty of air around the soundstage that enhances the band's presence in the live arena. A proper live album, and no mistake.

A pioneer of country soul but known more for his deep vocal delivery, Sledge will be forever known for his hit, 'When a Man Loves a Woman,' the source of more karaoke gawping than any other song known to man.

This LP was originally released in 1967 around a year after that hit broke on the music world. It features eleven songs, covered and made famous by other R&B artists. Sometimes, when collections of cover songs are released in this way by a known talent there's a revelation, as the singer transforms and then owns these songs, surpassing the original singers in sheer artistry. To be absolutely frank, I don't think Sledge does that here, with any of the featured songs but, actually, that's not a negative criticism. I don't deride Sledge in any way when I say that he may not offer the definitive version of the included songs here but what he does do is 'Sledge' them all. That is, he pushes them all through a Percy Sledge filter that produces a significant and attractive version for each - reimagining the songs. He offers an alternative viewpoint. So, when Sam Cooke sang 'You Send Me' in his measured, easy going manner, Sledge doesn't improve upon the song but he does deliver a more impassioned performance, infusing it with tearing emotion. It's not better, it's different. Sledge obviously thought hard about each song and wondered if they could seen in a new light. That's his talent Sledge the thinking man's singer.

Meanwhile, Sledge's backing band is filled with pure class. Spooner Oldham and Jerry Weaver on piano and organ, Eddie Hinton, Jimmy Johnson and Marin Green on guitars, David Hood on bass and Roger Hawkins on drums. Lordy.
DISCOVER THE NEW nexus RANGE

For more info, visit www.convert-av.com
I reviewed Sony’s interesting and obviously popular PS-HX500 turntable in our September 2017 issue and said it doesn’t deliver DSD as claimed, and Sony wrote back saying it does. So I had to look again at the whole issue of DSD digital in general – and fascinating it was. What became obvious is that hi-fi is slowly moving into realms so technologically complex that few people – including me – know for certain what is going on. I’ll explain what happened here.

DSD sounds good – and that is the important bit. Why then do we not use DSD everywhere? In basic form it can’t be processed using digital techniques, because data is not numerically encoded. It can only be transmitted or stored, as-is. To process DSD, it must be converted to traditional digital (PCM) which immediately raises the spectre of imposing PCM’s quality problems. This is why purists shudder at the idea of conversion to PCM, yet at the same time I believe I am right in saying that DSD must always undergo such conversion for the purposes of processing. DSD is a high speed stream of analogue pulses that is density-modulated and known as PDM (Pulse Density Modulation). DSD is Sony’s variant of this.

All of which sets the picture for the Sony turntable and my little debate with them. It was ‘little’ because Sony PR UK said they did not want to enter into discussion on the subject – and could they have the review sample back pronto please! I mention this because it is pertinent. You can’t discuss what you don’t understand and it is quite likely this is an OEM product that even Sony don’t understand, as I’ll explain. I had unearthered a can of worms that all but defies discussion in any case. This is where hi-fi is going.

As the matter amicably ended Sony UK sent me a screen shot from a PC (i.e. a computer running Windows) showing an audio control panel that indicated 11 MHz DSD data rate.

Fair enough, Windows requires a specialised driver to be installed to accept PCM audio above 24/96 and so it would need to have a specialist driver installed for DSD – and Steinberg of Germany make one. But that’s Windows. I was using Mac – and as far as I am aware Macintosh Core Audio is PCM only and Mac’s USB control stack cannot be modified to accept DSD.

Ah no, Sony told me after the review, it sees DSD if you use our free recording software. I found this difficult to believe unless Sony had somehow reached agreement with Apple Computer to be able to hack a Mac’s Core Audio capabilities and its audio drivers, in order to use DoP a method of sending DSD over USB developed by iCes.

I looked again and more closely at what a Mac running Sierra was doing and got a surprise. As I noted originally all that was available from the PS-HX500 was PCM according to the Mac’s Audio/Midi control panel. There was no DSD option – as expected.

Firing up Sony’s recording software didn’t magically conjure up a DSD option either. Instead it selected 16bit/176.4kHz from the list of PCM options. Oh – even weirder! The turntable has a 24bit ADC and the PS-HX500 appears to select 16bit resolution from it. Unbelieving, I went through this many times, but always with the same result.

Basically, that’s how the PS-HX500 story ends: it can send DSD to a PC with a driver update, but it cannot send DSD to a Mac and does not either Sony had nothing to say to me about behaviour with a Mac, about which they seemed oblivious.

Whilst the PS-HX500 story was ended by its prompt collection from us, for me it was just a beginning. I realised that in this case and likely in future scenarios I would need to know just what was really and truly being sent down a USB line, otherwise I could be told it was talking in Upper Mongolian and would have to believe it, or worse even convey it as a truth, to be credulously imbibed by us all.

This rather goes against my grain, so I looked at what test equipment was available to analyse data in a USB line. It turns out that of all the serial data line protocols knocking around USB is the most challenging – so knowledge is minimal.

Design engineers don’t get involved in such technologically dense digital issues, relying instead on companies like X-MOS who specialise in USB technology. And guess what, X-MOS quote Sony as a (prestigious) customer. That’s why I suggested earlier even Sony may not know what is going on.

It wasn’t a slight to Sony, so much as an observation about the developed state of digital audio these days. X-MOS say DSD can be sent via USB, with no mention of DoP.

The PS-HX500 was built in China by a Chinese OEM. That’s another reason Sony may have limited understanding of its behaviour.

Turning analogue to DSD is a holy grail to those that have heard DSD – and that includes me. Sony’s PS-HX500 raised a whole range of fascinating issues here that hint at how complex audio is becoming – and where it may be heading in future. DSD could well be part of it, bringing a more analogue sound, but it also brings some formidable technological challenges that are beyond common understanding.
Since 1948 Ortofon have introduced nearly 100 different moving coil pick-up cartridges to the hi-fi market. Their latest models in this long and proud heritage are the Quintet Series.

All Quintet cartridges use the same ABS thermoplastic bodies and neodymium magnets, but each model in the range has its own sonic expression that reflects its status. From the well-rounded Quintet Red, through the smooth Quintet Blue and spacious yet dynamic Quintet Bronze, up to the pure audio excellence of the Quintet Black S; this series offers something for every discerning listener at a very attractive price.

The Quintet Series also includes a true-mono cartridge, for accurate reproduction of older mono recordings.
"The Beatles, Stones, Hendrix and more, all don’t sell like they used to"

D o you ever frequent record fairs? They are wonderful places. There is nothing quite like being faced with a large room full of vinyl and CDs to get the collecting juices flowing.

Flicking through a box of vinyl offers both a sense of excitement and serenity rolled into one. There’s an almost karma, meditative and relaxing rhythm to flicking through vinyl record after vinyl record while the eye dartts to and fro, from band name to album title.

There’s often a warming sense of fulfilment too. After all, you might find that long sought after record, that previously unattainable album that’s missing from your collection. Failing that, you might stumble across a record that surprises you, one that you never knew existed.

Then there’s the people. Some regularly attend the same record fairs, striking up long standing friendships with dealers and each other. It’s a club-like atmosphere with no rules or dues demanded, a niche social scene.

You get all sorts: the trivia expert who insists on telling everyone about music minutiae, the busy parent with a baby strapped to their back, the high roller who spends a fortune on a rare 7” single, the joker who loves to entertain this captive audience, those suffering from mental difficulties who see the occasion as a friendly and caring centre without judgements paid or criticism given; those who use the event to escape family or marital pressures; the lonely who seek out a brief warming of social interaction to soften the pain of a ‘normal’ empty day; the competitor who loves to brag about his latest record purchase or the manic collector with the unkempt demeanour who seeks rarities like a junkie seeks a fix.

Record fairs are also sources of rarities and bargains. Unlike most antique shops that have a lonely box of vinyl in the corner or – these days – charity shops, record fairs offer genuine bargains at realistic prices. I don’t know how often I’ve seen, let’s call it Album X, at £1.5 a throw at an antique shop or charity shop when it’s only really worth £2 (even in mint condition) – which is what the typical record fair dealer will charge you. Vinyl in the eyes of some has value because it is just that – a large square cardboard sleeve with a piece of black, circular vinyl inside. Something so out of touch with today must have value simply because it is old and, for some obscure and unknown reason, therefore worth a large amount irrespective of all else – especially content. Is a Ray McVay LP in bad condition really worth £1.5? Hmmmm...

Realistic prices are only one of the benefits of a typical record fair. The vagaries of the market is another. For example, did you know that the bottom has dropped out of most of the sixties greats in terms of volume sales? The Beatles, Stones, Hendrix and more, all don’t sell like they used to, nor do they derrad the same prices.

Even seventies music is under pressure (although Fleetwood Mac’s ‘Rumours’ always huts always sells, so I hear).

No, what’s really big and growing in popularity at record fairs is eighties pop and indie. The Smiths and The Cure, 4AD label hands and the like will not surprise you, I guess.

What might raise an eyebrow is the growing popularity of the likes of the Thompson Twins, Funboy Three, Bananarama, Duran Duran, The Bangles and the like. OK, I’m not talking £5 an album here but all of these bands were fetching £1 or £2 per album only two or three years ago.

Now! Well £7-£15 is not unusual and the prices are increasing. Why? Because we are ageing. The eighties kids have grown up, have jobs and disposable income and nostalgia has bitten. They’re looking backwards to their youth and simpler times.

Those who don’t care about the original vinyl can get their fix on CD from the worthy label, Cherry Pop (www.cherryred.co.uk/label/cherry-pop!). Here you will find the likes of ‘Painting and Pain’ from Haircut One Hundred, ‘Remixes and Rarities’ from A Flock of Seagulls and also Thompson Twins, ‘Adventures in Clubland’ from Modern Romance, ‘Take my Time’ from Sheena Easton, ‘Other Voices’ from Paul Young, ‘All Over the Place’ from The Bangles, Fun Boy Three’s self-titled album plus many more of the same sort of thing.

For myself, apart from locating gems and the treasures, I find that record fairs are incredible places to learn about music. They are a source of some of the most knowledgeable music people on the planet. I never leave a record fair without finding something new about a band or genre.

Do you have a record fair in your area? If so, why not pop over next time the doors are open. You might learn something. Even better, you might just pick up an amazing bargain. And don’t worry about fashion. What is out today may just be in tomorrow – even Ray McVay.!
The EVO and the new EVOke now you have a choice!

The new EVOke has world-beating performance and right now we have the unit reviewed in this issue and a brand new one for sale. Performance figures are comparable with the world’s most expensive turntables and the ability to fit any arm or cartridge mean you can have the EVOke that you want.

The EVO was used by Hi-Fi World to evaluate the Beatles In Mono records and is now used as their reference. The EVO comes fitted with the legendary SME 309 tonearm loved by so many and a cartridge of your choice.

We have worked with direct drive turntables and moving coil cartridges for 35 years. We can supply completely new units with 6 year guarantees, used ones with 5 year guarantees, or we can convert your own.

Miyajima - Benz LPS - Denon DL103 - DL-102 mono - Audio Technica AT33 & OC9
SME Turntables & Tonearms - Oyaide - Furutech - Klipsch - 78rpm - SL1200 Mods

Tax free best prices for World wide mail order by Fed Ex

Sound Hi Fi Dartmouth Devon 01803 833366 www.SoundHiFi.com

Stereo, Mono & 78 rpm

Artisan Noriyuki Miyajima has been making phono cartridges in Japan for more than three decades. Only recently discovered by American and European audiophiles, they have since received rave reviews all over the world and deservedly so.

Every Miyajima cartridge is handcrafted in house by a dedicated full time team of six based in Fukuoka. The cartridge bodies are individually precision milled from rare and exotic hardwoods including ebony, rosewood and African blackwood (mpingo). These dense natural materials lend a vibrant and natural tonality to the sound.

