

# HI-FI WORLD

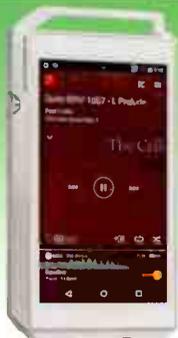
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December 2015

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Paul Rigby, Jon Myles, Martin Pipe



**T**here's nothing less fashionable than something that has just gone out of fashion – and the turntable was once it. All the same this magazine has doggedly reviewed turntables and all that goes with them, even as fashionable CD took over.

Now, suddenly, fashion has swung full circle and the turntable is back, looking oh-so-sexy in the form of the Timestep-Technics EVOke SL-1200GAE Direct Drive, fitted with the lovely SME IV arm, complete with gold plated finger lift. Swoon. Go to p11 immediately to see how wonderful a piece of hi-fi can look – and read about how well it worked. Flared trousers next?

Probably not. Flared trousers and platform boots are firmly consigned to the past – we all might hope – as computers pave the way to our future. And here the almost frightening ability of Pioneer's XDP-100R portable player shows what a Snapdragon processor can do with audio. Be scared: the future looks stranger than we might have imagined only a year or two back. Read more about this machine of the new age on p35. And quake.

Or don't quake – buy a nice simple but intriguing vertical turntable instead! The affordable Project VTE-R turntable seemingly gets a pickup arm to track uphill. Find out more about this LP player that appears to defy gravity on p87.

Cables are the most fraught subject in high fidelity. Cables and their connectors have always been a major performance issue in electronics, as I was reminded recently perusing Techniques For Advanced Cable testing from Keysight, using their Field Fox hand held analyser (woo hoo!). It reminded me that in our collective ignorance, digital cables were once declared to be problem free, truly agnostic methods of signal transmission.

Now, only a decade or so later, we know they are not. Optical digital S/PDIF cables with plastic cores lack bandwidth, producing loss and jitter, but we use them in hi-fi. The telecoms industry moved to glass a long time ago. Good on QED then to manage glass termination and offer us a glass cable we can afford. Go to p43 to read about a technically superior cable. Cables do make a difference.

**Noel Keywood**  
*Editor*



## hi-fi world

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## verdicts

●●●●●	<b>OUTSTANDING</b>	amongst the best
●●●●●	<b>EXCELLENT</b>	extremely capable
●●●●●	<b>GOOD</b>	worth auditioning
●●●●●	<b>MEDIOCRE</b>	unremarkable
●●●●●	<b>POOR</b>	flawed
£	<b>VALUE</b>	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.

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

To ensure the utmost 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 Clio-based computer

analyser, using pulsed and gated sinewaves, in 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.



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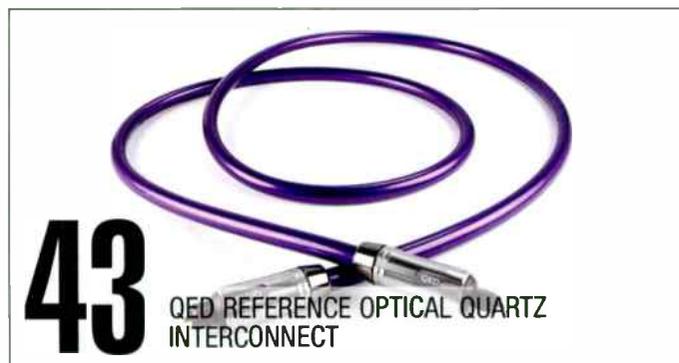
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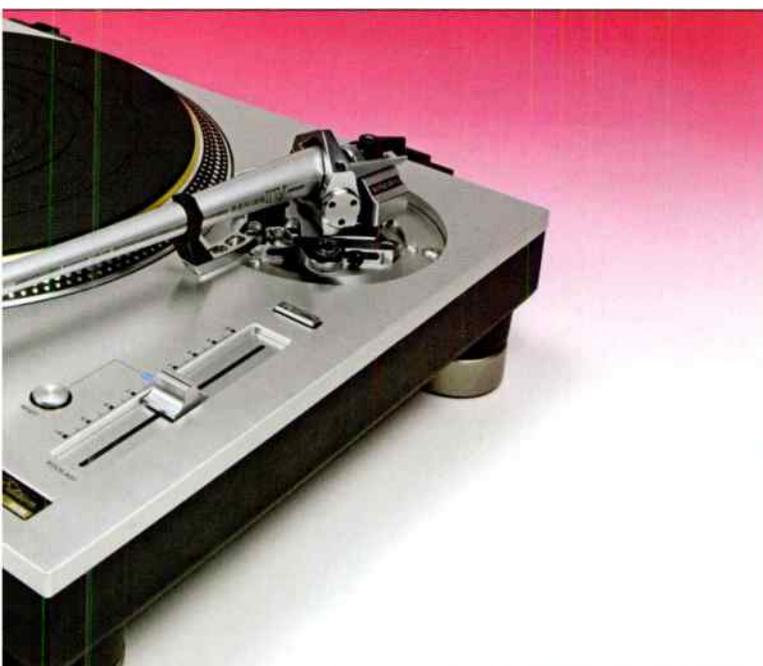
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# Hi-Fi World measurement

Two products in this month's issue, under test.

**T**he products we review are tested first to ensure they work properly and meet their manufacturer's specification. Our measurements also look at factors that affect sound quality, like frequency response, distortion and dynamic range, as well as those that affect compatibility, such as output level, output power etc.

These tests are complex and can only be made using a professional audio analyser, calibrated to international ISO standards to ensure accuracy – we use the excellent Rohde&Schwarz UPV.

Loudspeakers and headphones require acoustic analysis. For this we use the well known Clio test system from Audiomatica, Italy to provide reference standard acoustic measurements, within a very large 6000 cu ft test room. You can be sure our loudspeaker reviews, covering the full audio band from 20Hz to 20kHz, are accurate as a result.



*The Questyle CMA600i headphone amplifier under test, connected to our Rohde&Schwarz UPV audio analyser at top left, with a repeat screen beneath it.*

*On screen is the 600i's distortion at -60dB, produced by feeding in an undistorted 997Hz low level test tone from the analyser (yellow lead) that represents low level music, then measuring distortion on it. A top audio analyser like the UPV can do this with enormous accuracy and resolution, and also to international ISO standards of accuracy.*

*The UPV has both digital and analogue generator and analyser sections, allowing it to test all digital equipment.*

*Measuring the Pro-Ject VTE-r vertical turntable under test. The test disc in use is DIN 45 545, held in place by the screw on clamp. The 3150Hz tone on this disc is read by a Kenwood FL-180A Wow & Flutter meter (top right) and the frequency demodulated output fed to a Hewlett Packard HP3561A spectrum analyser that is able to measure ultra-low frequencies, here from 0.1Hz to 20Hz.*

*Most wow occurs at a low 0.55Hz (33rpm) rate, but some higher rate components are not uncommon and visible here. as a bunch of small spikes.*



email:news@hi-fiworld.co.uk

# news



## MCINTOSH TRIO

American company McIntosh has announced the release of the new C2600 valve pre-amplifier, the MPI100 Phono Amp and the MVP901 Audio Video Player.

The C2600's analogue inputs include three balanced, four unbalanced, plus one moving magnet and one moving coil phono input. Digital inputs consist of three optical, two coax, one USB and one McIntosh exclusive MCT connection. Three sets of balanced and unbalanced analogue outputs connect the C2600 to the rest of the system.

The C2600 features a 32bit/384kHz, DSD DAC and is capable of decoding and playing DSD64, DSD128 and DSD256 plus DXD 352.8kHz and DXD 384kHz.

The MPI100 is the first dedicated phono preamplifier from McIntosh. Moving Coil and Moving Magnet offer adjustable loading (six settings each), balanced and unbalanced analogue outputs, optical, coax and USB digital outputs and a mono switch.

When used with a properly configured conversion program, the MPI100 can 'rip' records to a computer via USB. The digital outputs are fixed at 24bit/96kHz. The MVP901 Audio Video Player can listen to music: CDs, SACDs and DVD-Audio discs can be enjoyed via an 8-channel, 32bit/192kHz DAC that's used in stereo quad balanced mode. The HDMI output can be used for multi-channel music playback too.

These new products are out now in America and expected to hit Europe later this year. Visit [www.mcintoshlabs.com](http://www.mcintoshlabs.com) to learn more.



## MINTY AK70

Astell&Kern has introduced the new AK70 including features formerly only found on the high-end models, such as Wi-Fi connectivity and a balanced output option.

The AK70's Wi-Fi connectivity means you can stream music to and from the player, it also allows for firmware upgrades. Like all Astell&Kern players there's also a microSD slot, which in this case allows the AK70's 64GB internal memory to be expanded via 200GB cards.

The 24bit/192kHz DAC design offers 'Bit to Bit' playback with DSD support and 64GB of internal memory, Bluetooth support, wireless stream to headphones/speakers and a 84mm touch screen.

The casing is machined from a block of aluminium, finished in the freshening 'minty mist'. Spanning 60 x 97 x 13mm and weighing in at 132g, the device arrives with optional, bespoke leather cases available in black, green or blue.

Price is £499 for the device and £39 for the case.

## JUST THE ONE

Audiolab has announced the release of the M-ONE compact integrated amplifier, taking Audiolab's DAC technology and adding pre/power amp circuitry, plus connectivity options including aptX Bluetooth.

Outwardly, the M-ONE is almost identical to the M-DAC+. It sports the same aluminium case, with the same central OLED display and dual rotary control scheme and is based around the recently introduced two-channel ES9018 K2M, little brother to the flagship eight-channel ES9018 chip found in the M-DAC+. It sports the same 32bit HyperStream DAC architecture and Time Domain Jitter Eliminator surrounded by Audiolab's circuitry.

The M-ONE's DAC section shares much with the M-DAC+. It is equipped to process PCM audio data up to 32bit/384kHz via USB. The USB input also supports DSD files, offering compatibility with DSD64, DSD128 and DSD256. The new unit offers a range of user-selectable digital filters. While the M-DAC and M-DAC+ supply seven settings for PCM files, the M-ONE distils these to a more concise selection of three: these join the same four settings offered by the M-DAC+ for DSD files. Volume is digitally controlled in the analogue domain, outputting directly to the Class A/B power amplifier, which delivers an output of 40W per channel into 8 Ohms.

For more information call 01480 447700 or click on [www.audiolab.co.uk](http://www.audiolab.co.uk).



## TEAC PORTABLE HEAD AMP

Made in TEAC's own factory in Tokyo, the HA-P5 portable headphone amplifier (made of aluminium alloy and weighing just 182g) works with iOS and Android-based devices and delivers playback up to DSD 5.6MHz and PCM 24-bit/192kHz.

TEAC has chosen to base the HA-P5's circuit design on that already used and proven in its UD-501 DAC and HA-501 headphone amplifier. Hi-res digital audio signals are routed via a Burr-Brown PCM1795 D/A converter before being passed to a Class A/B amplifier.

Two separate master clocks have been fitted to handle incoming 44.1kHz and 48kHz digital signals. Likewise, the four-pole headphone socket (also compatible with three-pole headphone plugs) features wholly separate left/right channel earth grounds. The HA-P5 is good for five hours of playback time on a single charge and also sports optical and coaxial digital inputs, both of which support up to 24bit/192kHz resolution. Price is £499.

Go to [www.teac-audio.eu](http://www.teac-audio.eu) for more information.



## ACOUSTIC ENERGY ACTIVES

Acoustic Energy has launched the AEGO3 and AEGO Sound3ar active speakers.

The AEGO sub-sat series combines miniature satellite speakers with a subwoofer. The latter houses wired and wireless connectivity plus amplifiers for all three channels.

The AEGO3 will be available in two versions. The subwoofer plus stereo satellite package is now joined by a new subwoofer plus single-speaker stereo soundbar version known as the AEGO Sound3ar, that keeps the electronics and connectivity in the subwoofer. Both formats share the same subwoofer module featuring a suite of input connections including optical digital, analogue and Bluetooth aptX wireless, while the aluminium alloy housing offers a rigid enclosure.

The AEGO Sound3ar adds additional mounting options. Placed on traditional AV furniture, the Sound3ar sits with the drivers facing upwards at 30 degrees. For those with TVs on the wall, the Sound3ar also offers flush-to-wall keyway mounting options.

Price for the AEGO3 and AEGO Sound3ar is £200 each.

For more information click on [www.acoustic-energy.co.uk](http://www.acoustic-energy.co.uk) or call 01285 654432.

## THE CASE OF THE CHORD MOJO

Chord Electronics has launched a protective case for its Mojo DAC/headphone amplifier. The new case has been designed by Chord Electronics' owner John Franks to protect the device, while allowing full access to its spherical controls and its connectivity options.

The new case is made from a durable polyurethane with a leather wrap. Inside, there's a soft, protective microfibre lining to preserve the Mojo's finish. The case features a hinged design to enable insertion and removal, with two clips to keep it closed. A secondary magnetic clip keeps Mojo in place.

Further features include a removable handstrap to provide an additional layer of security when on the move, plus protective rubber bumpers around the headphone outputs and digital inputs to provide useful shock resistance. Price is £65.

Call 01622 721444 or go to [www.chordelectronics.co.uk](http://www.chordelectronics.co.uk) for more information.



## B&O PLAY

Bang & Olufsen has announced the company's first wireless earphones with the launch of the Beoplay H5 that arrives tuned with a variety of sound profiles.

Users can choose one of the preset sound profiles in the Beoplay App on their smartphone or Apple Watch, such as working out, commuting, listening to podcasts or relaxing. Enclosed are seven pairs of ear tips. Price is £199; click on [www.beoplay.com/h5](http://www.beoplay.com/h5) for more information. A separate Beoplay H5 charger retails for £29 and is available on [www.beoplay.com](http://www.beoplay.com)



## CAN YOU COPE?

Hailing from Denmark, the Copland DAC 215 can be used as a headphone amp, a preamp or as a pure DAC via 'direct' mode. The latter is based around the 32bit, eight-channel ESS9018 Sabre32 Reference DAC chip in quad-mono configuration.

Compatible with PCM data up to 32bit/384kHz plus DSD64/128 the Copland offers a Class A analogue section that users of the company's CD players will be familiar with, plus a valve-based headphone amp section that includes two ECC88/6DJ8/6922 valves.

The Copland arrives with a suite of inputs, including an asynchronous USB. The asynchronous USB-B port connects to the computer's USB-A port. No power is taken from the computer. The regulated power supply for the USB input section has its own winding of the power transformer and the noisy computer line is completely

interrupted by the use of digital isolators. You will also find two coaxial and optical digital inputs, plus one RCA analogue input, while outputs include two RCA (fixed gain for pure DAC mode; variable gain for preamp mode) and a 6.35mm headphone socket.

Available with a black or silver fascia, the DAC 215 is priced at £1,998. To learn more, click on [www.absolutesounds.com](http://www.absolutesounds.com) or call 020 89713909

## EXPOSURE UPGRADE

Exposure has upgraded the standard 2010S2 DAC by adding single-rate DSD (DSD x64 or DSD 2.8MHz) to the feature set, accompanying its 24bit/192kHz PCM support.

The 2010S2 is available in titanium or black. Price for the new model including DSD is £920. Current owners of the existing 2010S2 DAC can upgrade to the new DSD version for £400.

For more information, call 01273 423 877 or click on [www.exposurehifi.com/products/item/2010s2-digital-to-analogue-converter.html](http://www.exposurehifi.com/products/item/2010s2-digital-to-analogue-converter.html).



## FOCAL FONES

Focal is unveiling three new headphone models. Utopia is Focal's flagship product. The Beryllium "M" dome is accompanied with a carbon fibre yoke. The lambskin leather, sourced in New Zealand, is connected to a 4m OFC cable, including a Neutrik 6.35mm stereo plug and two shielded Lemo connectors with self-locking bayonet system. Price is £3,250.

The Elear is similar to the Utopia headphones when it comes to the loudspeaker design and the mechanics, but they offer a solid aluminium yoke and microfibre ear cushions. One other difference is an aluminium/magnesium alloy dome. It is supplied with a 4m OFC cable, a 6.35mm stereo jack and two 3.5mm jacks with self-locking system. Price is £800.

The intriguingly-named Listen headphones occupy the lower-end of the Focal price scale at £150, arriving with memory foam ear cushions to provide noise isolation. Technically, this design offers 40mm drivers with Mylar cones and a titanium coating on the dome for extra rigidity. The chassis can be folded away and stored in the supplied carry case. The Listen provides a one-button in-line microphone music and phone control.

For more information go to [www.focal.com](http://www.focal.com).



## LEEMA CABLE

Leema Acoustics has launched a range of audio cables. The new Reference 1 and Reference 2 ranges comprise speaker cables, plus several digital and analogue interconnects. Features include continuously cast mono-crystal 6N-purity copper conductors, Teflon-insulation and Beryllium-copper plugs.

Both RCA and XLR terminations are available as well as TOSLINK and USB configurations. For more information and prices call 01938 559 021 or log-on to [www.leema-acoustics.com](http://www.leema-acoustics.com)



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"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."

- Jon Myles, **Hifi World 2015**

"But perhaps their reticence is understandable when the product sounds as good as this - after all, why let others in on the secret? Used in a variety of systems the Black Diamonds consistently revealed a wider perceived bandwidth, bigger soundstage and the ability to present transient details in an effortless fashion."

- Awards Edition, **Hifi World 2015**

"The Tellurium Q company has once again proved their products belong at the top of current cabling offerings. No matter how secretive or even mystic their approach may seem, the indisputable fact is their cables show a level of reproduction quality so far unheard of."

- **Mono & Stereo, 2015**

Find out why Tellurium Q® cables are achieving an audio cable grand slam from the publications below. Why not contact Tellurium Q or one of our many dealers, now.



**Stereo Times**  
The Complete Audio Magazine

**BEST PRODUCT 2015** High Fidelity

**HI-FI WORLD**



# Step Ahead

**Timestep have introduced an upgrade for Technics' new SL-1200GAE Direct Drive turntable, moving it ahead in crucial ways. Noel Keywood goes for a spin.**

**A**nyone with an interest in spinning LPs will surely have seen – and likely considered buying – a Technics SL-1210 Mk2 Direct Drive turntable.

Released in 1972, it has become recognised around the world for its attractive appearance, ease of use and reliably stable speed – oh, and low price. Yet recently Technics ceased production, replacing it with a new design, the SL-1200GAE, a single pre-production sample of which has been available in the UK for review.

What we've been waiting for, however, was a UK upgraded hi-fi version of a production model, the

Timestep EVOke SL-1200GAE you see here, with SME IV pickup arm and off-board linear power supply. The price is £5764 complete with Audio Technica AT33PTG/1 moving coil cartridge.

Like its predecessor, the new SL-1200GAE turntable from Technics comes with their own pickup arm. It's a fairly standard design with magnesium alloy tube and removable headshell on the initial limited edition GAE (1000 only and most have been sold) and alloy tube on the succeeding SL-1200G. Surprisingly, even though the new turntable is aimed at the hi-fi market, not DJs as before, the arm is not easily

removable; Technics still see this model as a package. If you want the whizzy new DD turntable you have to accept its somewhat prosaic arm.

This seems a little odd perhaps, but Technics will almost certainly offer a more expensive, up-market 'studio' version without arm in future. In the meantime they know this famous turntable offers them a way back into the high-end audio market at its surprising new frontier: vinyl replay. You buy an SL-1200GAE, or the succeeding SL-1200G the thinking goes – because there are no rivals – and you buy Technics hi-fi to go with it. It acts as a brand magnet in effect.



# Simply the Best

## Spendor D7



Among the finest speakers I've heard at any price  
*Sam Tellig, Stereophile Nov 2014*

Spendor's approach is the most radical I've seen, going where no hi-fi manufacturer has gone before. D7 is extremely capable and very neutral, but most importantly it puts the music first  
*Hi-Fi + Dec 2013*

If you're after a great all-round, affordable, high end loudspeaker, here it is  
*Hi-Fi Choice issue 370 2014*

D7 has an unmistakable touch of magic. Easy to drive, genuinely efficient, undemanding of placement, fine stereo, extended powerful bass, upbeat and well-balanced, build and finish first rate.

What more can one ask?  
*Hi-Fi Critic Sep 2013*

However it's been achieved, we can't help but marvel at the sound from the D7's. Spendor D7's set the standard for speakers at this price  
*What Hi-Fi Oct 2013*

Bass punch allied to tremendous mid band and treble insight makes for a winning combination  
*Hi-Fi World Jul 2014*



Spendor A5R

Spendor A6R



Stereo speakers  
Best floorstander £1200+  
Spendor A6R

Beautifully balanced sound  
fine build and terrific engineering  
*What Hi-Fi Awards 2015*

Spendor D1



**NEW**



The A5 was always a great sounding loudspeaker. The new A5R takes it to another level. Outstanding. *Hi-Fi World Jan 16*

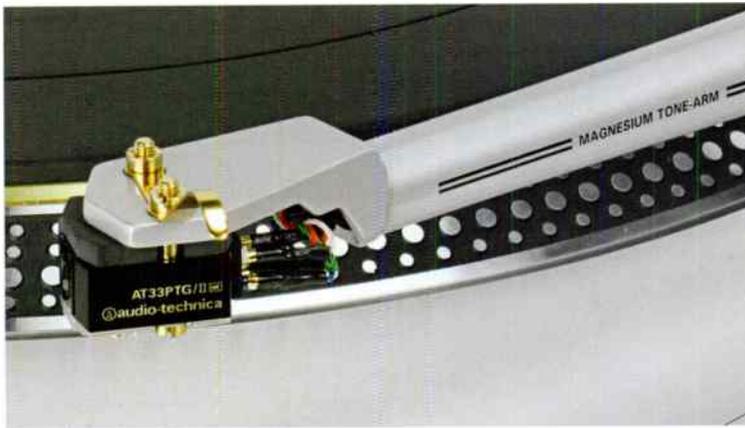
Brilliant mini-monitor  
one of the very best ever  
*Hi-Fi Choice Yearbook 2014*

This is a remarkable  
little speaker  
*Hi-Fi + Sep 2015*

Outstanding  
*Hi-Fi World Oct 2015*



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



**Audio Technica's AT33PTG/II moving coil cartridge mounted in the SME IV arm, embellished by gold attachment screws and finger lift. Note also the strengthening web that makes SME's headshell so resistant to vibration.**

Interestingly, Technics currently don't discourage after-market modification and co-operated with Timestep (Sound Hi-Fi) over this upgraded version. Likely they're aware that Timestep have developed a power supply unit that runs the

carries machined-in markings, just like my Garrard 401 – don't you just love it! This is the bit that adds visual allure and intrigue – just what is going on? Turntables catch the eye with their mechanical complexity, in a way CD players never could.