Miyajima - Benz LPS - Denon DL103 - DL-102 mono - Audio Technica AT33 & OC9
SME Turntables & Tonearms - Oyaide - Furutech - Klipsch - 78rpm - SL1200 Mods

Tax free best prices for World wide mail order by Fed Ex

Sound Hi Fi Dartmouth Devon 01803 833366 www.SoundHiFi.com
I'll freely admit I'm a huge convert to streaming music - whether it be via web services such as Spotify and Tidal or from my collection of CDs and high-resolution files on the in-house network attached storage (NAS) drive.

I find it much more convenient than slotting a silver disc into a player or rooting through record sleeves to discover the exact slice of vinyl I've suddenly remembered.

However, I was doing the latter just recently, pulling out album after album when something struck me – and highlighted the one area where streaming just doesn’t cut it.

There among all my various records was a section devoted to the Manchester-based Factory label – from its inception all the way to its rather messy demise. As I took out each I couldn’t help but be transfixed by just how good the sleeves and associated graphic design was. They are a thing of beauty and something you’d gaze at with admiration while playing the music.

For those who don’t know many of these were designed by Peter Saville who was a young graphic design student when he met label founder and TV presenter Tony Wilson at a rather underwhelming Patti Smith gig in 1978 and suggested they work together.

The first fruits were a poster for the opening night of The Factory club - the rather insalubrious forerunner of the much more glamorous and exceedingly more hip Hacienda nightclub. Legend has it that the work arrived too late for the first night but it has since gone on to become a design classic, featuring a vibrant yellow background with the industrial lng ‘I Like Hearing Protection’ overlaid in black. Originals have in the past gone for upwards of £1500 at auction (look up FAC 1 on the internet to see it in all its glory). After that Saville went on to work with the likes of Joy Division and New Order, adorning their albums and singles covers with everything from a Fantin-Latour painting of flowers combined with a colour-coded alphabet, a wave image from the first pulsar ever discovered and a classic picture of an entombed body for Joy Division’s final album ‘Closer’.

The latter caused much controversy as the record was released shortly after the suicide of lead singer Ian Curtis, prompting accusations Factory were trying to cash in on the death (although the truth was the image had been chosen by the band and Curtis himself many months before).

Saville went on to become one of Britain’s most respected graphic designers, working with musicians such as Roxy Music, King Crimson, Peter Gabriel and Orchestral Manoeuvres, as well as corporate clients Pringle, Selfridges, Christian Dior and Stella McCartney. He also (somewhat bizarrely) even designed the England football team’s 2010 home shirt.

But it’s those early Factory Records that have really stood the test of time best - still looking radical and groundbreaking even to this day (after all, how many debut albums omit both the name of the band and record on the cover as happened with the first Joy Division release?)

All this put me in mind of another set of record cover designers who found fame a few years earlier than Saville – Hipgnosis. This was the studio responsible for the iconic ‘Dark Side Of The Moon’ sleeve, surely amongst the most famous and distinctive of all time.

The founders Storm Thorgerson and Aubrey Powell again specialised in producing distinctive, eye-catching designs that differed radically from the usual band name, record name, photograph artwork that accorned most releases in those days. They spent hours manipulating photos in their darkroom via multiple exposures, airbrushing and other techniques to get the effect they wanted (remember, this was before Photoshop was available). The cover for Led Zeppelin’s ‘Houses Of The Holy’ features children clambering over the Giant’s Causeway in Northern Ireland which used post-production tinting to create a vibrant, almost mystical image. It’s said the photoshoot took some 10 days to complete.

Another Led Zeppelin album, ‘Through The Out Door’, had a black and white inner sleeve which, if damped with water, would miraculously turn to permanent colour.

It’s all a far cry from today’s jewel box CD cases where the height of creativity seems to be simply using a hitherto seldom-y known font.

And as for digital downloads - well, they may allow you to glean much more information on a band or musician by linking to myriad pages of information but something of the pleasure of holding a 12-inch album cover in your hands as you first play a record and pondering just what the story behind the design is has been lost.

Which is why I spent literally hours going through my record collection that particular day playing one album after another and simply gazing at their covers for the first time in a very long time. I might just go back to buying copious amounts of vinyl records again!
CELEBRATING QUICKSTEP
HI-FI WORLD’S BEST LOUDSPEAKER CABLE AWARD 2016

Capture the Excitement, Emotion and Drama of your Music

Exclusive connectors
GN1 "Straight Line Contact'
Loudspeaker Plugs

The **exclusive technology** of our very best cables now be enjoyed by a much larger audience!

**EXCLUSIVE FEATURES**
- Balanced Sound
- Musically Entertaining
- Stunning Clarity
- Sharp Definition
- Authentic Imaging
- Excellent Timing
- Effortlessly Open

Read the reviews in full at [www.backrhodium.com](http://www.backrhodium.com) to discover how these reviewers describe the outstanding Quickstep sound quality.

“Quicksteps were surprisingly balanced in tonal terms while the design offered a naturalistic reflection of the music that was entertaining and extremely natural in its approach.”

* “They get out of the way of the signal that few others do at this price and allow you to hear the music unsullied and in all its glory.”

“For sound per pound this is an excellent choice for the audiophile offering a detailed soundstage with exceptional speed, and a sound that was very open and effortless.”

Go buy your own Quickstep Cable NOW at your nearest Black Rhodium Dealer or via [www.blackrhodium.co.uk](http://www.blackrhodium.co.uk)

Hear QUICKSTEP at these dealers:
- Analogue Seduction 01733 350878
- Audio T Swansea 01792 474608
- DoGood Audio 0151 5253 845
- Ian Harrison 01283 702875
- Homesound 0131 6621 327
- MCRU 01484 540561
- Planalogue 01865 693032

**Hi-Fi World Best Loudspeaker Cable Award 2016**
"It was all too much for the record-buying public"

A ferocious hurricane devastates an island, then threatens Florida. No, not the present-day disaster of Irma – but a plot line from an almost-forgotten concept-album by the more experimental half of art-rock outfit 10cc. In Kevin Godley and Lol Creme’s grandiose Consequences, released in October 1977, the world is plagued by meteorological catastrophe that only music can halt. It was the first album recorded by the duo after leaving 10cc. And what an album it was!

Paintstakingly constructed over eighteen months in two studios (Strawberry and The Manor) with the help of substance-abuse (‘rolling up spills’) and a substantial budget, the creation of this ‘musical experience’ also involved a guitar-accessory, the acting and playing skills of a frequently-drunk Peter Cook, fireworks, inventive analogue-era sound-effects, fictional divorce, American jazz-singer Sarah Vaughan, a strong environmental message (connected more, it seems, with sinister weaponry than climate change)... and the number seventeen.

It spanned six LP sides and was container within a lavish black presentation box, complete with a 16-page booklet that outlined ‘man’s last defence against an irate nature’.

Consequences was dismissed by critics as self-indulgent and far too long; the set was a commercial flop, entering the album charts at £7 before disappearing altogether.

Yet this two-hour epic – essentially a Pythonesque play interspersed with music – deserves to be revisited, on account of its sheer inventiveness and flashes of musical beauty. There’s also no hi-res download today, and all CD releases are out of print.

I discovered Consequences via Stuart Macsunie’s LSD Music show ‘Freak Zone’. Tracking down an affordable copy proved difficult – but it was worth the effort: tracks like Cool Cool Cool, Honolulu Lulu, Five O’Clock in the Morning and Please Please Please enthral even today. Some wouldn’t be out of place on an 10cc album.

This strangest of albums had an unusual seed. Consequences started with a gadget designed to expand an electric guitar’s range. In the early 1970s, there was considerable interest in pushing forward rock’s musical boundaries. Engaging orchestras for recording sessions was an expensive business and primitive synthesizers were temperamental and intimidating to many guitarists.

Hence ‘Gizmo’, which was conceived by Godley and Creme whilst still members of 10cc. In final form, it was a device that attached to the guitar’s bridge (a version for basses was also produced). Pressing one of its six levers brought a motorised wheel, which was embedded with ridges, into contact with the associated guitar string thereby producing a ‘bowing’ effect.

A guitar-stroke, with studio and effect pedal trickery, now ‘emulate’ cellos and violins. String sections could be painstakingly built up by a single musician, one track at a time. And, as with a synth, unique sounds were also possible.

10cc material was a natural initial outlet, starting with ‘Gizmo My Way’ (the B side of 1974 single ‘Wall Street Shuffle’). At this stage, Gizmo was experimental. Godley and Creme clearly thought they were on to something, though, as they quit their ‘day jobs’ with 10cc to concentrate on ‘the Gizmo stuff’.

Amongst their ideas was a record that could entail the virtuosity of the Gizmo, in more solid guitar-mountable form by this stage. But what started off as a demo record widened in scope to yield Consequences. The first two sides of the album were closest to their original intentions.

Then there’s the album’s central-section, which is dominated by Peter Cook’s ‘play’ – the tale of a 17yr-old obsessed pianist named Blint, whose ‘Great Composition’ (which occupied the album’s final side) has the power to save the world. Much is derived from the interaction between Blint, and the conversation between a divorcing couple and a solicitor taking place in an attic above his studio... while Earth tears apart outside.

It was all too much for the record-buying public. A cinema ad campaign and the aforementioned cut-down music-only version, couldn’t stop it from sinking.

The duo engaged the services of UMIST’s physics department to produce a version of Gizmo capable of being manufactured and sold to guitarists the world over. This version, Gizmotron, finally saw the light of day in 1979. However, the £200 device needed constant adjustment and was difficult to play; furthermore, its acetal resin wheels wore out quickly.

By that time, affordable and reliable synthesizers were pouring in from Japan. The firm that acquired Gizmotron, Mustronics, went bust in 1981, and the device disappeared. It continued to be played, though; you can hear it, for example, on Siouxsie And The Banshees’ Into The Light (on the Juju LP) and Throbbing Gristle’s 20 Jazz-Funk Greats.

Last year, though, a new model built with 21st century technology – the £300 Gizmotron 7.0 – was unleashed on guitarists. Hopefully, Consequences will enjoy a revival too.
ONCE IN A LIFETIME CHANCE TO EXPERIENCE
A £500,000+ HI-FI SYSTEM
Your only chance to hear a spectacular
system worth in excess of half a million
pounds from FM Acoustics and Vertere
PLUS EVERYTHING ELSE AT THE SHOW FOR JUST £15

29TH SEPTEMBER - 1ST OCTOBER 2017
Novotel London West, Hammersmith

For more details and a full list of exhibitors www.indulgenceshow.com
suppose we are all susceptible to the occasional piece of hype, no matter how hard we try to ignore it. Sometimes in hi-fi it’s not so much hype as a well meaning but flawed attempt to convince us more is available from equipment.

I am sure there are those among you who tried the foil triangles on your turntable and for a while suddenly heard something new that you couldn’t quite put your finger on – but many months later when the glue failed and they fell off you didn’t notice any difference.

How about those CD coatings that were supposed to do magical things to the digital data stream coming off the disc to make it sound better, but with no explanation to say what was happening. If anything, such coatings may have been introducing read errors so what you were hearing was the effect of the electronics correcting the read errors. So not better – just different. Better I would doubt.

And then on CDs there were the green pens and rubber edge rings.

On the general issue of our perception I often wonder how well we actually hear things. I used to have this old test that was always interesting. I would play a square wave through a very average hi-fi and then get people to try to put in their closest approximation of what they heard just in terms of the harmonics and levels using five sine wave oscillators also connected in parallel. It should be possible to adjust the sine waves to produce a sound like the square wave.

Given the fundamental nature, trying to add in the four next closest harmonics proved to be just about impossible. You might think that sound system quality could be why the task proved impossible. Or perhaps it was an unfamiliarity of the tools themselves; a level control and a frequency control for each of the four harmonics – so a total of 8 controls, might just make contestants.

Resetting the harmonic frequencies didn’t seem to make it easier for people to set just the four levels either. Giving random and repeat access to the sound of the square wave didn’t seem to help get it right.

Now we have to assume that those with the best hearing and with a technical bent to get to grips with the problem might be able to come to some sort of a solution. Indeed if you practice enough you can get close, but it was always difficult to remember what the square wave sounded like.

And although four harmonics is like a square wave, a direct comparison shows it isn’t exactly close as the sound lacks some top end.