"It kicked in with rifle bolt speed, making me jump a little. I could sense straight away that nothing was going to slow this turntable"

SL-1210 Mk2 motor anywhere from 16rpm to 80rpm, specifically for archival purposes, and is used in US libraries and universities to transcribe old recordings. It employs a quartz-locked frequency reference, with divide down conversion, as used in modern radios, to provide 1rpm speed increments. This has served to get the SL-1210 Mk2 into places it might not otherwise have reached, operated by people who are influential. In Japan – ever sensitive to the US market – this rings bells.

However, although the new SL-1200GAE looks similar to the now deceased SL-1210 Mk2, the motor is a new design because Direct Drive motor technology has come a long way since the 1970s.

Although the motor and platter have been improved, Technics have wisely changed little in basic layout. You still get a lovely big Start button – and the platter races up to speed in an instant. There are 33 and 45 rpm speed select push buttons too, so speed change is simple and immediate. A blue stroboscope illuminates the edge of a platter that

Mk2 could not. The new motor is a concealed brute. Which bodes well for sound quality because torque, as well as platter weight and inertia, help keep the sound stable.

There's still the ability to vary speed with a slide control at right on the plinth. When the slider is set to 0 in a detent at the centre of its travel, it triggers phase lock against the quartz reference confirmed by illumination of a green LED, to ensure perfectly accurate 33 or 45rpm. Move it up or down and you get +/-8% speed variation, doubled by pressing a (new) x2 button.

Doing it this way doubles resolution, allowing precise speed to be set. Mechanical devices that are well honed, like the SL-1210 Mk2 and new SL-1200GAE, are so deliciously responsive and unchallenging, but correct. No chance of a screen warning you about an "illegal command" here: you get the doggies without the dodgy.

Press both buttons and you get 78rpm that is adjustable up to 90rpm needed for old 78 shellac records – something collectors will appreciate.

A rotary On/Off switch sits atop the stroboscope pillar at left, and switching on triggers the blue strobe light that shines on the platter's edge. There's a hinged dust cover too, that can be lifted off easily if preferred.

All this is built into an updated plinth that has been made heavier and less resonant. Plinth dimensions are 453mm wide, 170mm high with dust cover on but closed, and 372mm deep. Weight is now a substantial 18kgs due to the uprated plinth construction comprising 10mm thick

You don't so easily find out any more what is going on by placing your finger on the platter's edge to slow it down, because it refuses to slow down. The new motor has so much torque (turning force) that it resists this where the SL-1210



**This view shows clearly how the SME IV magnesium arm tube tapers up to a large diameter at the rear bearing assembly for maximum strength and rigidity.**



*At the right side lies a turntable speed adjustment slide-control. At centre it provides correct speed, held steady by phase lock against a quartz crystal reference. Total adjustment range is +/-8%, or double that by pressing the oblong x2 button. The SME IV arm is a gorgeous visual match for the Technics.*

aluminium top panel with brushed finish, a die-cast aluminium motor frame assembly, Bulk Moulding Compound internal chassis parts and heavy rubber outer plinth. The dust cover hinges upward and space is needed above the turntable to accommodate this, as always, or it can be removed.

The SME IV arm of the Timestep EVOke is a simplified version of the top SME V, with suitable matching silver finish – and ours came with a touch of gold in its finger lift and cartridge attachment screws. It's price when bought alone is around £1800. This is a one piece arm with a super-rigid tapered magnesium arm tube, stable gimbal bearings of superb quality, a lift/lower platform that is smooth in action and easy downforce adjustment. The SME IV is more than capable of complementing the finest pickup cartridges and with the AT33PTG/II fitted was entirely free of arm tube resonance, our measurements revealed.

The Audio Technica AT33PTG/II is a popular moving coil in Japan – and it is hardly surprising. Inexpensive at £420 or so, it has a tapered boron cantilever fitted with a Microlinear stylus at one end and twin PCOCC copper signal coils at the other. The body carries a powerful Neodymium magnet. As you can see, the gold lettering was complemented by a gold finger lift and attachment screws on our sample – a very nice touch.

### TIMESTEP POWER SUPPLY

Feeding the motor and on-board electronic circuits is a switch-mode power supply, necessary because there's limited space in the chassis

and switch-modes can be made small, and also because they accept 110V-240V at 50Hz or 60Hz, so work anywhere. However, they radiate radio-frequency rubbish and the SL-1200GAE unit is unscreened, as our pictures show. Ouch.

So it has been removed by Timestep, to avoid possible interference into a sensitive pickup cartridge (Grados, for example, have no screening) and lessen noise. Instead, power now comes from an external Timestep linear supply that does not by its nature produce radio rubbish. It is housed in a solid and attractive metal case with power switch, matching blue LED and measures 175mm wide, 240mm deep and 65mm high. There's a Furutech gold plated IEC 3 pin mains input

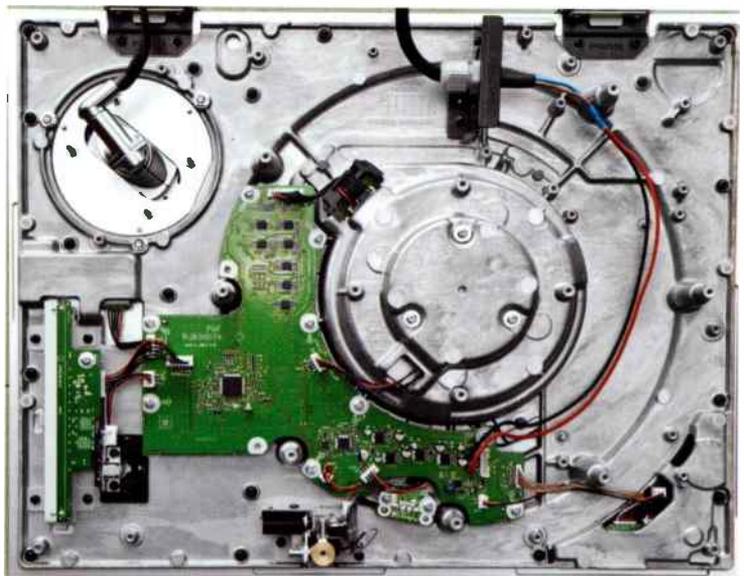
and a gold plated XLR power output socket. The turntable has a fixed power lead, 1.5m long, terminated in a matching gold plated XLR plug that pushes in and locks.

### SOUND QUALITY

I spent a day with the Timestep EVOke SL-1200GAE directly after reviewing the McIntosh MT5-6 belt drive turntable, in last month's issue – and they were a fascinating contrast. I mention this because it seems an appropriate way to get the Technics into context, subjectively. Technologically, the Technics uses advanced Direct Drive motor technology that measures better than any belt drive. And I could hear it: this turntable had precision timing that made synthesiser beats in particular metronomically accurate. The MT5 was well timed, but it was not as clinically concise. Whether it would matter to you I do not know. Belt drives are commonly vague in tempo, something you only realise after encountering a Direct Drive. You can hear Direct Drive in this sense: events stream forth from the loudspeakers in rigid order.

But as many people would want to exclaim at this point, there's more that affects sound quality of a turntable than just the motor and speed stability. Structure, including structural materials, also come into it.

The Technics had a lighter patina to its sound than the McIntosh. Their differing mechanical structures play some part in this, especially the large, heavy acrylic platter used by McIntosh, that contrasts with



*An underside view showing the upgraded unit with power supply removed and SME arm installed. The base plate is a rigid alloy casting, where its predecessor was a sheet steel stamping.*

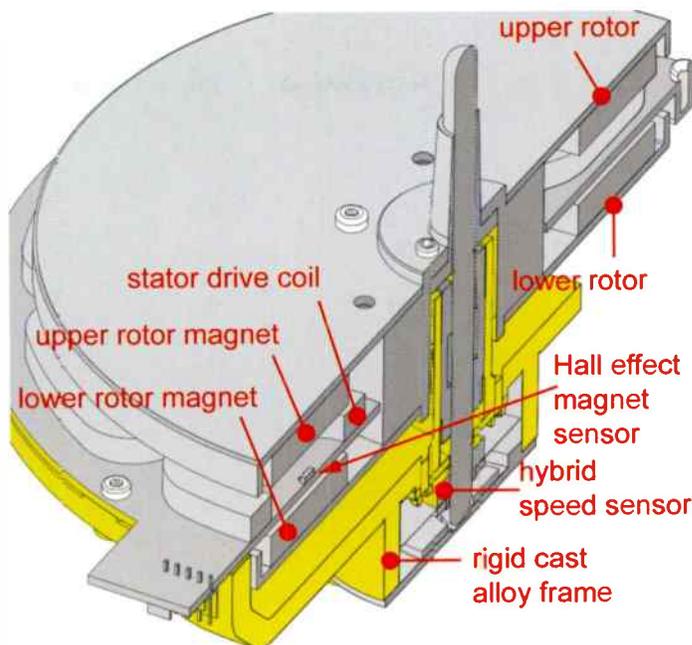
the metal platter used by Technics, of die cast aluminium with a brass insert. Since I can hear my heavy Garrard platter – it is responsible for that slightly hard, grey tinge to the midband that characterises the 401 – it comes as no surprise to me that Technics all-metal platter has subliminal influence in spite of underside damping and rubber platter mat.

Imagine then a brighter hue to the sound – airier one could say – from the Technics, accompanied by an unmatched sense of precision timing. As the Technics is £5764 as a package and the MT5 £7495 they make an interesting comparison. I'm not attempting a comparative review here, so much as trying to convey to you how the Technics sounds in outline, in basic sonic form as it were, against others.

Writing about its sonic signature before setting out system and circumstance has been provoked by the disconcerting way high-end turntables affect LP sound quality; they shouldn't have a 'sound' but they do. Circumstance was our revealing system of Quad QMP monoblock amplifiers driving Martin Logan Renaissance loudspeakers. An Icon Audio PS3 valve phono stage with volume control was used to drive the Quads direct.