So what does this tell us about our hearing? A couple of things come to mind straight away.

First is that your hearing has next to no memory it does not analyse or do a Fast Fourier Transform on any content thrown at it. It has no idea about harmonics, their levels or how they relate to one another. The complex relationship of one instrument against another both playing the same note can be easily disguised by whatever else is going on in the music.

Second, our ability to copy what we hear in even the most simplistic of tests is compromised by our hearing’s failure to remember and compare.

Where does this leave us? I can’t say my test is definitive, having been carried out at random and in less than ideal conditions – and on subjects who may not have been that bothered one way or another.

However, perhaps it is interesting in relation to some of the odd things those making hi-fi’s quirky bits and pieces. From what I can see they are no less vulnerable than any other to some very odd products which are good only if you believe the associated story and convince yourself they are the answer to your dreams.

I have customers who are ceaseless and the audio never goes through the switch. Wallet change! Minus £75. Ego boost huge!

The change isn’t real but with the amp away for a week while its being done comes back and the lack of hearing memory makes the change your new reality. A stunning upgrade the customer would say but nothing audible has changed.

So we have to be very careful in deciding that a change is actually an audible change, and if it is, how good is it? If you can read a circuit diagram some things that may be spoken of as product improvement might actually be worthless, a change that is cosmetic rather than audible.

My switch example is just one of many. Since the internet is so full of dubious advice and statements on so many subjects why should hi-fi be any different?

Wouldn’t it be good if we could educate our ears to have the sort of analytical memory for music and general sound that we have for words? Meanwhile I would love to try the oscillator test again and this time with those with hi-fi ears as it is so interesting!

Dave Tutt

+44 (0)7759 105 932
dave_london@hotmail.com
www.tutt-technology.co.uk
We do not sell these products. It is for your information only.

WORLD CLASSICS

Here is our list of the great and good from audio’s glorious past, products that have earned their place in hi-fi history. You’ll also see some oddities which aren’t classic as such, but are great used buys. The year of introduction is given, alongside the original UK launch price.

TURNTABLES

EAT FORTE 2006 £12,500
Lavishly finished two box, two motor turntable with gorgeous keets 407 tonearm bundled. Exceptionally stable and unfussy performer with a relaxed but highly enjoyable gait.

MICHELL ORBIE 1995 £2,500
The top Michell disc spinner remains a superbly capable allrounder with powerful, spacious sound that’s delicate and beguiling.

SME MODEL 10A 1995 £4,700
Exquisitely engineered deck and SME V tonearm combo that’s an extremely accomplished performer with class-critical music.

LNN AX1S 1987 £253
Cut-price version of the Sondek with LVI arm, elegant and decently performing package. Later version with Avide tonearm better.

TECHNICS SL-P1200 1987 £600
CB version of the Technics SL-1200 turntable. Massively built to withstand the rigours of pro use and is a great eighties icon.

ROKSAN XERXES 1984 £550
Super light and clean sound, with excellent tonearms. Less musical than the Sondek, but more neutral. Sagging plinth top plates make them a dubious used buy.

MICHELL LYREDE 1981 £596
Simple high quality engineering and a respectable low mass tonearm made for a brilliant budget buy. Polished, smooth and slightly bland sound.

TECHNICS SP10 1973 £400
Seminal Japanese engineering. Sonics depend on plinths, but a well mounted SP10/1/1 will give any modern a hard time, especially in respect of bass power and mid-band accuracy.

LINN SONDEK LP12 1973 £86
For many, the first superdeck: constant mods meant that early ones sound warmer and more lyric than modern versions. Recent SF mods have brought it into the 21st century, attaining a new price.

ARISTON RD11S 1972 £94
Modern evolution of Thorens’ original belt drive paradigm, Scotland’s original super deck was warm and musical, albeit soft. Still capable of fine results today.

GOLDING Lenco DL75 1970 £15.85
Simple, well engineered motor unit with soft, sweet sound and reasonable tonearm. Good spares and servicing support even today.

GARRARD 301/401 1953 £19
Tremendously strong and articulate with only a veiled treble to let it down.
The template for virtually every 1970's superdeck. This unit’s design was the very rear of competition for 
Carraci’s 301. It was sweeter and more lyrical, yet lighter and less impactful in the bass.

**TOREARS**

**REGA RB251** 1986 £136

Capable way past its price point, the new 3 point mount version of the classic RB256 serves up a 
full and defined source. A little lean for some tastes, but responds well to reworking and counter-
weight modification.

**HELIX OMEGA** 2006 £1,595

Stylish and solid type of arm with fabulous build qual-
ity that turns in a dynamic and weighty performance.

**AUDIO ORIGAMI PU7** 2007 £1,300

The classic Synix PU3 update to spectacular 
effect. Hand made to order, with any mass, length 
and color you care for. Fine, finish and sound truly 
impressive.

**GRAHAM PHANTOM** 2006 £1,160

Sonically stunning arm with magnificent bass 
contour and soundstage. Build quality up to SME 
standard, which is really saying something.

**TRI-PHANAR PRECISION** 2006 £1,600

Stellar build, exquisite design and one of the 
mistakenly musical and used sounds around.

**MICHILEN TECNORM A** 2003 £442

Cover reworking of the Rega theme, using brass-
ing and reworking.

**SME 301** 1980 £767

Mid-price SME comes complete with cut al-
uminum armtube and detachable headshell. Tight 
natural sound with good tonality, but lacks the N's 
pace and precision.

**NAIM ARO** 1987 £1,425

Charismatic performer poor at frequency extremes 
but sublime in the midband; true emotive and 
engaging.

**SME SERIES V** 1987 £2,990

True eminence and charismatic performer. 
Exceedingly engaging mid band makes up for softness 
frequency extremes.

**SME SERIES III** 1978 £1,113

Cover variable mass design complete with 
Washburn W 500 tube, easy to be all things to all 
mans and, cleverly, Charming nonetheless, with a 
wide and impressive sound.

**TECHNICS FPA-501** 1982 £1,295

Papular partner for late seventies technics motor 
units. Nice build and Titanium W 500 tube can't 
compensate for lacking sound.

**LINN ITTOK VIII** 1978 £253

Japanese design to Linn specs made for a 
musical rhythm sound with real dynamics. The final 
VIII version worth seeking out.

**AUDIO TECHNICA AT 1120** 1978 £75

Fine lines can't compensate for the ultra low mass 
arms - limited sonic's - a good starter arm if you've 
only got a few quid to spend.

**PADDOCK PH 228** £442

Evergreen unupgraded with lovely sweet, 
true sounding excellent service backup.

**ACOUSTILEX EST-1** 1975 £46

The archetypal S-shaped seventies arm; good, pro-
cressive and moving sound in its day, but ragged 
and undynamic now.

**SME 309** 1959 £18

Once stale of the art, but long since bettered. 
Musical enough, but weak at frequency extremes 
and veiled in the midband. Legendary serviceability 
and stunning build has made it a cut, used price 
unusually high.

**PHONO STAGES**

**CREEK CR-8 SE** 1996 £180

Punchy, rhythmic character with bodies of detail 
makes this a great budget audiophiles classic. 
Partner with a Goring G1042 for an unbeatable 
engaging budget combination.

**MICHILEN ISO** 1988 £1,100

This Tom Evans-designed black box started the 
trend for high performance onboard phono stages.

**NAIM NAIT X** 2009 £1,260

With much of the sound of the Superlins at half 
the price, this is powerful, articulate and smooth 
and well beyond class expectations.

**MUSICAL FIDELITY PRIMO** 2009 £7,900

Seriously expensive, but one listen explains why 
Wonders of musical sound that can run on, 
including this from a long by tube design.

**SUDERN A12A** 2007 £1,400

Excellent music, letting it all hang out and forming 
that cohesive, Power needed, no need for sensitive 
Speakers.

**OLIVE CHEE** 2008 £268

Reliable value budget processor, with remote control 
and input switching, plus a new, a neutral sound.

**NAIM NAIT** 2009 £3,350

Superb rhythm and dynamics make it truly musi-
cal, but tonally monochromatic. Fine phono stage 
and very low power.

**CRFRA CAS4040** 1983 £150

More musical than any budget amp before it. 
CAS40 with tone controls, gains, gain.

---

**THORENS TD124** 1959 £1,150

First ever arm, greatly up to prevent any stan-
card. Boy rendering, though, as there is no similar 
available now. Today under rated when new.

**AI PHASOR NR1085** 1981 £150

First ever arm, greatly up to prevent any stan-
card. Boy rendering, though, as there is no similar 
available now. Today under rated when new.
Myst TMA3 1983 £300
Macinto eighties minimalism, but a strong and tight performer all the same.

Rotel RA-920BX 1983 £139
Lively and clean budget integrated that arguably started the move to minimalism.

NAD 3620 1979 £99
Brilliantly smooth, sweet and punchy at the price and even has a better phono stage than you'd expect. The archetypal budget super-amp.

 Rogers A75 1978 £220
Lots of sensible facilities, a goody power output and nice sound in one box. The later A25i and A110 versions offered improved sonics and were seriously sweet.

Asr A60 1977 £115
Sweet and musical feature-packed integrated, the Audiolab 8000A remains a classic.

Sugden C51/P51 1976 £130
Soft sounding early Sugden combo with plethora of facilities and filters. A sweet and enduring performer but lacking in power and poor load driving ability.

Sugden A21 1969 £N/A
Class A transistor integrated with an eminently evocative sound. Musically dirty. Limited inputs via DIN sockets.

Rogers Cadet III 1965 £34
Sweet sounding valve integrated, uses ECL86 output valves, even has a half usable phone stage, raw, warm, warm introduction to valves.

Chapman 305 1960 £40
Smooth pre/power combo with a sweet and open sound. Not quite up to Leick/Quad standards but considerably cheaper secondhand.

Power Amplifiers

Electrocompaniete Nemo 2009 £4,995 (Each)
Large power station at sea level as an ocean freighter, yet impresses with sheer physicality and fleetness of foot 600W per channel.

Nuforce Reference 9SE V2 2006 £1,750
Brilliant value for money monoblocks with massive power and super-clean, three dimensional sound.

Quad II-80 2005 £8,000 PER PAIR
Quad's best ever power amplifier. Dramatic performer with silky but dark tonality, listening dynamics, serious power and compellingly musical sound.

Quad M40 2001 £990
Current design has a smooth and expansive character with enough weight to drive most loads. Not the most musical, but superb value all the same.

Quad NAP 500 2000 £17,950
Flagship amplifier will drive just about any speaker with ease. Factor in the company's trademark pace, rhythm and timing and it all adds up to one effortlessly musical package.

Marantz Model 9 1967 £8000
Authentic reproduction monoblocks still more than cut the sonic mustard. Highly expressive and highly sought after.

Michell Elettro 1997 £1989
Chic, clean and beautifully styled with gorgeous styling. Partnered with the £1600 Orca this sounds delicious.

Musical Fidelity XA200 1996 £1800
200W of rated smooth transistor driving in a grooved tube! Under-rated oddity.

Pioneer M-73 1968 £1,200
Monster.ReadString from this seminal Japanese power amplifier, complete with switchable Class A and Class B operation. Class, open and sound rounding, albeit a bit behind the pace by high speed dance music. Rosewood side cheeks and black brushed aluminium complements the experience.

Krell KMA100 1987 £5,750
Monoblock version of the giant KSA-100 is one of the seminal 80s transistor power amplifiers. Minimal noise, allied to class AB and open Class A sound makes this one of the best amplifiers of its type.

Radford Stat Preamplifiers 1986 £977
This reworking of Radford's original late sixties design was possessed of a wonderfully rich, old school valve sound with enough power (25W) and lots of subtlety.

Quad 405 1978 £115
The first of the current amplifiers is a capable design with smooth, effortless power and a decent, musical sound. 600 and 707 continue the theme with greater detail and finesse.

Hi Electronics TPA-500 Amplifiers 1973 £310
Simple design with easily available components, solid to its guilty and fine sound make for a surprisingly overlooked bargain.