The Timestep EVOke SL-1200GAE comes with an Audio Technica AT33PTG/II moving coil cartridge (£420) that has a refined sound, there's no doubt about that. Additionally, I used our Ortofon Cadenza Bronze (£1300) moving coil in its SME IV arm to check that its greater sense of body and stage depth, underpinned by deeper and fuller bass, would be resolved. It's a cartridge I use regularly and know well, allowing me to separate the sound of the turntable from the sound of the cartridge. An SME IV arm can take any cartridge and do it justice; I could have used our Ortofon A-95 (£3000) for example, but Dave Cawley of Sound Hi-Fi wanted the set seen as a value package, rather than a top flight turntable it has the potential to be with a more ambitious cartridge fitted.

I started listening with a suitably named track: Time. This old fave from the Floyd announced itself by the sudden entrance of the alarm clock, centre stage. It kicked in with rifle bolt speed, making me jump a little. I could sense straight away that nothing was going to slow this



**The new Direct Drive motor is large and built onto a sturdy cast alloy frame (yellow). It has two rotors, where the outgoing SL-1210 Mk2 had just one. This greatly increases motor torque. Technics say rotational inertia is double that of the SL-1210.**

turntable: the clock announced itself with sharp immediacy. With the deep heartbeat pounding rhythmically, the metronome jumped into the soundscape – and it had rubidium accuracy, it seemed to me (we had been talking about rubidium clocks in turntable measurement!). There was a perfectly controlled event sequence here, each instrument being kept in a

with a great sense of drive and force. It was exciting stuff, perfectly controlled – and again I got the feeling of unstoppable from the Technics: it crashed its way through these musical events, hurling them from the loudspeakers.

With gentler material, such as Marianne Thorsen playing Mozart piano concertos, backed by the



**Timestep's external linear power supply, with its single front LED of blue that matches the turntable's strobe lights.**

rigid time grip.

Pressing the 45rpm button, I span Billy Ocean's 12in single, Get Outta My Dreams, Get Into My Car – and was met by a torrent of quick fire sounds of a car starting, door slamming etc that form an entrance to this amusing ditty. The introductory synth line built with power, launching the song suddenly,

Trondheim Soloists, a DXD recording cut onto 180gm vinyl, the impressively fine and deep resolution of the AT33PTG/II stylus made itself known in the reproduction of her violin: it came over as smooth and all of a piece, the bow upon strings sounding luscious in nature, neither a screech, nor a simulacrum.

It was with Amy Winehouse,



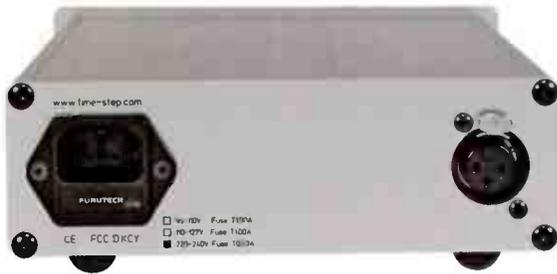
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The rear of the power supply supports a gold-plated Furutech IEC mains input socket (left) and gold-plated XLR power output socket.

Tears Dry On Their Own (12in 45rpm single), and Mark Knopfler's True Love Will Never Fade, on Kill To Get Crimson, that I made a move to the Cadenza Bronze to increase stage depth and get a greater sense of body to the midband, and presence to bass, albeit with less obvious treble. The Timestep EVOke

with SME IV handled this change perfectly, being well able to resolve a move upward in cartridge quality (and cost!).

**CONCLUSION**

A turntable of the extraordinary complexity of the new Technics SL-1200GAE demands more than

the arm Technics choose to fit. By giving it a top quality tapered magnesium SME IV arm instead, and by eliminating the on-board switch mode power supply, Timestep have come up with a magnificent package in the Timestep EVOke SL-1200GAE. It's a top flight turntable that anyone can use – and it looks and feels superb. There's nothing like it.

**TIMESTEP EVOKE SL-1200GAE PARTS COST**

Technics SL-1200GAE turntable	£2,700
SME IV tonearm	£1,860
Tonearm mounting plate for 9" SME arm	£90
Audio Technica AT33PTG/II MC cartridge	£419
Timestep PSU	£495

Total cost of fully finished turntable package (as above, plus £200 fitting cost) £5,764

**MEASURED PERFORMANCE**

Measuring a tuned Direct Drive turntable like this, with SME arm and smoothed linear external power supply, raises issues of the measurement system that can't be ignored, if a meaningful result is to be achieved. Most speed stability test records aren't as speed stable as such a turntable, since they are cut on a record lathe that itself will suffer speed variation; such test records have limitations.

In practice that turns out to be most of them. Of them all (which we have) the DIN 45 545 test disc is the best by far – and up to the job, if not perfect. To get a meaningful result this disc had to be perfectly centred to less than 0.1mm of eccentricity, measured by tracking a locked outer groove and looking for cartridge swing against a reference.

The disc also had to be placed at different angular positions to ensure test disc wow at basic rotational frequency (0.55Hz) was not adding to, or subtracting from turntable wow, to give a false high or low reading.

Basic speed was shown as 3154Hz from a nominally 3150Hz tone – a negligible error. Speed was held almost perfectly, the reading varying by 1Hz or so, where belt drives typically wander by +/-5Hz or so over a short period of seconds. Because the Technics is quartz locked against a reference it held this value over time. So the SL-1200GAE was near perfect in terms of speed accuracy, both immediately and over an infinitely long time period. This is where quartz locked Direct Drive consummately outperforms all other turntable drive systems.

So much for basic speed accuracy and drift from it. Wow is regular, cyclic change of speed at a higher rate, from 0.1Hz to 10Hz. Most common at 33rpm is basic rate wow at 0.55Hz, due mostly to bearing eccentricity. The SL-1200GAE has negligible amounts of this, our spectrum analysis of the demodulated 3150Hz tone from a wow and flutter meter shows. The peak at 0.55Hz reaches 0.022% – an astonishingly low value, well below audibility (circa 0.2%). So the SL-1200GAE is rock steady in terms of wow – and better than all else.

There are some 'cogging' components at 6.6Hz, exactly the same problem that crops up in the SL-1210 Mk2, because they both use a 12 pole motor. However, to keep this in perspective level is very low at 0.022% – again inaudible.

When wow and flutter are summed and weighted for subjective audibility the total is, using the Japanese JIS standard, 0.04%. This is around half that of the best alternatives, meaning well engineered belt drives.

To summarise, the Timestep EVOke SL-1200GAE delivered a measured performance unrivalled by most else in terms of speed stability.

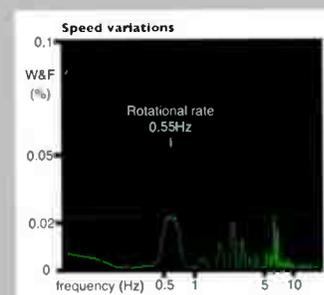
We also measured the SME IV arm with Audio Technica AT33PTG/II cartridge for inter-related structural resonances, using a Bruel&Kjaer accelerometer attached to the headshell. This reads vibrations in the headshell, caused by music frequencies. Our analysis shown here reveals an almost totally quiet system, free of basic tube bending

modes. Much of this is due to the SME's rigid and physically asymmetric webbed headshell, its inside edge strengthening web being especially effective, as well as its enormously strong tapered magnesium arm tube.

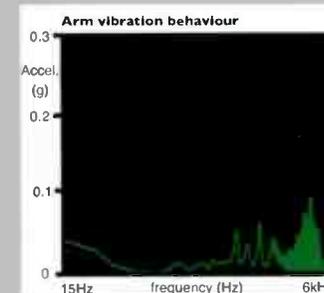
The Timestep EVOke SL-1200GAE, with SME IV arm and Audio Technica AT33PTG/II MC cartridge come together to form a unique turntable package under measurement. Few get close. NK

Speed error	0%
Wow	0.04%
Flutter	0.025%
Total (wtd)	0.04%

**WOW & FLUTTER**



**ARM VIBRATION**



**TIMESTEP EVOke SL-1200GAE TURNTABLE**

OUTSTANDING - amongst the best.

**VERDICT**

A turntable of fabulous performance in all areas, and also one that looks magnificent and is easy to use. It couldn't be better.

**FOR**

- Sound quality
- adjustable speed
- 78rpm

**AGAINST**

- very heavy
- all manual
- 78rpm cartridge fitment

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# Smooth operator

KEF's R700 floorstander offers a sophisticated sound for the money, says Jon Myles.

**W**hat would you expect from a £2000 loudspeaker? Sleek looks, great build quality and detailed sound would be amongst the list of priorities. Then there is a smooth response, excellent driver integration and that all-important excitement factor that gets your feet tapping or your head nodding.

That's exactly what KEF are aiming for in the R700 floorstander – part of a range that also includes the smaller R500, larger R900 as well as bookshelf and centre channel models, as well as a subwoofer.

Taking that list of priorities there's no doubt the R700 ticks most of the boxes. Unpack them and they look sleek and purposeful, measuring 1070mm x 210mm x 345mm (H/W/D). They are also well built, with a solid feel and magnetically-attached grilles.

Remove those grilles and you'll find an impressive driver line-up. This is a true three-way loudspeaker with two 165mm bass drivers positioned above and below KEF's famed Uni-Q mid/treble unit in a D'Appolito configuration.

It's a little hard to believe that the Uni-Q – which places the tweeter in the throat of the midrange driver – first made its appearance some 28 years ago, so different does it still look.

However, KEF have constantly evolved the design over those years and the latest iteration features a 25mm aluminium tweeter with an integrated waveguide positioned within a 125mm midrange. It's the





# Project

AUDIO SYSTEMS

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same as that used in the company's range-topping Blade floorstander, so promises much.

The two bass drivers have their own rear-ported enclosures and KEF supplies two-piece foam bungs for adjusting them, depending on room placement and individual taste.

There are also dual 'speaker terminals on the rear for bi-wiring or bi-amping if desired. However, instead of the usual connectors that link such terminals for single-wiring, there is a knob that either straps the terminals together or disconnects them depending on whether it is turned fully clockwise or counterclockwise. It's a clever arrangement, but exercise caution if you are looking to bi-amp - having the dials set wrong will not do the loudspeakers any favours.

So in terms of build, design and overall value for money, the R700s look an impressive package for the asking price. But how do they sound...

### SOUND QUALITY

After a decent run-in I connected the KEFs to a pair of Quad QMP monoblock amplifiers for the first serious listening and was initially underwhelmed. The sound was clean and smooth - but in a way that was almost too smooth to my ears.

Playing David Bowie's 'Aladdin Sane' and the snap and bite from David Sanborn's saxophone seemed recessed and lacking the necessary sharpness to really excite.

It didn't take too long to realise why. The QMPs are powerful but innately reserved in their character - while the KEFs seemed to crave a little more punch to really sing.

Switching to a Naim DR-equipped power amplifier made a big difference, delivering a greater sense of verve to the R700s. Now Sanborn's saxophone had a good deal more snap to it, aided by obvious top-end extension.

What I found impressive was their soundstage and sense of integration between the drivers. There was no midrange suck-out to soften the sound, while bass went low but never dragged or boomed.

Playing Nick Cave And The Bad Seed's 'The Mercy Seat' revealed a fulsome low-end coupled to good instrumental separation. The ending of this track can sound congested and ill-defined on some loudspeakers but the KEFs picked it apart, allowing me to follow the individual instruments - or simply revel in the entire performance.