Legion Xpi 1973 £N/A
Macinto cylindrical styling alluded to its 'power of power' pretensions, but it wasn’t. Poor build, but definitely cleaner sound when working.

Quad 303 1969 £55
Ballet proof build, but woolly sound. Off the pace, but engaging nonetheless. Some pipe smoking Edgar winter were nay there.

Leak Stereo 20 1958 £31
Excellent workaday classic valve amplifier with decent power and drive. Surprisingly modern sounding if rebuilt sympathetically impressively musical and fluid.

Leak Stereo 50 1958 £N/A
Leak's biggest valve power amp offers 35 Watts per channel and more low end weight than the smaller Stereo 20. Despite concerns over reliability nasty value means high price.

Quad II 1952 £22
The all-time classic valve amplifier, with a deliciously fluid and lyrical voice. In other respects though, it sounds topoiely dated: low power and hard to partner properly.

Leak Point One, TL10, TL12.1, TL12 Plus 1949 £28
Early classics that are getting expensive. Overhauling is de rigueur bottom end, using original parts if possible. Surprisingly crisp and musical. Deeply impressive in fine fettle.

Pre Amplifiers

Audiolab 8000C 1991 £499
Tonaly grey but fine phono input and great facilities make it an excellent general purpose tool.

Croft Micro 1966 £150
Budget valve pre-amp with exceptionally transparent performance.

Conrad Johnson Motiv MC-8 1986 £2,500
Minimalist FET-based preamplifier is brilliantly neutral and smooth with a spry, light balance in the mould of Sugden. Something of a curio, but worth-while in nanotechnologies.

Audio Research SP-3 1962 £1,400
Beautifully designed and built high end tube pre-amplifier with delicately sweet and smooth sound. Not the last word in incision or grip.

Linn LX-1 1996 £499
A brave attempt to bring remote controlled user-friendliness to hair-shirt audiophiles hi-fi. Didn't quite work, but not bad for under £100.

Naim NAC 32.5 1978 £N/A
Classic high end pre. Brilliantly fast and incise sound that's a joy with vinyl but a tad forward for digital.

Leson AC-1 1973 £N/A
Amazing styling courtesy of Alan Broadley can't disguise its rather cloudy sound, but a design classic nonetheless.

Quad 33 1968 £43
Better than the 22, but Quad's first tranny pre isn't outstanding. Responds well to tweaking/ rebuilding though...

Leak Point One Stereo 1958 £N/A
Good for their time, but way off the pace these days. Use of EF86 pentode valve for high gain rules out ultra performance. Not the highest-f!

Leak Stereo 20 1958 £N/A
Leak's biggest valve power amp offers 35 Watts per channel and more low end weight than the smaller Stereo 20. Despite concerns over reliability nasty value means high price.

Quad II 1952 £22
The all-time classic valve amplifier, with a deliciously fluid and lyrical voice. In other respects though, it sounds topoiely dated: low power and hard to partner properly.

Leak Point One, TL10, TL12.1, TL12 Plus 1949 £28
Early classics that are getting expensive. Overhauling is de rigueur bottom end, using original parts if possible. Surprisingly crisp and musical. Deeply impressive in fine fettle.
YAMAHA SOAVO 1.1 2009 £3,000
Musical, transparent with impressive dynamics and cohesion. Excellent build and finish.

USHER BE-10 2009 £110,500
Clever high end moving coil design with immense speed and dizzying clarity allied to epic punch. Needs the best amplifiers to fly, though...

ACOUSTIC USHER 2006 £4,095
Delicate finishes, but tantalisingly capable. Perhaps just not enough to deliver.

DEMON 9 2006 £1,000
Dashing, but perhaps not quite up to the mark. Needs some work on the bass.

ISOPHON CASSIANO 2007 £12,500
Drive units featuring exotic materials allied to superbly built, result in an immensely capable loudspeaker. Not an easy load to drive, however.

B&W 801D 2006 £10,500
In many respects, the ultimate studio monitor, dazzling clarity and scale with commanding scale and dynamics.

REVOLVER CYGNUS 2007 £6,500
Revolver pull out all the stops and show what they can do with their magnificent flagship loudspeaker. A superb monitor that is like a mini B&W 801D in miniature.

USHER BE-718 2007 £4,160
Beryllium tweeters allied to a mini bass & punchy woofer driver. Result is cubic, smooth and extensive.

USHER S 570 2006 £250
One of the most enjoyable budget loudspeakers that offer detail and dynamics well beyond their price and dimension.

ACOUSTIC ENERGY AEI CLASSIC 2006 £845
Brilliantly conceived version of a classic design: not flawless, but nearly one of the most neutral loudspeakers ever made.

MISSON X-SPACE 1999 £499
The first easy to drive subwoofer in the group, and yet system using X-SPACE panels is a sure-fire future classic - not flawless, but a tantalisingly obscy sound nevertheless.

MISSION 752 1995 £495
Cracking Henry Atkinson designed floorstanders combined HFA drive units and metal dome tweeters with surprisingly warm results. Beryllium load characteristics makes them great for values.

TANNAY WESTMINSTER 1985 £4500
Folded horn monsters which sound good if you have the space. Not the last word in tautness but can drive large rooms and image like few others.

CELESTION SL6 1984 £350
Smallish two way design complete with aluminium dome tweeter and plastic mid bass and set the blueprint for nineteen eighties loudspeakers. Very open and clean sounding, albeit at high frequencies and limp in the bass. Speakers would never be the same again...

HEYBROOK HB1 1982 £130
Peter Coomes designed floorstanders with an amazingy lyrical and yet refined sound. Good enough to partner with very high end ancillaries and with great with budjet kit too. A classic.

QUAD LS63 1969 £1250
An update of the ES6.75. with sister cabinets. Until the 869, the best of the Quad electrostatics.

MISSION 770 1983 £375
Back in its day, it was an innovative product and one of the first of the biodynamic designs. Warm, smooth, rich and powdery sound.

ACOUSTIC RESEARCH AR 10 1985 £125
This design, British built loudspeaker became a badge for many rock fans, thanks to the great sound from the paper drivers, although listener was most definitely not their forte-

YAMAHA NS1000 1977 £532
High tech beryllium motherboard and tweeter driver and bruishe 12" woofers in massive sealed hybrid image. Very thin, planar and transparant and ultra low distortion. Perfect novelty!

QUAD 50 1977 £100
An updated design of the Six 1000. with sister cabinets. Until the 869, the best of the Quad electrostatics.

MISSION 770 1989 £375
Back in its day, it was an innovative product and one of the first of the biodynamic designs. Warm, smooth, rich and powdery sound.

ACOUSTIC RESEARCH AR 10 1985 £125
This design, British built loudspeaker became a badge for many rock fans, thanks to the great sound from the paper drivers, although listener was most definitely not their forte-

MISSION 770 1983 £375
Back in its day, it was an innovative product and one of the first of the biodynamic designs. Warm, smooth, rich and powdery sound.

ACOUSTIC RESEARCH AR 10 1985 £125
This design, British built loudspeaker became a badge for many rock fans, thanks to the great sound from the paper drivers, although listener was most definitely not their forte-

YAMAHA NS1000 1977 £532
High tech beryllium motherboard and tweeter driver and bruishe 12" woofers in massive sealed hybrid image. Very thin, planar and transparant and ultra low distortion. Perfect novelty!
**CLASSICS**

**SPENDOR BC1** 1976 £240
Celestion HF1300 tweeter meets bespoke Spendor Bestroy mid-bass unit. The result is a beautifully warm yet focussed sound. A little bass bloom necessitates careful low-stand mounting.

**IMF TLS80** 1976 £550
Warm and powerful 1970s behemoth with transmission loading and a mixture of KEF and Celestion drive units. Impressively physical broadband sound but rhythms not a forte.

**HH ELECTRONICS TPA-500 AMPLIFIERS** 1973 £110
Simple design with easily available components, solid build quality and fine make for a surprisingly overlooked bargain. Not exactly stylish, however.

**BBC LS3/5A** 1972 £88
Extremely low colouration design is amazing in some respects – articulation, stage depth, clarity – and useless in others (both frequency extremes). Came in wide variety of guise from various manufacturers building it under licence.

**LEAK SANDWICH** 1961 £39
Warm sounding infinite baffle that, with a reasonably powerful amplifier can sound quite satisfying.

**QUAD ESL57** 1956 £45
Wonderfully open and neutral sound puts box loudspeakers to shame. Properly serviced they give superb midtoun performance, although frequency extremes less impressive. Ideally, use in stacked pairs or with subwoofers and euphoniums.

**SYSTEMS**

**MERIDIAN SOLIDOS 2.1** 2010 £6990
Crisp styling, bright, colourful touchscreen, plus excellent sound quality. This is one heck of a music system with a difference. Sold partnered to Meridian active loudspeakers.

**NAIM INITIATIVE** 2010 £965
Great little half width one-box system with truly impressive sound allied to a wealth of source options.

**ARCAM SR90 MINI** 2008 £660
Half the size and two-thirds the price of a full-sized Solo, the Mini gives very little away in terms of performance to its bigger brother.

**MERIDIAN F80** 2007 £1,500
Fantastically built and versatile DVD/CD/DAS/FM/AM unit, designed in conjunction with Ferrara. Ignore nay-sayers who sniff that it isn’t a ‘proper’ hi-fi product. Just listen.

**SNARLING MC-30** 2007 £650
Quite possibly the cutest all-in-one around with fine performance from the CD player, tuner and 10-bit player output. Very low power, though.

**AURA NOTE PREMIER** 2007 £1,500
Lovely shiny CD/tuner/amplifier with fine sound quality and dynamic abilities.

**MARANTZ LEGEND’** 2007 £22,000
The combination of SA-751 disc player, SC-752 preamp and MA-952 monoblocks delivers jaw-dropping performance.

**ARCAM SOLO NEO** 2006 £1,100
Excellent all-in-one system, with a warm, smooth and balanced sound to match the features and style.

**PEACHTREE AUDIO iDECO** £1,000
Excellent sounding iPod dock, impressive DAC and fine amplifier section make this an excellent one box style system.

**TUNERS**

**ARCAM FMJ T32** 2004 £600
Excellent hybrid FM/DAB+ tuner with a smooth, engaging sound. It is a fine build and it’s a super stellar package.

**MAGNUM DYNA-LAB MD-100T** 2006 £1,895
One of the best ways to hear FM that we know; superbly open and musical sound in a quite but characterful package.

**MYRIAD MX4000** 2005 £1,000
Superb sound and big, near field quality make for a tempting AM/FM package. Warm and nicely detailed on good-quality music broadcasts.

**NAIM NAT3** 1993 £965
The warm, atmospheric sound is further proof of Naim’s proficiency with tuners.

**CREAK CAS3140** 1985 £199
Excellent detail, separation and dynamics - brilliantly musical at the price. 140 continued the theme.

**QUAD FM4** 1963 £240
Supreme ergonomics allied to a pleasingly lyrical sound with plenty of sweetness and detail made this one of the best tuners around upon its launch.

**TRESNE s4049** 1979 £79
Tremendously smooth and natural sound allied to low prices and good availability make this budget analogue esoterica.

**MARANTZ ST-8** 1978 £353
Marantz’s finest radio moment. Warm, organic sound plus an oscilloscope for checking the signal strength and multipath.

**YAMAHA CT7000** 1977 £444
Combines sleek ergonomics, high sensitivity and an expert, detailed sound.

**SONY ST-S959** 1977 £222
One of the first Sony FM-equipped tuners, a format that came in fashion. Still, it was Sony’s most expensive tuner to date, and boasted good sound quality with brilliant ergonomics.

**RINGERS T75** 1977 £125
Superb midrange lithe, beautiful design, compete with understated black finish. Smooth and natural, but with a few idiosyncrasies.

**SANSUI TU-9900** 1976 £300
A flagship Japanese tuner. It boasts superlative RF performance and an extremely smooth and musical sound.

**TECHNICS ST-8080** 1976 £180
Superb all-stage makes for a clean and smooth listen.

**REVOLV B760** 1975 £520
The Revol offers superbly measured performance although the finish isn’t quite as staggering as the numbers. Fine nonetheless, and surely the most durable tuner here?

**SEQUINRA MODEL 1** 1973 £1300
 Possibly the ultimate FM tuner. Massive in terms of technology, size and featuring dedicated to extracting every ounce of performance from radio, including impressive multi-purpose oscilloscope display.

**LEAK TROUGHLINE** 1956 £25
Served an interesting ornament but limited to 88-100Mhz only. II and III are arguably the best-tuners ever. Adaptation for stereo easy via phone multiplex socket. Deliciously laid with true dimensionality.
HEADPHONE AMPLIFIERS

GRAHAM SLEE NOVO 2009 £255 Dynamic headphone amplifier with a great sense of timing. Crisp, clear treble and warm midrange gives an involving sound.

MUSICAL FIDELITY X-Can V8 2008 £250 Open and explicitly detailed sound puts serious bass wallops. A great partner for most mid-to-high end headphones.

CD PLAYER/RECORDERS

MUSICAL FIDELITY TRIVISTA 2002 £4400 When playing SACDs, the sweetest, most lucid and lyrical digital spinners we’ve heard. Old school stereo, pure ES9 design. CD sound is up in the £1000 class. Too! Future classic?

MARANTZ SA-1 2000 £5000 The greatest argument for SACDs. The sublime Ken Ishiwata design is utterly musically convincing with both CD and SACD. Beautifully packaged, most audiophiles will need two.

SONY MDS-JE555ES 2000 £900 The best-sounding MD deck ever thanks to some built-in and heroic ATRAC DSP type P coding.

PIONEER PD-555RW 1990 £480 For a moment this was the CD recorder to have. Clean and detailed.

MARANTZ NR-17 1990 £1100 Probably the best-sounding CD recorder made, built like a brick with a true audio-grade sound and HDCD compatibility.

CAMERIDGE AUDIO X-CASE 1990 £200 A touch soft in the treble and tonally light, but outstanding in every other respect.

SONY TCQ-8 DATMAN 1996 £590 Super clean sound makes this an amazing portable but fragile.

LIEN KAWK III 1995 £1775 The final Kawk was a gem. Superb transport, gives a brilliantly tight, grabby dynamic sound, albeit tonally flat.

NAIM CD 1990 £850 Classic Philips 16x4 chipset with serious attention to power supplies equals grn-inducing sonics.

MARANTZ CD731 1983 £790 A nod to gold-brushed aluminium and LEDs, this distinctive machine squeezed every last ounce from its 14x4 DAC—super musical.

NERI DIAN 267 1988 £995 Beautifully built and very much not as refined as modern S/Steam gun. No digital output.

SONY CDP-R1/CD-R1 1987 £2000 Sony’s first two boxes were right first time. Tonal, lean, but probably the most detailed and architecturally sound-looking machine of the eighties.

CAMBRIIDGE AUDIO CD1 1986 £1500 Inspired Slan Curlls redesign of Philips C604 complete with switchable digital filter. Lean but tuned and musical performer.

NERI DIAN MCD 1984 £600 The first British audio-grade machine was a sweeter, more detailed Philips C6100. £44 never sounded so good. Until the MCD Pro arrived a year later.

SONY CDP-761ES 1984 £890 Sony’s first bespoke audio-grade machine used a 16x2 DAC to provide a clinically clean sound. Supreme build quality a la the pure unadulterated luxury of a pocketbook-sized remote control.

YAMAHA CD-X1 1983 £340 Meticulously built 16x2 machine with the sharp, clean and incisive sound. Brilliantly built more than most rival other two of the time.

SONY CDP-101 1982 £800 The first genuine CD spinner was powerful and revealing. Brilliant transport more than compensated for 16x2 DAC and you even got remote control.

YAMAHA CD-X3 1986 £1400 Meticulous machine with a very high and detailed sound. Sometimes good, but almost every other rival of the DAC.

SONY CDP-301 1982 £600 The first CD-50 machine was powerful and revealing. Brilliant transport more than compensated for 16x2 DAC and you even got remote control.

ALOYSIUS XI-099 1999 £600 Awa’s naik better than it, but wasn’t half bad nonetheless. Massive spec even included a 16x4 DAC.

NAMAKUCHI PH-1 1987 £800 The very best sounding Nakamichi ever, but lacks the visual drama of a Dragon.

YAMAHA TC-800EL 1977 £179 Early classic with rich, smooth styling. Middle range sound better than most modern standards, but less revealing.

SONY TC-777 1972 £140 A la No. 2 and the Akai 4000U, open reel machine, the Sony offered better sound quality and was still no slouch by modern standards.

REVOX A77 1966 £145 The first domestic open reel that the pros used at home. Superbly made, but sonically off the pace.

COMPACT DISC TRANSPORTS


TEAC VRDS-T1 1994 £600 Warm and expansive sound makes this a mid-price hit. Well built, with a slick finish.

KENWOOD 901G 1986 £600 The first disc tray Jap transport was beautifully cool and responds well to re-clocking.

DACS

DCS ELIGA 1997 £8500 Extremely open and natural performer, with extremely price superb.

OYA LITTLE BIT 3 1996 £299 Rich, clean, musical and punchy sound transforms budget CD players.

CAMERIDGE AUDIO DAC MAGIC 1995 £99 Good value upgrade for budget CD players with extensive facilities and dedicated sonic.

PINK TRIANGLE DACAP 1993 £5000 Exquisite, the warmest and most lyrical 16-bit digital audio we have ever heard.

GEO DIGIT 1991 £90 Budget bitstream performer with tweaks aplenty. Pen-tron PSI upgrade makes it smooth, but now past it.

CABLES

MISSING LINK CRYO REFERENCE 2008 £495/5M High-end interconnects, with deliciously smooth, open and subtle sound without a hint of edge.

TECHLINK WIRES XS 2007 £20 Highly accomplished interconnects at an absurdly low price. Stunning value for money.

VH PHONE ULTIMATE THE FIRST 2004 £250 Carbon interconnects that help you forget the electronics and concentrate on the music. Miraculous transparency. Tight and tuneful bass mixed with air and space.

WIREWORLD OASIS 5 2003 £99 Superb mid-price interconnect with a very neutral, silky and self-effacing sound. Superb value for money.

TCI CONSTRUCTOR 13A & BLOCK 2003 £120 The latest line of speaker cables. More refined, with fine twist and more resonant. Worth the extra now standard high-street specialises, which sound coarse and two-dimensional by comparison.
Piega may not be a household name in the UK as yet but the Swiss-based loudspeaker manufacturer is making concerted efforts to rectify that. Spearheading the assault is its entry-level Classic series — with the 3.0 standmount the first of the range to enter Hi-Fi World’s listening room earlier this year (see review April 2017 issue).

That model impressed with strong, articulate bass and a sweet treble courtesy of its ribbon tweeter. Now it’s the turn of the larger Classic 7.0 model — a substantial floorstander measuring 104cm x 23cm x 32cm (H/W/D) and designed to fill large rooms with ease.

In common with a growing number of manufacturers nowadays Piega uses a ribbon tweeter for the high frequencies — but this is not a case of merely following fashion for the company has been an enthusiastic adherent of the technology since its inception in 1986.

The Classic series uses its latest in-house designed AMT-I version which works on the principle of an Air Motion Transformer (AMT) where a folded diaphragm is used to move the air.

In the 7.0 model this is coupled with two 180mm drivers in a two-and-a-half way configuration where the top one handles midrange and bass with the other dedicated to the low end only. Piega says this combination gives exceptional low frequency response with a quoted frequency range of 34Hz to 40kHz (see our Measured Performance for full details).
On the rear are a pair of binding posts to enable bi-wiring if required plus a large reflex port. Costing £2399 a pair the speakers come in either white or black piano lacquer with a Macassar ebony finish available for a premium.

As with the previous Classic 3.0 model the 7.0s boast a high standard of construction, weighing in at 28kg each and feeling extremely solid and sturdy on their base plate.

**SOUND QUALITY**

It's worth taking time to set-up these Piegas carefully. Point them towards the listening area as is usual with many floorstanders and the treble can sound overly strong – also getting them too close to a rear wall can result in boomy bass.

I found a little way out into the room and firing straight ahead gave the optimal response. Once done they immediately gave to life with a big, vibrant sound coupled with a large soundstage.

On Massive Attack's 'Angel' the thumping opening bass line was delivered with plenty of punch while the drums had a real 'thwack' to them. Used on the end of an Icon Audio Stereo 305E valve amplifier there was no difficulty getting them to go loud without the lower registers becoming flabby or uncontrolled.

Despite their size and those two bass drivers the Piegas don't actually dig that deep – missing the last octave on James Blake's 'Limit To Your Life'. But the bass is solid and tuneful, laying a firm foundation for the midband and treble.

With Fleetwood Mac's 'The Chain' every instrument had its own space, the 'speakers never smearing the tune or allowing it to drag. In fact they are extremely fast – handling the charging rhythm of The Pixies 'Debaser' with aplomb.

Much of this is down to the quality of the AMT-1 tweeter it's extremely detailed and manages the start and stop of notes with fantastic accuracy. So with 'Debaser' (a very Santana's guitar had stunning clarity and ring to it – the notes reaching far out into the room and enveloping me in the listening seat.

The slight downside here is that poor recordings do not fare too well. Oasis's 'Definitely Maybe' on CD sounded just a little too edgy and harsh for my tastes.

However, on the plus side, good quality material, especially high-resolution files, are given full room to breathe and bloom. Keith Jarrett's piano on 'The Köln Concert' (24/96) was rich and resonant, the texture of the instrument coming through at all times. Not all loudspeakers handle the full range of a piano well but the Piegas managed it.

They were also adept at handling contrasts in tempo so when Jarrett ups the speed of his playing the Piegas kept pace with the change without missing a beat.

Taking all these attributes together the Piega Classic 7.0s make an attractive package. They don't need massive power to go loud and are both crispily detailed and agile, meaning they make the most of whatever form of music you play.

**CONCLUSION**

Piega deserve to make inroads into the UK market with these new Classic 7.0 floorstanders. They are refined sounding with a fast, firm bass and smooth midband. Add in superb build quality and you are getting a lot of loudspeaker for your money. The only thin to watch for is the treble, which won't flatter poor source material.

---

**PIEGA CLASSIC 7.0**

£2399

**EXCELLENT - extremely capable**

**VERDICT**

A clean, crisp-sounding floorstander with good bass and extended treble. High sensitivity means it will go loud with most amplifiers.

**FOR**

- fast, accurate bass
- smooth midband
- ribbon tweeter
- build quality

**AGAINST**

- strong treble

Piega

+44 (1)344 89 39 32

www.piega.co.uk
VINYL NEWS

vinyl section

contents

NOVEMBER 2017

BBC DRT-2 TURNTABLE 84
Dave Tutt revives a BBC 78 Spinner from the past.

ATLAS PHONO CABLES 87
Jon Myers looks at high quality turntable interconnects.

BLACK SABBATH 89
Paul Rigby delves into a newly re-mastered Black Sabbath box set.

MUSIC ON VINYL
Another welcome mix from this prolific label (www.musiconvinyl.com) includes the first three LPs from the noughties indie band, The Veils, 'The Runaway Found' (2004), 'Nux Vomica' (2006) and 'Sun Gangs' (2009). Combining a balladic Jack White vocal style, folkish structures and slightly chaotic harmonies.

From Shirley and Dolly Collins, 'Anthems in Eden' (1969) was one of the folk treasures of late sixties British folk. Side 1 focuses on a post WWI England story with extra ditties appended on the flip. An LP that ranges from stunning to definitive.

Two reggae LPs now. Ken Boothe's 'Everything I Own' (1974) title track single cover of the Bread song became an unexpected No.1 hit while I Roy's 'Presenting' (1973) was a debut LP already full of hits – or soon to be hits – combining weighty social matters with more trivial fare.

Also look out for 'Drop Out' from the Barracudas, a mix of punk and surf rock from 1980, plus synth-disco outfit, Telex and 'Looking for Saint Tropez' (1978).