The only criticism would be that the treble could benefit from a little more bite and sparkle. But the R700s are obviously voiced for a smooth and even performance, which they achieve extremely well.

Listening to Air's 'Moon Safari' (24/96) the KEFs revealed it in all its silky, laid-back glory. The rippling acoustic guitars had detail allied to a rich resonance, while the vocoder vocals on 'Kelly Watch The Stars' were easy to distinguish.

These loudspeakers don't punch the music out at you like some others and so take a little longer to truly appreciate. In a showroom setting I can imagine some finding them a little uninspiring.

When I listened longer, however, their qualities became apparent. They probably won't suit those who crave all-out excitement but they will definitely appeal to listeners seeking a measured, accurate performance that reveals what the rest of their set-up is doing. As such, careful amplifier matching is crucial, so a thorough audition is recommended. But get that right and the KEFs are extremely rewarding.

### CONCLUSION

Smooth and sophisticated, the KEF R700s can sound a little reserved at first but they reveal their qualities the longer you listen. If you want detail and accuracy, as opposed to sonic fireworks, then they could be right up your street.



Rear ports load the two bass unit chambers.

KEF's bi-wire panel has a built-in connection system.

### MEASURED PERFORMANCE

Our analysis of frequency response of the KEF R700 (green) runs flat and smooth from 40Hz to 18kHz, a super-smooth midband suggesting very low coloration. The Uni-Q tweeter integrates perfectly with the midrange cone surrounding it; there is no crossover dip between the two.

The twin bass units, with their rear reflex-port loaded chambers, run smoothly down to 40Hz a stepped and gated sine wave response analysis (not show here) revealed, the ports adding support around 35Hz, so bass reaches low, if not being quite subsonic.

Sensitivity was a high 89dB, meaning an amplifier of 40 Watts is plenty enough to go loud. Our impedance curve shows, however, that the R700s are low impedance and draw a lot of current, so need a powerful amplifier like a Naim, at least.

The KEF R700s measure well in

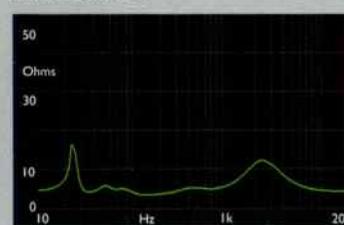
every respect but are amplifier critical. **NK**

#### FREQUENCY RESPONSE

Green - driver output  
Red - port output



#### IMPEDANCE



### KEF R700 £2000



**EXCELLENT - extremely capable.**

#### VERDICT

A sophisticated loudspeaker that majors on a smooth, even sound with detail aplenty. Careful amplifier matching is needed to get the best.

#### FOR

- smooth, detailed sound
- accurate bass
- build quality

#### AGAINST

- lack of dynamic grip
- need careful amplifier matching

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# Power Up

IsoTek's new entry-level power cable has the ability to boost your system, says Jon Myles.



**P**ower cables can be something of a conundrum. There's no doubt replacing the stock lead supplied with your CD player, amplifier, pre-amp or tuner with a specialised model can make a difference to sound quality. But at the top end prices can seem prohibitively expensive compared to the benefits.

So enter IsoTek's new EVO3 Initium that retails at a realistic £64.95 for a 1.5 metre length and promises to deliver an upgrade to your system.

IsoTek, of course, are no newcomers to supplying clean power to hi-fi systems, having a well-regarded range of conditioners, mains blocks and cables all designed and manufactured in Europe.

The EVO3, however, is its entry-level mains cable bringing the price of ownership down to a new level. Having said that, it is still handsomely constructed, consisting of three 99.9999% oxygen-free copper

conductors arranged in a parallel construction with a slight rotational twist to help reject RFI and EMI interference. These are shielded in a polyethylene dielectric while a cotton filler is also used to enhance internal strength and reduce microphony.

IsoTek also fits its own bespoke connectors featuring oxygen-free copper conductors with nickel plating.

In practice it's a hefty cable compared to the stock black leads you get with most components but it is flexible enough to fit into tight spaces behind racks and has a reassuring air of quality about its construction.

## SOUND QUALITY

I started out using the IsoTek into an Oppo BDP-105D universal disc player – replacing the stock lead. The Oppo is no slouch as a top-class

player but the EVO3 managed to up its game.

Sliding in New Order's 'Substance' CD and there was a palpable cleaning up of the sound with a seemingly lower noise floor and a greater sense of musical flow. Tracks such as 'Bizarre Love Triangle', for example, were possessed of greater depth and punch. Bass lines, especially, dug deeper but the midband also had more clarity.

Moving the cable onto a Creek Evolution 100A integrated amplifier brought even more benefits. Listening to Olivier Messiaen's 'Quartet For The End Of Time' the EVO3 brought a delicacy and an air and space around the instruments I'd not heard before. The violin and cello lines had extra timbre and resonance sounding much more natural and lifelike. It

was an improvement that matched some power cables costing many times more than the IsoTek.

As such I'd recommend that if you are looking to buy a single EVO3 then experiment with using it between your source and amplifier to see where it gives the greatest improvement. Alternatively, and better still, if funds allow go for at least two.

## CONCLUSION

At £64.95 the IsoTek EVO3 Initium is one of the most cost-effective power cable upgrades you can make. It has the ability to improve both source components and amplifiers at a price that won't break the bank. As such it comes highly recommended.

**ISOTEK EVO3  
INITIUM**  
£64.95



**OUTSTANDING - amongst  
the best**

## VERDICT

**Fine sound at a low price  
- a worthwhile upgrade.**

## FOR

- improves musical flow
- lower noise floor
- quality connections

## AGAINST:

- nothing at the price

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# "The Best Tonearm I've heard" HI FI WORLD



## Conqueror MK3C Tonearm Review Comments

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AUDIO 10 (USA)

"For me Origin Live in the analogue sector is the discovery of the year! ..."  
IMAGE HI FI (Germany)

"The biggest improvement I've made in 25 years of listening to music and lots of exchanges of hi-fi stuff!! ...breathtaking, big new level! It's like coming to Nirvana".  
OWNER COMMENT- FERDINAND ROEHRIG

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Most wanted component award STEREOTIMES (USA)

Best sound at the show award KLANGBILDER (Vienna)

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- WDPPhono3 All triode passive equalization valve phono-stage. Dual input option. MC step-up transformers available.  
*Requires WDPSU3 power supply*
- WDPPre3 Transformer coupled single ended valve pre-amplifier. Low output impedance. Multi-inputs utilizing relay switching.  
*Requires WDPSU3 power supply*
- WDPSU3 High performance choke power supply
- WDHD3S Transformer coupled single ended valve headphone amplifier. Multiple settings for headphone impedance matching.



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# WIN

## NAIM'S SUPERB MU-SO SPEAKER SYSTEM WORTH £895 IN THIS MONTH'S GREAT GIVEAWAY!

**H**ere's your chance to win the superb Naim Mu-So we reviewed in the December 2014 issue. Read the excerpt below and answer the questions.

"It's the first Naim product to be offered for sale in John Lewis and Apple stores, as well as through the company's usual chain of dealers.

Here's a self-contained amplifier/streamer/speaker system with wireless and Bluetooth capability, housed in a 122mm x 628mm x 256mm (H/W/D) wooden enclosure

which is in turn clad in anodised aluminium. The whole thing weighs in at a not inconsequential 13kgs and feels exceptionally sturdy.

There's no CD provision or – surprisingly – headphone socket, but the unit does support both wired and wireless streaming up to 24/192kHz, Bluetooth, aptX, Apple AirPlay, Spotify Connect and internet radio, as well as having USB, optical and analogue digital (S/PDIF) inputs.

Behind the front grille sit six speakers, one tweeter, one midrange and one bass unit per side, each driven by its own 75 Watt digital amplifier. A bass port vents to the

lower left side of the casing while 32-bit digital signal processing (derived from Naim's work on in-car entertainment systems for Bentley's luxury cars) is used to fine tune the sound.

In use it has a superbly smooth and responsive feel – but to get the best out of the Mu-So and the full benefit of its networking ability and DSP capabilities, use Naim's free smartphone/tablet control app."

For a chance to win this great prize, just answer the four easy questions at right. Send your entries on a postcard only, by 9th September 2016 to:

**September 2016  
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 stores was it in?

- [a] Woolworths
- [b] Trainers R Us
- [c] Apple
- [d] Iceland

[2] Weight was -

- [a] one ton
- [b] two ounces
- [c] 13kgs
- [d] negligible

[3] There are -

- [a] six speakers
- [b] no speakers
- [c] too many speakers
- [d] Westminster

[4] How many bits?

- [a] 24
- [b] a bits:ream
- [c] 32
- [d] far too many

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

**JUNE 2016 WINNER: CHORD 2QUTE  
Mr. Frank Murphy of Brighton**



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PMC TWENTY5 SERIES  
AT JORDAN ACOUSTICS

## new twenty5 series

The new twenty5 series from PMC is the culmination of a quarter of a century of research, obsessive design and craft to produce the very finest loudspeakers for home listening. Every element in the design has been considered in order to create finely tuned, transparent speakers capable of revealing music's subtlest shades and deeply emotional details.

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LOUDSPEAKERS, FLOORSTANDING

**£6,995/pair\*\***



### Finance Examples\*

£1,399 initial 20% deposit  
then £186.53 per month  
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\*\*Available finishes for Twenty5 Series:  
Walnut, Amaran, Diamond Black, Oak



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LOUDSPEAKERS, FLOORSTANDING  
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LOUDSPEAKERS, STAND MOUNT  
**£1,870/pair\*\***

### Finance Examples\*

£850 initial 20% deposit  
then £141.67 per month  
for 24 months

£594 initial 20% deposit  
then £99 per month  
for 24 months

£490 initial 20% deposit  
then £81.67 per month  
for 24 months

£374 initial 20% deposit  
then £124.67 per month  
for 12 months

\*Other finance terms available. Finance is subject to status & conditions. Please ask for further information.

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<b>Bryston 28B<sup>3</sup></b> MONOBLOCK AMPLIFIER	<b>Bryston 14B<sup>3</sup></b> STEREO AMPLIFIER	<b>Bryston 7B<sup>3</sup></b> MONOBLOCK AMPLIFIER	<b>Bryston 4B<sup>3</sup></b> STEREO AMPLIFIER	<b>Bryston 3B<sup>3</sup></b> STEREO AMPLIFIER	<b>Bryston 2.5B<sup>3</sup></b> STEREO AMPLIFIER
<b>£10,499/each</b>	<b>£9,999/each</b>	<b>£5,449/each</b>	<b>£5,299/each</b>	<b>£4,699/each</b>	<b>£3,649/each</b>

### Finance Examples\*

£2,099.80 initial 20% deposit then £279.97 per month for 30 months

£1,999.80 initial 20% deposit then £266.64 per month for 30 months

£1,089.80 initial 20% deposit then £145.31 per month for 30 months

£1,059.80 initial 20% deposit then £141.31 per month for 30 months

£939.80 initial 20% deposit then £156.63 per month for 24 months

£729.80 initial 20% deposit then £121.63 per month for 24 months

\*Other finance terms available. Finance is subject to status & conditions. Please ask for further information.