MOBILE FIDELITY

Procol Harum's 'Salty Dog' (1969) was the group's third album. Fully developed ideas showed a wide range of rock and R&B styles.

The Knack's debut and best LP, the unfailing hook-laden 'Get The Knack' (1979) featured the hits, 'My Sharona' and 'Good Girls Don't'.

Finally, 'Layla and Other Assorted Love Songs' (1970) was Derek & the Dominos' and Eric Clapton's greatest album and one of the best blues rock albums of all time. Featuring Duane Allman.
ROCK ON!

We begin with rock from Music on Vinyl and Atomic Rooster’s best LP. From 1970, ‘Death Walks Behind You’ combines dramatic horror with beauty. 1971’s ‘In Hearing Of...’ doesn’t live up to the latter’s standards but is still a fine release.


More for fans, it’s not essential.


On the tails of Metallica, Testament’s ‘Low’ (1994) was a return to form, spouting dark and angry songwriting. Big drums, massive guitars.

New from Sparks is ‘Hippopotamus’ (BMG), a clever, twisted, direct and always entertaining LP.

From doom-metal outfit, Paradise Lost, ‘One Second’ (Music for Nations, www.musicfornations.co.uk) is a 1997 reissue that flies that genre and showed their dramatic evolution. More late-period Depeche Mode than doom metal.

Finally, Akercocke combines death metal with electronic twiddly bits. On the new LP (the first in ten years), ‘Renaissance in Extremis’ (Pacesville, peaceville.com) combines thrash and death metal, an album of melodic dissonance.

WAH WAH

New from the Spanish audiophile outfit (www.wah-wahsupersonic.com) are two releases via krautrock artists, Popol Vuh. ‘Sei Still, Wisse Ich Bin’ (1981) was produced by Klaus Schulze. It offers solemn and sacred vibes with sparse electric guitar and shimmering piano. ‘Die Erde Und Ich Sind Eins’ (1983) was originally a private pressing and Florian Fricke’s debut solo LP but with plenty of friends bolted on. Fricke described it as “body space music.”

Also look out for Musikautomatika’s self-titled LP (1983) who offer electronic improv with a spaced out vibe, plus Didier Bocquet’s ‘Voyage Cerebral’, a real Berlin-school outing, highly recommend to Klaus Schulze/Tangerine Dream fans.

...AND FINALLY


Two from Vinyl Passion is a jerry Lee Lewis’ self-titled LP (1957) and ‘Greatest!’ (1961), both rock’n’roll classics, on one DMM cut LP along with ‘Vértigo’ the original film soundtrack, plus bonus cuts on coloured vinyl via Bernard Harrmann.

Experimental artist Gudrun Gut has released a collaborative LP. ‘Monika Werkstatt’ (www.monika-enterprise.de) including Lucrecia Dalt, Reate Bartel and Barbara Morgenstern.

Ghetto Priest’s uplifting reggae LP ‘Every Man for Every Man’ (Ram Rock, ramrecords.com) has been produced by Adrian Sherwood.

Ekim Fil’s ‘Ghost Inside’ (www.helenscarsdale.com) takes a 4AD.

Cocteau Twins. ‘This Mortal Coil, shoegaze pathway, drenched in haunted reverb and ethereal, speech filled. echoes.

Andrea Belfi’s ‘Ore’ (wearefloat.co.uk) is a drum LP. Five long percussive based tracks with electronic accompaniment featuring tight rhythms and intense melodic atmospheres.

LTO’s ‘Storybook’ (www.irizeroarecords.com) is a solo electronic artist from Bristol exuding fluid, dreamy melodies and programmed beats.

‘Strange Roads: The Songs of Rolled Gold’ from Sicewalk Society (Crustacean, http://www.fruitedemerecords.com) is a gold vinyl pressing of a half finished LP demos by The Action, rejected by Parlophone in the sixties harmoniously sublime.
Dave Tutt takes us through the intricacies of reviving an old BBC 78rpm turntable from the 1950s – a DRT/2. Here's a rare classic built to standards that have long gone.

I don't know how many of you still have and play 78s but some of my customers have large collections and some great old equipment to play them on.

Of course, old 78 spinners do occasionally need work and hence I get to see them at the workshop. The machine I'm talking about here is 1951 vintage and a 'disk reproduction transportable model' from the BBC called a DRT/2. There is a wonderful document (PDF) all about the machines in use in the 1950s which is well worth a read purely from an engineering standpoint (see below).

As you can imagine, something that is almost 70 years old is bound to have some quirks, but surprisingly few in reality. Mechanical issues are always going to crop up especially with something that may have been stored for many years. Also the valve head preamplifier is also going to need some work — but all of this is to be expected.

First the mechanics. The motor comes from Garrard, being their 20 lb shaded pole model. If anything, it is most likely to suffer from suspension failure as it hangs from glued together rubber bushes liable to rot over time. The one seen here was no different; its rubber was in good condition but the adhesive that binds it to the cups had failed. I found that a pool of fast setting epoxy — but not so much as to negate the effect of the rubber's elasticity — seems to work well.

The droop on one side of the motor had caused the flexible coupling from the motor shaft to the platter shaft to separate. A little reassembly put things back as they should be.

My customer tells me that the speed regulator can be a problem — but not in this case as it worked brilliantly. Even the strobe light worked well and allowed the speed adjustment to be seen easily. The cue lever is a work of art and you have to try one to see how well it works!

There is a large amount of cotton and rubber covered wire internally so this has to be inspected to ensure it is safe. Again, the age is the issue. Any rubber deposits in the casework indicates a rewire.

The preamp is a dual valve stage using the pentode EF37. The usual
Internal wiring looms are bound to military standards and the whole underside of this unit was clean as a whistle. All the same, although it looks good, electrically a 70 year old product such as this can still be potentially dangerous by modern standards and needs FAT testing.

Problems with any old amplifier were manifest here. All the capacitors needed replacement as they were either leaking or open circuit. The key pair of paper-in-oil types were leaking badly. Capacitor manufacture has improved dramatically since 1951 so these are less a crucial design factor now than they would have been back then. I left the metal cans on the chassis but replaced them with polyester types internally. Likewise the main power smoothing cans were disconnected and replaced with the modern equivalent at about a quarter of the size. The selenium rectifier, although still functional, had to be removed and a 1000 volt modern bridge rectifier fitted instead.

As with all old equipment the electrical safety issue has to be addressed. There is always an earthing problem, because modern circuitry are so much more exacting than they were even 20 years ago. There is also a leakage issue but a FAT certification test indicates if work to cure this is required.

851- The cue lever is a work of art and you have to try one to see how well it works!'

Big question is – how does it sound? Well, old and worn 78s sounded just as you would expect – scratchy, noisy and distorted, due mainly to the groove damage from disks that are beyond recovery. However, the mechanics are so good in this turntable that its speed stability – although unlikely to shame a modern deck – was certainly far better than most idler driven decks from the same era. Background noise, as in rumble and the shock excitation that record clicks can cause on badlyamped turntable platters, just wasn’t there. So with a 78 having little sign of wear there was a clean, clear sound far away from the expectation of the medium. It was a little bass light – but I have only heard one 78 that had bass. A solo cellist was remarkable both for its clarity and its frequency extremes – totally unexpected.

The owner of the machine intends to do his own rebuild of the EMI Type 12 pickup cartridge / head when he has it back, so this should further improve the sound.


The valve amplifier is sturdily built and uses EF37 pentode valves (red) fitted with top caps that carry a high and dangerous anode voltage. At left sit tall tubular high voltage capacitors that were left in place, but bypassed by modern types.

The pickup arm carries a sturdy EMI Type 12 cartridge. It is lifted and lowered by a massive lever at rear right.
iSINE

THE WORLD’S FINEST IN-EAR HEADPHONE

3.5MM COMPATIBLE

- World’s first full-range planar magnetic in-ear headphones.
- Featuring Fluxor™ Magnets, 30mm planar magnetic diaphragms and patented Uniforce™ Voice-Coil technology.
- Delivering precise control and fast response times without distortion.
- Available with standard 3.5mm connection or also with Audeze’s acclaimed Apple Lightning CIPHER cable. Ideal for iPhone 7.
- Start with the iSine 10, or step up to the iSine 20, with an even longer Uniforce voice-coil for enhanced bass, clarity and imaging.

“A seriously impressive in-ear that sounds exceptional, particularly for users of Apple devices” - Hi-Fi Choice

“Superb in every way. If you have a hi-res portable and need the best possible sound from small portable phones, these are the ones you should hear” - Hi-Fi World

“A uniquely designed in-ear headphone that sounds fantastic” - CNET

“The impossibly small but perfectly pocketable 30mm drivers produce a richly detailed, distortion-free sound” - WIRED

“Seriously good earphones… the iSINE offers sparkling performance and enormous flexibility and for this reason, it is a clear Best Buy” - AV Forums

Available now from
The vinyl renaissance hasn’t gone unnoticed amongst cable manufacturers. Hence a number are now bringing out products to improve performance - especially for those who are buying relatively budget decks where the supplied leads are (rather inevitably) of the cheap and cheerful variety.

There’s a good argument to be made for improving cables between a deck and phono stage or suitably equipped amplifier/pre-amp as the low-level signal can be subject to many deleterious effects.

Hence this new cable from Scottish-based Atlas features non-magnetic RCA plugs, spade-terminated earth tags and a solder-free, cold-weld connection. The signal conductor itself is made from oxygen-free copper which is shielded to help reduce RFI interference. It’s nicely-made, looks sturdy and the plugs fit securely.

The question has to be, though, can it really improve the quality of a deck costing in the region of £200-£300. Actually yes. Plugging these into a Rega Planar 1 turntable (£250) in place of a pair of stock leads brought a noticeable improvement. Most noticeable was the reduction in background noise and an expansion of the soundstage.

With Bruce Springsteen’s ‘Born To Run’ the late Clarence Clemons’ saxophone solo has real bite to it – especially with the sustained note right at the very end.

Gentler music also benefited from an appreciably quieter soundstage, giving an enhanced sense of detail and presence; Sinead O’Connor’s voice on ‘Peggy Gordon’ was hauntingly realistic.

If you have a budget turntable – or even one above that price but with standard interconnects – the Atlas Element Integras are well worth trying to wire that extra bit of performance from it. JM

[www.atlascables.com]
Dial A Dealer Directory

**Vinyl Records Wanted**
Top Prices Paid for Rock, Pop, Folk, Metal, Indie, World, Classical, also 7" & 12" singles, Cassettes & Mini-Discs too!

**Hi-Fi Equipment Wanted**
Turntables, Amplifiers, Speakers
Mini-Disc Players, 10" Reel-to-Reels
Nakamichi Cassette Decks

To discuss, call Mike
01522 722815
mike@vinylsimple.co.uk

**Divine Audio**

AnalogueWorks
Crott Acoustics
Graham Slee
KLE Innovations
London
Lounge Audio
Meridian
Rogue Audio
Trenner & Friedl

www.divineaudio.co.uk
01536 762211
tim@divineaudio.co.uk

**Introducing the Cayin N3 Digital Audio Player**
Supports all common digital formats up to 24 bit/192kHz and DSD up to 11.2MHz (DSD256)
USB DAC Mode
Support for 256GB Micro SD cards
Available in Black or Cyan
RRP £149.99

**Save 10% off all orders www.am3.co.uk**
**Use code HIIFIWORLD @ checkout**

9 High Street, Hampton Wick,
Kingston upon Thames, Surrey KT1 4DA
Open: Tuesday - Saturday 10am - 6pm
0208 943 3530

**Infidelity**

MUSIC & CINEMA SYSTEMS

NAIM, LINN, REGA, ARCAM, B&W 800 SERIES, PMC, FOCAL, DYNAMENT, KUDOS, VELODYNE, STAX, LYRA, OPPO,
TANGERINE AUDIO, TELLURUM Q.

**SEE AND HEAR THE VERY BEST**

**Audio**

Vivid Audio AVM
Spendor Dynamique
Black Rhodium Hi-Fi Racks
Acoustic Signature Devialet

01403 713125 | 07950 274224
info@sixaudio.co.uk
www.sixaudio.co.uk
Partridge Green, West Sussex

**ATLAS**

the performance connection

Eos
4dd POWER CABLE
Eos
Modular 4.0 POWER BLOCK

**ATLAS cables.com**
Black Sabbath’s Ten Year War
- The Ultimate Guide

The band has released a luxurious and wide ranging vinyl box set covering their glory years from the 70s. Paul Rigby provides a thorough review and interviews the reissue mastering engineer, Andy Pearce

The importance of this rock band cannot be understated. Black Sabbath pioneered the heavy rock genre itself. They combined an underlying blues vibe with a doom-heavy and leaden rhythm rock foundation that reflected their industrial, Birmingham backgrounds and the frustration and anger that emerged from it. Blues and the Black Country.

Is it any wonder that both of this base elements would spawn the energy that roared from the primitive vocalisations of lead singer, Ozzy Osbourne, Bill Ward’s spare yet powerful drum work, Tony Iommi’s searing guitar riffs and Geezer Butler’s rumbling bass and apocalyptic lyrics that was infused with the works of the occult?

THE BOX!
This new, limited-edition box set, entitled ‘The Ten Year War’, via BMG, brings together the band’s eight Ozzy-fronted albums plus rarities, all housed within exclusive artwork created by street artist, graphic designer and activist Shepard Fairey.

The star is the newly remastered, splatter-coloured vinyl. In the box you get the LPs, ‘Black Sabbath’, ‘Paranoid’, ‘Master Of Reality’ (including original fold-out colour poster), ‘Vol.4’, ‘Sabbath Bloody Sabbath’, ‘Sabotage’, ‘Technical Ecstasy’ and ‘Never Say Die!’ In addition, the box contains two rare 7” singles, reproduced in their original sleeves: the Japanese version of ‘Evil Woman (Don’t Play Your Games With Me)’, ‘Black Sabbath’ and the Chilean version of ‘Paranoid’ / ‘The Wizard’ (only 100 copies of the original radio promo were pressed).

Included within this box is a replica of the brochure, ‘The Ten Year War’ a response for contemporary press criticism that held the tagline “...more good press than most – more bad press than any.”

You’ll also find a crucifix-shaped Black Sabbath USB stick, exclusive to this box set, that can be worn round the neck and contains MQA-audio of the first eight Black Sabbath albums.

www.hi-fiworld.co.uk    NOVEMBER 2017 HI-FI WORLD
IAN HARRISON HI-FI SALE!
HIFI AT DISCOUNT PRICES. FREE NATIONAL DELIVERY.
Email: ian.harrison@mercian.myzen.co.uk

SPECIAL OFFERS!! SALE! UP TO 40% OFF!!

VAN DEN HUL MC15 £995, VAN DEN HUL MC15S £995.
AUDIO TECHNICA AT-ART7 £1200, AT-ART7 £225, AT-33SA £545, AT-30TP £1375

GOODS.
ACCESSORIES
ORTOFON
ORIGIN
AIR
ICON
CD
CREEK
HARBETH
PRO-JECT
EPOS
LEHMANN
GRAHAM
FIDELITY
SPEAKERS
CREEK
HEADPHONE
ORTOFON
PRO-JECT
CARTRIDGE
HELIUS
GRAHAM
BENZ
CARTRIDGE
TOM
TONEARMS
SUGDEN
ICON
EAR/YOSHINO
SUGDEN
VAN
SUMIKO
TECHDAS
REGA
REED
SOUNDSMITH
MOTH
GRADO
MOERCH
GOLDRING
MICHELL
DECCA
IAN
E:
AVAILABILITY
SORRY,
BOXED
PRODUCTS
martin@rockhifisupport.co.uk

SPECIFIC
500
HI-FI
LOUDSPEAKER
AND
ACCESSORIES

COSMIC
AUDIO
SPECIFIC
500
HI-FI
LOUDSPEAKER
AND
ACCESSORIES

For
STYLUS
LIVE
KOETSU
IAN
PHONE
90
HI-FI
LOUDSPEAKER
AND
ACCESSORIES

FOR
STYLUS
LIVE
KOETSU
IAN
PHONE
90
HI-FI
LOUDSPEAKER
AND
ACCESSORIES

E:
martin@rockhifisupport.co.uk
T:01267 236110
M:07930523854

 Criterion Audio is a premium hi-fi dealer in Cambridge. From vinyl and valves to the latest in streaming and headphones, we can help you find the perfect audio system to suit your budget and needs. Call us on 01223 233730 to arrange a demo.
Criterion House, Oakington Road, Cambridge CB3 0QH
www.criterionaudio.com info@criterionaudio.com

www.studioav.co.uk
01753 863300 sales@studioav.co.uk

SEEN
HEAR
AND
FEEL
THE
DIFFERENCE

HI-FI | DEMO LOUNGE | ELITE BRANDS
EXCEPTIONAL PERFORMANCE

Come and see us in the T+A room at the Hi-Fi Show Live in Windsor on 21-22 October.

Coming Up:
11th November
T+A & Melco event at studioAV. Call or email to register your interest.

WWW.STUDIOAV.CO.UK

rock hifi

...Stands for excellence

Cosmic Black
White Quartz
Star Galaxy

Granite is the ideal material for a loudspeaker stand. Heavyweight, stable and luxurious-looking you will find no better foundation for your sound. All stands are hand-made in Wales from local material.

For sizes, colours and bespoke editions contact:
E:martin@rockhifisupport.co.uk
T:01267 236110
M:07930523854

HI-FI WORLD NOVEMBER 2017
www.hi-fiworld.co.uk
Mastering engineers, Matt Wortham [left] and Andy Pearce [right].

There's a hardback book, including photography of the band during their 1970s tours, recording sessions and photo-shoots, a Tenth Anniversary World Tour 1978 Official Programme and a reprinted tour poster from the 1972 Seattle Centre Arena show.

TALKING TO ANDY PEARCE
Freelance mastering engineers Andy Pearce and Matt Wortham worked on this new box set, “Years ago, reissues were produced along the lines of ‘This is the budget, here’s the stuff, get on with it,”’ said Pearce. “A bare bones approach. Nowadays, we like to do more bespoke productions, getting the best tapes, strict A-B tests, finding the earliest generations and that kind of detail.”

Pearce calls this approach “Drains up”, which is a familiar term in his sector of the industry. This is a housing metaphor when a house is thoroughly repaired and improved from the very bottom (the drains), upwards to the very top. That is, the best job you can possibly do. This approach has been applied to the Black Sabbath, ‘Ten Year War’ box set.

A host of tools were used to get the job done, “I used a Studer A820 master recorder which has a 1/2” and 1/4” rig set up,” said Pearce. “The A820 was the last real professional model that was manufactured. It’s in particularly good order, still looks brand new. I’ve used Ampex machines in the past – which sound great – but the transport of the Studer is so kind to the tape.”

And its the original master tape that was used during the creation of this box tape. In fact, while using the tape as a source, Pearce took nothing for granted and paid careful attention to every note. Welcome OCD-like focus arose when Pearce and Wortham attended to the LP, ‘Paranoid’. “There’s a real dirge-like section in there. We were not sure if this was the music itself or damage. We’ve remastered this album on at least four occasions in the past but we had more license to address this remaster in fine detail. I talked to the label and asked for another source to compare. I had to see if the tape had been damaged in the past or if it was meant to be like that.

“I went over to the management office and picked up an early copy of the album from the vault which had not been previously seen by me. Changes are that it was less spark and less chance of damage. I signed a loan form (while the archivist manager commented that, if I didn’t return the disc soon, they’d have me legs off) – which I found quite amusing. I quickly ran over to the studio, transferred the recording to my studio and ran it back. Legs intact.”

And, would you believe it, this dark section was actually meant to be dark and brooding. It wasn’t damage after all. That said, any Black Sabbath fan would applaud Pearce for caring enough to find out in the first place.

“I wanted to check this because of the dubbed nature of some of the tape around that time and the fact that some tape of the era shed oxide. Ampex in particular, where the binder would absorb water resulting in flaking on the heads.”

Some of Black Sabbath masters from the later 70s decade did suffer from oxide shedding but Pearce managed to conserve the tapes before any aural damage could be heard.

“When we receive a tape, the

The Wired Masters Studio - the hub of the mastering for this box set.

Cover art for the finished box set.
While many of our competitors have chosen to focus on home cinema and TV, at Audio T we’ve never lost sight of our roots... set down in music reproduction over 50 years ago. We sell home cinema, of course, combined with a range of 2 channel brands that is second to none, see below.

There are now many new ways to get the music out of your system and we can guide you through them. From turntables, to CD players to computers, streamers and wireless loudspeakers it’s a potential minefield but one that gives you more possibilities than ever.

All our stores have enthusiastic and knowledgeable staff with a comfortable demonstration room. We can advise and install systems for you and we are always happy to live up to our Price Promise. So if you love music and want a system that will make you listen to more, you know where to find us.

Brentwood 01277 264730  
Cardiff 029 20228565  
Manchester 0161 839 8869  
Preston 01772 883958  
Swansea 01792 474608  
Brighton 01273 609431  
Cheltenham 01242 583960  
Oxford 01865 765961  
Reading 0118 958 5463  
Swindon 01793 538222  
Bristol 01179 264975  
Enfield 020 8367 3132  
Portsmouth 023 9266 3604  
Southampton 023 8025 2827

B&B 700 series

New B&W 700 series

Chord Electronics DAVE DAC

Rega Planar 6 with Ania MC Cartridge

Naim Uniti Nova Music System

Pick up your free copy in-store or order from our website

**Buy Now, Pay in 9 Months Time**

*Subject to status, ask in-store for details.

We sell Anthem, Arcam, Audeze, Audio-Ab, Audioquest, Auralic, B&W, Bluesound, Bryston, Chord Company, Chord Electronics, Cyrus, Denon, Dynaudio, Focal, Grado, Hi-Fi Racks, Innuos, JVC, KEF, Kudos, Linn, Marantz, Merco, Michell, Monitor Audio, Naim, Onkyo, Ophidian, Onotama, Panasonic, Pioneer, PMC, ProAc, Project, PSB, QED, QUAD, Quadraspire, Rega, REL, Rotel, Ruark, Russell K, Sennheiser, Shahnian, Sonos, Sony (Projectors), Sppedor, Unison Research, Wharfedale, Yamaha and more. See our website for a complete list.

*Not all brands are available in every shop so please check our website before travelling.*

www.bristolshow.co.uk

SOUND & VISION

23rd - 25th February 2018

THE BRISTOL SHOW
first thing we do is smell it – you can smell the damp on it. We’ve even seen mould on tape. Once you start to move the tape, the damp becomes airborne so you have to wear a mask. You don’t know what’s in that stuff. We do a test on a blank piece of non-music tape to see how it bears up. If it starts to leave a residue on the head then its into the oven for baking.”

The baking removes the moisture in the tape and fixes the oxide to the master tape itself. If done carefully and gently, the tape itself can enjoy many more years of use.

“Before we remaster, we listen to as many of the early LP releases as possible, as well as the tape. To get a feel for the music and the levels, EQs and the like. These are used as

The included crucifix USB stick contains MQA files of the featured albums.

confusion.” I was surprised to hear a wider and broader soundstage on the remaster. Most starting of all was the lower volume. I assume the original has a touch of extra compression, the remaster removed that, allowing you to up the volume and access even more detail.

I then moved to a later album release, ‘Technical Ecstasy’ (1976) and ‘Back Street Kids’. This one would be interesting because the remaster had to cope with shedding oxide and baking to allow processing. The result was a triumph! The new sense of clarity brought this track to life, adding points of detail where none previously existed. Cymbal work was fresh, drums were wholly more organic than before while the guitars

Like the band here, you can wear your crucifix USB stick around your neck via the included chain.

were brought forward to the ear instead of being squashed into the rear of the mix.

The improvements continued, confirming the superiority of the sonics from this set, even when compared to the revered original Vertigo cuts. The dynamic reach had been enhanced, detail now rolled towards the ears in total waves while loudness and compression were no longer a part of the package.