# Mail



Visit our website at [www.hi-fiworld.co.uk](http://www.hi-fiworld.co.uk) or send your emails to [letters@hi-fiworld.co.uk](mailto:letters@hi-fiworld.co.uk). Letter of the month wins a pair of QUAD S2 loudspeakers.

Answers by: NK - Noel Keywood; JM - Jon Myles; PR - Paul Rigby; MP - Martin Pipe.

## LETTER OF THE MONTH PRIZE



### QUAD S2 LOUDSPEAKERS

CHOICES OF COLOUR: **BLACK OR MAHOGANY**

For more advice see Letters from earlier issues at [www.hi-fiworld.co.uk/letters](http://www.hi-fiworld.co.uk/letters)

A pair of QUAD S2 loudspeakers are on their way to GREG TZEMIS, Letter of the Month winner in our August 2016 issue.

## Letter of the Month

### PURE CD

I am a regular reader of your magazine but cannot agree with your wholehearted support for Hi Res music files and their players. Noel relates how he 'pulled out' an Astell&Kern player in a dealer who promptly inserted it in place of the CD player.

This prompted a few thoughts, the first of which was, don't most visitors to hi-fi dealers own CDs? And how many will have downloaded any hi-res files, let alone have them on a portable device?

Like, I guess, most readers, I love music. My music library runs to 40,000 plus tracks, my LP collection is in excess of 800 albums. How many of these are available in Hi Res? And of those that are, how many are demonstrably better than the 16/44 versions?

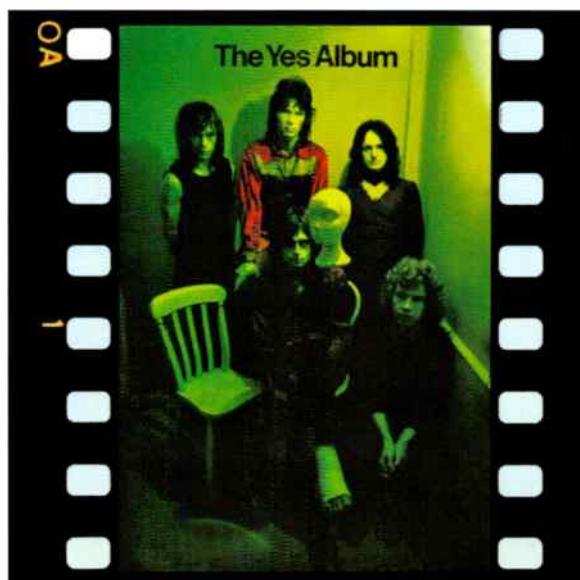
While some may consider me a sad case I enjoy owning multiple formats of the same music, driven by the desire to hear my favourite music at its very best. The (often) original LP was joined by a 1980s CD which was superseded by a remaster, which in turn was joined by a 180gm reissued LP and/or a Hi Res download (and probably a remaster of the remaster).

Now some of these are very good. The Paul Simon Hi Res Files are almost as good as the vinyl and the no longer

available Rolling Stones GRRR Hi Res files sound better than on any other format but...

I recently purchased The Travelling Wilburys in Hi Res (download). In my opinion the CD beats it hands down and the vinyl is even better. The YES albums in Hi Res are simply poor! There are other examples but I guess you could put your own list together.

Now, I accept that this is only my opinion but given that there is a paucity of available music in hi res, and I am lucky in that the baby boomers are relatively well served, I feel short changed.



"The YES albums in Hi Res are simply poor!" says Andy Andrews. "Now is the time to invest in a high quality CD player". See <http://yesworld.com> for album details.

Further, given the variable quality of what is on offer I suggest that as one of your contributors to the August edition proposed, now is the time to invest in a high quality CD player. It took the advent of CD to get the turntable manufactures to raise their game and now, with the arrival of streaming

and Hi Res, we are finally getting well mastered CDs and excellent CD players at affordable prices (stand up Marantz and Cyrus, to name but two).

Hi Res files are not cheap. Most are albums that have paid for themselves many times over already. The cost of offering a service to download hi res files is minimal, considerably cheaper than pressing CDs, designing and producing inserts and storing and distributing the product. Before music enthusiasts run headlong into this 'new' format they should ask themselves: Is it better, is it good value and could I do better via another route?

Yours sincerely

**Andy Andrews**

PS Comparisons were undertaken using a TEAC 501 Headphone amplifier, Chord 2QUTE and Audeze LCD-2s

Hi Andy. Thank you very much for all your informed observations. And, although a 'hi-res man' I too am finding hi-res files that really don't sound good. It all gets very complex and a tad confusing, but my interests and the motives behind them go further than you understand, and perhaps that's my fault for not explaining things.

To cut to one big issue here: LP is an old analogue system, but one capable of continuous development. CD is a fixed specification early digital system, now crude in its basic spec and incapable of development (I will expand on this). Hi-res is anything better than CD and is technologically open-ended so is open to development.

Put like this you can see where I am coming from. In plain language, CD is out of date and it isn't going anywhere – and nor will it.

LP is in an entirely different position. It can be improved and is now improving – as I am sure you are aware.

Hi-res can be anything we want it to be and if you read my review of the Pioneer XDP-100R hi-res portable this month, its Snapdragon processor can run quad-rate DSD at 11.2MHz (i.e. four times faster/better than SACD) and MQA (PCM) format files at 352kHz sample rate (forget 192kHz – it is so yesterday!).

So if you stand back, you can see why I rate LP and hi-res, but pass on CD.

All the same, CDs can sound very good, there are now vast numbers floating around and people



**Oppo's BDP-105D Universal player spins CD. "We were all taken aback at just how much better CD sounded via the Oppo BDP-105D Universal player" says Noel Keywood.**

rightly want to enjoy them to their maximum – which can be very good. But let's look a little more deeply at this.

CD's fixed 16bit/44.1kHz specification imposes a strict limit on how good it can sound. In particular, it produces what is known as quantisation noise that produces a dissonant noise pattern upsetting to the human hear. This limits distortion at -60dB to 0.2% and no lower, and limits dynamic range to 102dB or so. There is no DAC in the world that can significantly improve on this, so there is no player that can do so either; it is a limitation of the PCM code, decided upon way back in 1982.

Why then do CD players get better? Well, they don't in any significant way – our Rohde&Schwarz UPV audio analyser clearly shows this. What in fact is

happening is that modern DACs like the ESS Sabre32 series have super low noise and can smooth CD noise patterns, giving a less raucous noise floor. This is subliminally obvious as a smoothing and easing of the sound, or the music's flow.

We were all taken aback at just how much better CD sounded via the Oppo BDP-105D Universal player because of this, and Chord's new in-house designed DACs manage similarly well. So within its intrinsic limitations CD can be improved – and is still being improved.

In contrast, hi-res (24bit) now manages 125dB dynamic range and we've even measured 132dB (Resonance Invicta Mirus with two Sabre32s). High rate DSD also has massive dynamic range in the audio band (there is some noise above 20kHz).



**Andy Andrews listens to digital through a Chord 2Qute, one of the world's most advanced digital convertors. Its dynamic range of 125dB tops most others.**

So hi-res as we currently use it is massively better than CD in technological terms and what we are seeing now is the emergence of intelligent processors and DACs that can cope with anything thrown at them – just look at that Pioneer. So hi-res has a very bright future.

LP isn't doing so badly either. I measured 80dB dynamic range from it with The Beatles In Mono LPs that use very quiet vinyl – and pickup cartridges these days measure super flat across the audio band.

So much for all the technical stuff. As you very rightly say, CDs can still sound very good and hi-res poor. If you commit a good (modern) digital recording to CD, uncompressed so it has big dynamic contrasts (we commonly use Dali demo discs for this), and play it through an M-DAC+ then there's no doubt that sound quality is superb. That doesn't alter the fact that much old CD, with recordings made through early and poor analogue to digital convertors (ADCs) sound rough, as do CDs compressed upward to sound loud.

Hi-res sounds bad when the recordings committed to it are bad – either as poor originals or simply up-sampled files. For hi-res to show what it can do demands the use of 24bit recordings and currently there aren't so many of these around.

A lot of current hi-res comes from old analogue master tapes – the Yes album you mention was recorded in 1971 – as music companies yet again re-package and sell old catalogue. Some of it was well recorded (e.g. Elvis), some not.

So is now the time to invest in a new CD player, as you suggest? I'm sure that a player fitted with a good, but not too costly Burr Brown PCM1795 DAC chip (as many are) and super internal circuitry, or valves and transformers like Audionote's quite radically different players, will sound great and be a fine upgrade on even a 5 year old player. But I still suggest you are better off buying a good external hi-res DAC that can play hi-res as well as CD. Then you have the best of both worlds. **NK**

### PURER CD

With all the focus on high resolution formats, stalled 'super CD' formats and the like, it is easy to forget the original 'red book' CD at 44.1 kHz/16 bit and that, actually, the format is capable of very good results. It seems that most manufacturers of DACs and those who



**The simple little Project-Box DAC Box S FL takes a simple approach – I have heard glowing reports of its inherent musicality" says Andy Andrews.**

integrate them into their products, have indeed forgotten this as they strive to cater for every eventuality, with high resolution capability, over-sampling, filtering, up-scaling and all manner of tricky mathematical interpolation in order to achieve this end. However, in doing so, the replay of conventional 44.1kHz 16 bit material can easily get mangled in the process as the original data blocks get manipulated beyond accurate mathematical retrieval and lose their integrity accordingly. For those (and there are many) who have lovingly built a CD library of their favourite recordings, this is a great shame as they may not be realising the quality that was locked into the original production.

An alternative, perhaps purist, approach would be to simply process the digital data blocks strictly according to the original standard, with no

tried it myself, I have heard glowing reports of its inherent musicality (has HFW tested it?).

Perhaps some of the more mainstream manufacturers might go out on a limb and create something similar. After all, the 'simple is best' approach often pays dividends in the audio world and something which could retrieve the maximum from standard CDs while maintaining the purity of the original production would no doubt be popular with many enthusiasts. I wonder, does HFW have a perspective on this?

Best regards,  
**Mark Douglas Berkhamsted**

Hi Mark. We certainly do have a view and much has been said that may interest you, in response to the previous letter. But there's more!



**MSB say their uniquely pure approach to digital conversion offers better results than all else - here's their Select DAC.**

fancy filtering or over-sampling, thus maintaining the integrity of the original data as it passes through to the analogue stage. The simple little Project-Box DAC Box S FL takes something akin to this approach and, although I haven't

Pure digital processing can be interpreted in many ways. There's the way MSB of the USA see it: they have re-designed the simple 'ladder convertor' DAC, as used in early CD players, improving its performance

enormously, they say. Very expensive though.

The Pro-ject DAC Box S FL (£180) is similar except in price (!) uses four Philips TDA1543 DAC chips in dual-differential mode and these too are basic ladder convertors, There is no filtering either, but one drawback to all this is a lot of distortion and noise (mush) the filters suppress. I hope we can review this little unit.

Then there's Audionote's approach, where they do away with much filtering and use transformers instead of transistors (in the crucial I/V convertor stage). This is quite radical, and a notionally pure engineering solution.

And now we have Meridian's Master Quality Authenticated (MQA) digital (PCM) management system that ensures bit-perfect reconstruction and this is very close to what you propose, at least in principle.

Digital data gets heavily processed, but that doesn't mean "mangled". With digital, what goes in is what comes out – or you are in trouble. Jitter was once a big issue but is far less so nowadays as processing speeds have increased and zero-crossing indeterminacy lessened. And every CD player (except Audionote) has a digital filter: the argument is about what type.

Watch out for the notion of "purity of the original production". This is where bigger sound quality issues lie. Poor ADCs and severe dynamic range compression are just two ills that blight original production. We all suffer – anyone for 'Death Magnetic'? **NK**

### M-DAC+

I refer to your helpful reply to my earlier email (below) in the July edition of Hi-Fi World. You may be pleased to know that as a direct result of your reply my wife lifted the 'hifi is grounded' order and an Audiolab M-DAC Plus has joined our main hifi system. My wife is actually the 'golden ears' in the household and we both agree with your own word to describe the sound of the M-DAC Plus – and that is 'breathtaking'. It is the best instant upgrade we have ever made to an audio system.

Initially we compared an Audiolab Q-DAC with the M-DAC Plus directly. The audition did not last long! The audible difference was instant and 'breath-taking'. The description 'Plus' has never been used more appropriately: more of everything, more three dimensional

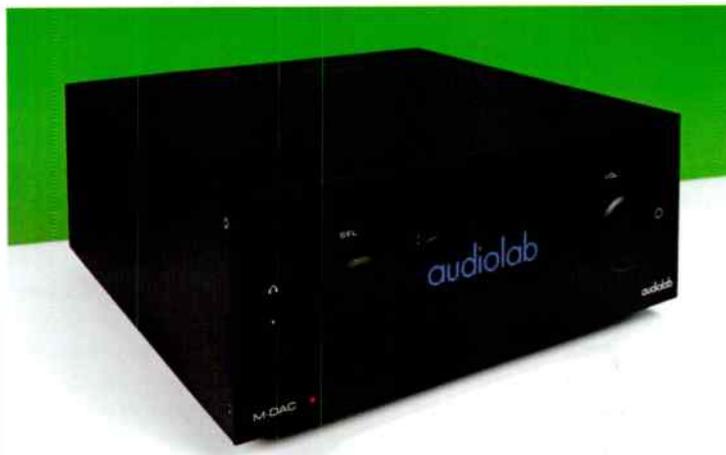
soundstage, more presence, separation and weight to individual instruments (again especially in bass instruments) more smooth treble, more focus and grip, more authority, more tonality, and, dare I say it, a more natural 'analogue' sound.

The Q-DAC is a clean and powerful source but now we have heard the M-DAC Plus the Q-DAC seems a little soft in focus and grainy in comparison. We had always felt that the Q-DAC did not do justice to the Quad Artera power amplifier and the Monitor Audio Gold 200 speakers. The sound was clean and powerful but hard in the treble at times.

With the M-DAC Plus everything

quality acoustic recordings from luminaries such as Stevie Nicks, Linda Ronstadt and Zoey Deschanel (yes, the actress) singing Buddy Holly songs, some featuring wonderful choral backing and percussion. Even this MP3 sounds 'breathtaking'. Unbelievable perhaps, but true!

So now I am looking for a server/streamer 'source' that will store my digital music collection and stream digital audio files to the M-DAC Plus. It seems to me that there are only two products at an affordable price which combine hard disk storage, digital audio file organisation, remote control from a tablet app, and 'streaming' via USB/



**"M-DAC Plus brings its special qualities to both MP3 and CD quality files" says Mike Tartaglia Kershaw.**

seemed to snap into focus. It was immediately apparent that the M-DAC Plus was supplying an audio signal that brought out the best in the amplifier and speakers. Much has been written about system synergy and this is what the M-DAC Plus brought to our system. So, in reply to your question, yes, my wife does think the upgrade is 'worth it'.

The icing on the cake is that the M-DAC Plus brings its special qualities to both MP3 and CD quality files. It is of course better with a high quality, high definition recording but I cannot believe how good an ordinary CD can sound through the M-DAC Plus. I mention just one example: Marin Alsop conducting Tchaikovsky's Fourth symphony on Naxos (8.555714). This is a live recording which really does come alive with the M-DAC Plus.

A good recording on MP3 is also given the treatment. Recently I have been downloading MP3 versions of music recommended by hi-fi reviewers just to see if I like the music before possibly buying better quality versions. One of these is a tribute album to Buddy Holly called 'Listen to Me'. This contains a whole series of audiophile

coaxial/optical output to a separate DAC, thereby avoiding the need to 'stream' my audio files over a network connection. They are: the Innuos Zen Mini Mk2 and the Cocktail Audio Pro X 100. I hope you will test these products sometime, separately or together, to see if they do have any impact on sound quality, compared with streaming over a local area network.

Once again, thank you for the good advice.

Best wishes,

**Mike Tartaglia Kershaw**

Thank you again Mike for your experiences and knowledge on the subject. As a sequel to the previous two letters and my comments I feel your views put it all into place. The whole issue of CD and hi-res is nothing less than complicated, the options so many and the jargon so dense. I'm glad you are as impressed as we all were – and still are – by M-DAC+. It is a prodigious piece of engineering around an amazing DAC chip, giving class leading results at a price lower than rivals.

**NK**

Hi Mike,

If you are purely looking for a device to store, organise and playback your files into the M-DAC+ then both the Innuos Zen Mini Mk2 and the Cocktail Audio Pro X100 would make excellent choices. However, there are other options available depending on your budget. The Naim UnitiServe, for example, would make an excellent choice although it does cost more than the Cocktail or Innuos.

Personally, I have found the DAC is the most important aspect in any streaming set-up with the storage device itself having minimal impact - which is why I use a NAS-based system myself feeding into a Naim streamer and Chord 2Quite digital-to-analogue convertor. NAS drive storage costs have dropped to ridiculously low levels now (2TB for less than £100) that they make a real cost-effective option going forward.

**JM**

### TANNOY WESTMINSTER GR

*I am far away in Mauritius, and actually building up my dream audio system. It is quite difficult to get or make the best choice (not sure that such best exists anyway!!), since we get nothing of the sort to hear and/or try out in our small island, not even of entry level. So we can only rely on some reviewers, some wisdom and some knowledge to avoid big disappointments.*

*I have nearly completed my system, remains only the amps – and I do like very much tube amps and their lifelike vibrations.*

*The electronics are the Esoteric Grandioso P1+K01X, D1 & C1, the speakers are the Tannoy Westminster GR, and the actual amp is the latest*



**Tannoy Westminster GR – "What powerful and great sounding tube amp would you recommend to drive these big English boys" asks Hubert Daruty de Grandpr.**

*version of Coincident Dragons MkII with 75W of pure Class A with zero negative feedback. Sounding quite good, but seems little to drive the Tannoys to their full potential. Maybe should I bi-amp them with a second pair of Dragons, but not sure?*

*So, my question is; what powerful and great sounding tube amp (or Solid State ClassA amp if you insist) would you recommend (other than Wavac and AudioNote, too costly for me at this point) to drive these big English boys. I am actually looking at the Manley 250 or 500, very powerful amps indeed, but not sure of sound quality, which is prime to me.*

*Thanks very much beforehand for your advice, much obliged.*

*With regards,  
Hubert Daruty de Grandpr  
Mauritius*

Heavens Hubert! Your giant Tannoys need very, very little power to go louder than Concorde. With 20 Watts you can blow the roof off; with 60 Watts they'll be boogie-ing in Madagascar. You do not need a powerful amplifier, I can assure you.

I have used these big loudspeakers and measured the power I used – and it was as small as expected for such a sensitive and efficient loudspeaker. Bear in mind that to go loud, large loudspeakers need less power than small ones, and also that horns are more efficient than all else. Your Westminsterers will go very loud with just 10 Watts in truth.

These facts leave you open to all sorts of pleasing ideas. Firstly, you can buy just about any valve amplifier you wish and it will work with them. This suggests a single-ended (SE) Class A such as the rather lovely Almarro A318B integrated amplifier (18 Watts) with its small size, visually captivating 6C33C parallel-triode power tubes and lovely sound.

Icon Audio also make a suitable SE in the form of the MB30SE mono blocks (30 Watts each) with their brand new design KT150 power tetrodes and illuminated power meters. Gorgeous.

The ability to use pure SE-sound amplifiers like this is one good reason to buy Tannoy Westminsterers. What's more these amplifiers are not big, so shipping costs to the Mauritius won't be exorbitant, and the heat they produce isn't too much in your sunny paradise. **NK**



**Almarro A318B Single Ended stereo amplifier using the Russian 6C33C 'trawler triode'.**



**Icon Audio MB30SE Single Ended monoblock power amplifiers with KT150 power valves.**

### FLOORSTANDERS

I am hoping you can give me some advice on suitable floor-standing speakers?

At present by studying the reviews you publish and listening to the equipment, I have managed to obtain a system that plays beautifully. The only issue I have is that I would like the bass side of the reproduction to be a little more prominent.

My system consists of the following: VPI Scout turntable with Benz ACE cartridge, Trichord Diablo phono stage, Icon Audio 40 (KT88) integrated amplifier, Audiolab M-DAC, Onkyo SACD player, Sony DAB/FM tuner, Fiio X3 player and KEF XQ20 speakers on home built stands, all connected with Chord cabling.

Because of "House acceptable/what the wife thinks" the floorstanders need to be wood finished and not too tall.

I considered the Quadral Chromium 8s, but they are only available in Black or White and the Castle Avon 5s, but they are too tall!

I am starting to look at the Spendor A6Rs and also some used speakers. I had a look at an advert for a used pair of Tannoy Prestige Stirlings, they are wood finished, not too tall, sound very good according to all reviews but are above the price I would ideally like to stay within (£2k).

I am also concerned I don't lose the wonderful treble and mid-range clarity I have now with the Kef XQ20s and that whatever I go for will work happily with my Icon Audio amplifier.

I no longer play my music that loud anymore so it is important that the speaker should give it's best at low volumes and not just sound wonderful when blasting out at party levels!

Having trawled round the Internet

reading many, many reviews I realise this is not an easy task but thought that you at Hi-Fi World may have some other suggestions I should consider? My music tastes range from Vaughan Williams to Black Sabbath, basically anything I like (this does not exclude Country & Western!).

Thanks for your help

**Andrew Burtchaell**

Hi Andrew. Country and Who? Is that the band with Dolly Parton in it? I know Black Sabbath though.