A brilliant and impressive suite of vinyl remasters that form part of a superb box set. Highly recommended for any fan of heavy rock and an absolutely essential purchase for any Sabbath fan who wants to hear what’s really going on in these classic albums.

Black Sabbath - in their classic ‘Ozzy’ era.
dramatic required although, “We did ‘topping and tailing’. This is getting rid of noise in the gaps between tracks or the leader track,” said Pearce. “I didn’t de-noise or de-hiss the actual music, though. I don’t think that the technology is there yet to get rid of this in the music itself so I left well alone. There’s always a danger of forgetting about the music and concentrating too much on the noise. Which results in damage to the music itself. The music is priceless. I’d rather hear a bit of third generation hiss than something that sounds unnatural and squeaky. You need to treat the music with respect.”

SOUND QUALITY
I tested the new vinyl with a host of original pressings to see how the box set measured up in sonic terms. After cleaning all discs with an Audio Desk’s ultrasonic ProVinyl Cleaner (www.audioconsultants.co.uk) I compared the debut, ‘Master of Reality’ with the (now rather expensive) Vertigo original.

Thankfully, the new cuts retain that feel of enclosure and claustrophobia. What was different, though is the clarity. There was much more available on this new remaster. On ‘Sweet Leaf’, I could hear great intonation and detail. Osbourne’s own vocal performance was far clearer. The big winner here was the bass guitar which emerged from the depth of the rock pit to become a bigger part of the overall mix.

Onto the original Vertigo issue of ‘Vol.4’ (1972) now and ‘Wheels of
Enjoy the Music.com

Enjoy the Music.com is the Internet’s leading information site for high fidelity audio equipment and consumer electronics since 1995. Being affiliated with many prominent publications plus offering its own Review Magazine and over 200 show reports online, Enjoy the Music.com is official media partners with AXPONA, Los Angeles Audio Show, and RMAF plus Internet partners with The Absolute Sound, Australian Hi-Fi, hi-fi+, Hi-Fi World, HIFICRITIC, HiFi Media, NOVO, Sound Practices and VALVE magazine.

London Linn & naim Specialist
CALL SALES:(020) 8318 5755 or 8852 1321 - 248 Lee High Road, London, SE13 5PL
Web: www.billyvee.co.uk email: sales@billyvee.co.uk Full delivery and installation services.

Trade in your CD Player & claim up to £1000 against a new digital Streaming player - offering you easier access to your music and better sound quality
Please call in or visit billyvee.co.uk for full details of this and other great new performance enhancing promotions

amp3

Official UK Cowon Distributor
Cowon Plenue D (PD) High Resolution 32GB Music Player
24bit/192kHz high-resolution audio from a variety of formats
Up to 100 hours of playback from one charge
Micro SD card slot for expandable memory up to 128GB
Available in Silver & Gold - Only £199
WHARFEDALE 3XP speakers 1973 Pioneer tuner TX500A, built in vinyl wrapped chassis with wood side sleeves (Mcintosh) Lushi 1970. Tel: Paul 07817299044


WANTED A&D/O innovations integrated valve amplifier Elite Rock/Avacom turntable Kevin Lab Class A integrated, £255 Acurate Kenroc interconnect, £250 Dear Albatre, £50 Leak Troubridge Mono Tel: 01132559475

UNISON RESEARCH Unico hybrid integrated amplifier, £600 EAR 3BLC line preamp, £400 Both in beautiful condition Tel: 07505057414 anytime or 02072635702 after 7pm.


ALL AUDI/QQUEST Gibraltar 2m speaker cable with spades £650, Sky 1m RCA interconnect £700, Sky 1m XLR interconnect £780 eagle eye 1m RCA digital £450, Leslie Syncom 1m mains lead £680 All boxed Email: jamie@wurope.co.uk Tel: 0177314151 Fraser Lance,

KEF Q100 bookshelf speakers, good condition, £90 Postage extra or collect. Sony cassette deck twin tape TCWE435 Working order, £35 Postage extra or collect. Tel: 07949594492.

CYNADUDIO AUDIENCE wall hung speakers, 86dB, £185. Flat cables included. Email: fat deed@i.com, Tel: 01202879180.

HARBETH P1ESR speakers, rosewood, new, £900. Cyrus One, Class D amplifier, £2x100wpc, £600 FS Acuc Acoustic D integrated amplifier, 250wpc, £700. Arrand Aukiet with KT 20 valves integrated amplifier, 45wpc, £1000. Wimsow Acuc horn speaker Force 02808270958, £500 Tel: 02082791810

QUAD 405-2 amplifier, £480 Quad 34 pre-amplifier, £300 Bang & Olufsen 4932 cassette deck, £130 Technics SL-P45 CD player, £100 Technics SL-J110 turntable, £90 Kef Ref 104AB speakers, £120 A full set made up leads, £50 All the above equipment is in as new condition Tel: 01905641946.

AKAI GX-95 Reference Master Cassettes Rikin cassette condition as it has little use £80 with unopened cassette tapes Collector only Coventry area Tel: 07762702570

WANTED: TOP quality Hi-Fi separates and complete systems, Nam, Linn, Cyrus etc, fast, friendly response and nationwide collection offered. Please call me on 07811589345 or Email me, at mike@worldhi-fi.com

NEAT MOTIVE 1 Loudspeakers Cherrywood veneer excellent condition, perfect sound £600 Tel: Evian 079579384795 (London).

YAMAHA H:000M loudspeakers in excellent condition for very reluctant sale includes stands. £1500 ono buyer to collect Tel: 01797 85968 (Bristol).

CANADIAN GUTWRE Synchrony 3 metre length speaker cable Superb - totally new condition £700 (Synchrony interconnects available separately). Email: stephen.adolphus@gmail.com, Tel: 07787574874.

MUSICAL FIDELITY A3 2 RDS tuner £125 Absolutely spotless, remote, original box. Pet and smoke free home. Kept covered and clean. Beautiful Musical (Cheshire) Email: imealdayas@hotmail.com or Tel: 07500804700

AUDI RESEARCH SP16L preamp & phono condition with instructions and remote control in original box and packing. In excellent condition sound enhancing quality £105 Tel: 07930121847

QUAD 606 Power Amp, 66 Pre Amp, 66 FM Tuner, £600. CD Player, 34 Control Unit £500 Serviced by Quad 2016 ESL 989 Speakers £950 Tel: 02033555097 evenings

I HAVE over 40 original boxes from Bowers & Wilkins (including DM604), Mission, PMC and Dynaudio, please, Email me on fat deed@i.com, Tel: 07811589345 or mail me at paget@qvi.com

RUSS ANDREWS Crystal 24 / Kimber 12TC speaker cable. Im pair with Kimber banana plugs with superb burn in and deep cryogenic upgrades applied RRP £450 - £250 Tel: 01902884694 Email: jukey39@yahoo.co.uk

FAIR OF: Morec1008 dynamic driver earphones, perfect condition never used, £600 MCRLU 6 way power block assembled, hardly used, £30, both excellent H-F. World reviews. Email: davidpricer@email.com

WORLD AUDI O W2J5EX Loudspeakers, SEAS Millenium tweeters, professionally finished cabinets detachable grilles £450 Av. Lab Series CD player and integrated Amp, £450 each, £850 together Can deliver, Salts Tel: 01827705659.

WANTED: FAULTY or non working Quad 44 preamp later model preferred Cash paid. Contact Mike 07558637900 Evenings.

QUAD 303 Amp recently refurbished by Quad, not used since, mains & din phono lead included. Will accept £2000 00 Buyer collects from North Harrow Tel Y Chisholm 07960986594

QUAD 405-2 amplifier, £480. Quad 34 pre-amplifier, £300 Bang & Olufsen 4932 cassette deck, £130 Technics SL-P45 CD player, £100 Technics SL-J110 turntable, £90 Kef Ref 104AB speakers, £120 A full set made up leads, £50 All the above equipment is in as new condition Tel: 01905641946.
CHORD ELECTRONICS HUGO2/HEADPHONE AMP

Chord Electronics of the UK make the only DAC in the world able to challenge California’s ESS Sabre32 series chips. But unlike ESS Chord Electronics also make the product that contains their super-chip. With a total grip like this, expect Hugo 2 – their transportable digital-to-analogue convertor for headphones, PCs and just about all else – to be ground breaking. Find out next month in our review – backed by the world’s most advanced measurements, courtesy of Rohde&Schwarz.

Also, we hope to bring you

WHARFEDALE DIAMOND 11.3 LOUDSPEAKERS
ISOTEK HI-RES FULL SYSTEM ENHANCER & BLUE HORIZON RIAA ENHANCER
LEEMA ACOUSTICS QUASAR STREAMER
AUDIO TECHNICA VM 750SH/VMN 40ML/VMN 60SLC CARTRIDGES
EXPOSURE XM5 AMPLIFIER
SPENDOR D9 LOUDSPEAKERS
QUESTYLE CMA400I HEADPHONE AMP AND DAC
BRAINWAVZ B200 EARBUDS

This is a selection of what we hope to bring you, not a complete list. We regret that due to a wide range of issues, we cannot guarantee that all products listed above will appear.

PICK UP THE DECEMBER 2017 ISSUE OF HI-FI WORLD ON SALE OCTOBER 31ST 2017, OR SUBSCRIBE AND GET IT DELIVERED TO YOUR DOOR: SEE PAGE 54
ORDER/INDEX

ADVERTISERS INDEX
Absolute Sounds OBC
Advanced MP3 Players 88,94
Atlas Cables OBC
Audeze 86
Audio T 92
B&W 24
Billy Vee 94
Black Rhodium 70
Chord Electronics 42
Convert AV 64
Criterion Audio 90
Devialet IBC
Divine Audio 88
ElectroMod 68
Enjoy The Music.com 94
Exposure 60
Focal 56
Henley Designs 22,66
Ian Harrison 90
Icon Audio 38
Indulgence Show 72
Infidelity 88
IsoTek 36
Jordan Acoustics 26,27
Naim 40
Nu Nu Distribution 58
PMC 20
Rock Hi-Fi 90
SCV Distribution 16
Select Audio 52
Six Audio 88
SME 6
Sound HiFi 68
Studio AV 80
Tellurium Q 12
The Audio Barn 88
The Chord Com[any IFC
The Right Note 88
Vinyl Simple 88

FREE READER CLASSIFIED ADS
ORDER FORM

TERMS AND CONDITIONS: Only one advert per reader. Maximum length per advert is 30 words. Adverts over 30 words will not be accepted. No Trade Adverts. This section is strictly for readers selling secondhand hi-fi equipment only. Telephone numbers and E-mail addresses are treated as one word. Model numbers are treated as one word i.e. Quad 303 = two words. Sorry we cannot accept adverts over the telephone. The Publisher reserves the right to judge submissions.

You can email your advert to us at: classifieds@hi-fiworld.co.uk or write or type your advertisement copy in block capitals with one word per box and post it to us at:
Hi-Fi World Free Readers Ads,
Studio 204,
Buspace Studio,
Conlan Street,
London W10 5AP

We cannot accept adverts over the telephone

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

Name: ____________________________
Address: __________________________
Post Code: ________________________
Daytime Tel: _______________________
"If you try hard enough, no matter how bad you are when you start out, sooner or later you might not have to sign on anymore."
Inventors of the world’s best amplification technology - ADH® - we are constantly working towards the ultimate perfection: zero distortion. In this passionate quest, we thoroughly reviewed the electronics of our systems to develop the new Expert Pro line.
“All in all it was a sonorous and sophisticated sound that swept over me in a wave.”
- John Myles - Hifi-World Magazine

“A major step forward in amplifier performance”
- Robert Deutsch - Stereophile Magazine

WHEN HISTORY AND HEART COLLIDE

“The DiaLogue Premium HP sound is so captivating in my system that I can’t seem to resist. You win PrimaLuna!”
- Paul Mah - Dagogo

“A PrimaLuna is not just a flirtation, it is an investment in pleasure”
- Rene Van Es - The Ear Magazine