Wood finish loudspeakers are becoming rarer it seems, which is a shame. An obvious suggestion is an XQ30 floor stander, but I cannot believe you haven't thought of this



**A great little standmount loudspeaker, the Quadral Aurum Megan VIII had a ribbon tweeter and superb midrange insight – but it was recently discontinued. Its replacement would likely suit Andrew Burtchaell.**



**The Music First Audio pre-amp has no active circuitry, only a transformer. It offers switched, XLR and Phono inputs and outputs – and has a totally neutral sound. It is a 'no preamp' preamp.**



**McIntosh MC152 power amplifier: we did not use a preamp with it, to get the best from it.**

and rejected it. I was listening the other day to Quadral Aurum Megan VIII standmount loudspeakers and was very impressed by them. These have massive insight, due to their use of a superb ribbon tweeter, and they had well defined bass too – right up your street. Also, they are available with a wood finish. Then we were suddenly told they are being withdrawn and replaced by a new upgraded model. So you might like to keep a look out for the new Megan VIII, or should that be IV? **NK**

Hi Andrew,  
If the Quadral's are out of the question because of the finish (which is a shame as they are excellent loudspeakers) I would personally recommend the Spendor's. The A6Rs are exceptionally good with a very smooth and detailed sound which is well suited to anyone who plays a variety of genres.

If height is an issue also do not rule out the slightly smaller A5R. I've used a pair of these in my own listening room and they have a punchy sound with excellent midrange resolution. They also have the benefit of sounding good at low volumes - whether you are playing Black Sabbath or, indeed, Dolly Parton! **JM**

#### **McINTOSH MC152**

*I was just reading your excellent review about the MC152, it's really helpful in my decision, only missing a little but important info, it says the DAC used, the speakers, but didn't say the pre amplifier used, can you, if it's possible, off course, help me with the model and brand of the pre amplifier used? Thanks a lot!*  
Best regards  
**Alan Karstegl L.**

Hi Alan. Yes, that's easy – we didn't use one. In as far as possible we try not to use a pre-amp., because this eliminates unnecessary circuitry, aiding sonic purity.

Here are a few simple facts. Most power amplifiers need just IV input for full output (full volume). Just about every music source today can deliver this: an iPad, a portable hi-res player (DAP) and even some Phono stages (e.g. Icon Audio). Providing the source has a volume control, no preamp is necessary.

OK, you do need to switch between sources (we do not). In this case the most neutral preamp ever is a XX magnetic preamp, that has no active circuitry, only transformers. It even has a +6dB (x2) gain option, plus balanced outputs for the MC152.

The MC152 was one of the most extraordinary power amps we have heard, by the way – a clear step up over all else. So we have asked McIntosh of the USA if we can loan a similar design

(with output transformers) as an in-house reference – and they said “yes” (cue happiness). So we will be saying more about this unusual and deeply impressive amplifier.  
**NK**

#### **TECHNICS TEASER**

*I'm a big Technics turntable fan and am intrigued by the new Technics SL-1200G turntable at the princely sum of £2700. I'm intrigued by what level of performance this new expensive Technics can offer vs what you can achieve by modding some of the older models.*

*So, what's the best way to spend £2700? A new one, or a nearly new SL-1200 Mk2 with arm and power supply upgrades? Assuming they had the same cartridge, what would give the best sound I wonder? I trust that you will be reviewing the new SL-1200G, so maybe your tests could do this extremely intriguing evaluation? I know which option my money is on...*

Best Regards  
**J. Fletcher,  
Wiltshire.**

Our review of the new Technics SL-1200GAE limited edition (£2700) in Timestep modified form (this issue) may well give you some idea of how to make a judgement. The succeeding SL-1200G you mention, with aluminium tonearm, will almost certainly cost less.

The Tilmestep Evo Technics SL-1210 Mk2 we use in-house, fitted with SME309 arm, better platter mat, vibration absorbing feet and external linear power supply is a beauty and easily remains the best value. But if you have deeper pockets you'll be looking inside them to see if there's enough in there for the new EVOke, methinks. **NK**



**Technics SL-1200GAE Direct Drive turntable. This is the special edition version with badge carrying serial number at front right. The succeeding SL-1200G with aluminium arm and no badge will almost certainly be less expensive.**

# Hi-tech Pioneer

Pioneer's new XDP-100R portable digital audio player is technologically complex but offers a lot for just £450, says Noel Keywood.

**Y**ou can guess a lot about design intentions by scrutinising a product closely, as well as interpreting the drift of its press release – and doing both I quickly built a picture of Pioneer's new XDP-100R portable digital player. Check: it runs the Android OS so has plenty of digital muscle. Check: it has one of the best digital convertors on

the planet, so sound quality takes a priority.

This is no beginner's special, so much as a sophisticated device that Pioneer have engineered to lead from the front by stealing the crown from Astell&Kern's finest. And the good news is, it costs a reasonable £450 or so – which is great value for a technological showcase with so much on-board ability. If it delivers on

the promise of course.

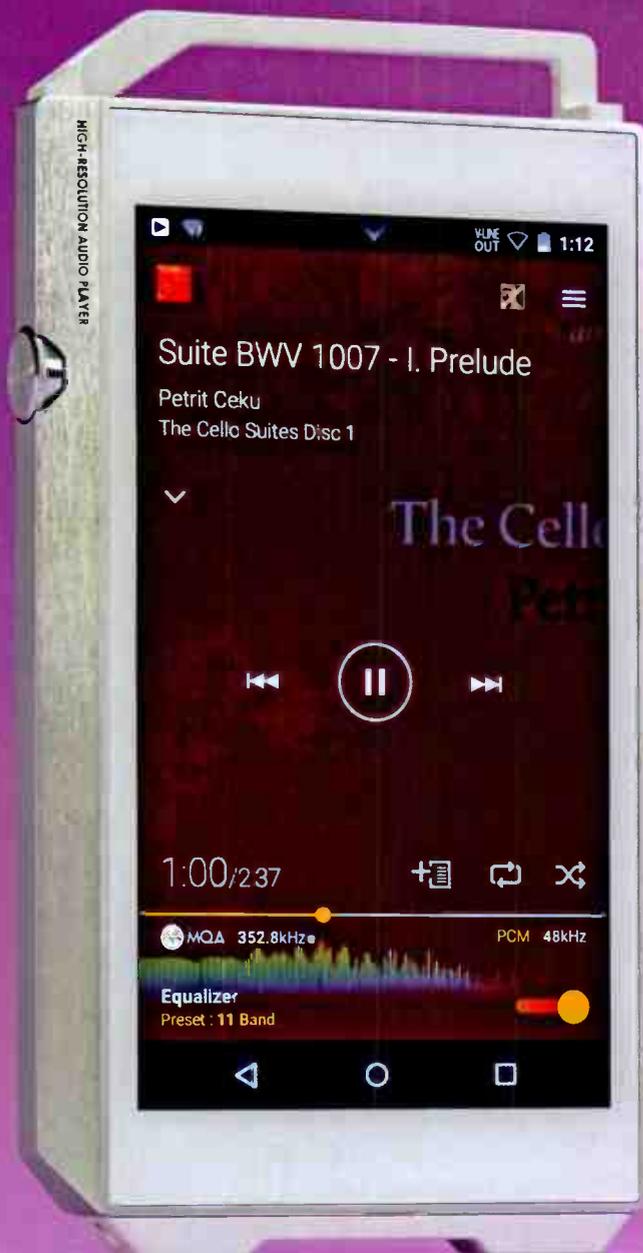
After reading the handbook I was a bit taken aback by its sheer technological complexity. But most people will want to know about how well it works in the broadest sense – and here I will warn straight away that being loaded with Android 5.1.1 (Lollipop) and a company intent on using it, as well as the power of the processor needed to run it (Qualcomm Snapdragon APQ8074), you can expect lots of 'bits', meaning Apps and Widgets and menus and options, some of which – like the filters – are both technical and unexplained. For example, you can even adjust the digital lock range to lessen jitter for heaven's sake!

Yes, this player is complex in terms of its abilities. Thankfully, though, the basic play screen is simple enough. So if you stay in it and don't exploit the system the XDF-100R will seem easy.

Happily, Pioneer don't hang back with a screen to view the menus, fitting a large (4.7in) high-resolution (1280x720) colour touch screen that is bright and sharp. There are mechanical controls too, including a rotary volume control, providing physical tactile feedback.

The processor is powerful enough to play quad-rate DSD (11.2MHz) in both file headers, and as you may well expect it plays all files, including Apple AIFF and ALAC, FLAC, WAV and Ogg. Of course 24/192 PCM is dealt with. Our player was a recent upgrade with latest software (0.1.30.8) offering improved sound quality and the new MQA (Master Quality Authenticated) replay too – the first portable to be able to do this, Pioneer told us.

Being Wi-Fi equipped, the XDP-100R can stream from the net (Google Play, Tidal, Spotify and Onkyo Music) as well as play from on-board storage. Bluetooth is fitted, so it can stream straight to a Bluetooth or Wi-Fi equipped music system (or 'home theater' as Pioneer ornately





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write it). For music storage there is 32GB of memory, plus two microSD card slots, from which the player can upload into its music library automatically if set to do so – a convenience.

As each card slot can address up to 200GB you get around 420GB maximum (the OS and caches consume memory), which is enough for 2,100 hi-res tracks at 200MB per track. In practice I use collections of cards, carried in a small plastic case so player capacity isn't so important.

There were two big surprises for me: first it has a loudspeaker, albeit not a Tannoy Westminster; second it has no digital output. Well, that is what I thought on casual inspection. What it has not got is an S/PDIF digital output, unlike most other players, so you cannot connect it to either the optical or electrical input of an external DAC. But you can play digital via USB, no less – something

political considerations seep in. Maximum volume

becomes a safe level of 0.5V but performance is seriously compromised, dynamic range falling by 13dB our measurements showed. Performance is exchanged for safety and I suspect that, like Sony, Pioneer feel obliged to go the safe route, where rivals don't bother. For best performance with headphones, Line Out Variable must be selected – and this was backed up by listening. The loudspeaker turns on when no phones are connected and maximum volume is low so you won't be partying to it.

So to reiterate, the XDP-100R can be used as a CD player in your hi-fi (like most DAPs). What's more



**A single 3.5mm stereo headphone jack at top offers analogue audio output only, with no S/PDIF option.**

**There are push button transport controls and two microSD card slots.**

Android interface showed only the contents of internal memory, not microSD storage cards. So I had to load music onto a card direct. No problem, except that the Mac also loaded hidden desktop files (preceded by a stop) that appeared as non-playing file duplicates in the XDP-100R. This cluttered the card's music file list. The player's interface is complicated and messy and others include a code line to hide files preceded by a stop – something Pioneer may like to consider.

Also, the XDP-100R will not play a true single-channel mono file; they must be stereo, something I've encountered before with a Sony product. Few people will face this problem but a digital mono voice recorder generates true mono files – and they won't play here!



**This player even has a loudspeaker that switches on automatically when the headphones are removed.**

no player I have used to date could do. You need a DAC with a USB input and if it can process DSD the player can be set to output DSD, even from PCM. I used an Oppo BDP-105D Universal player, with its ESS ES9018 Sabre32 series DAC chip.

Which neatly brings me to the fact that the Pioneer boasts an ESS ES9018 K2M digital-to-analogue convertor (DAC) just like the Oppo. Our measurements show it has huge dynamic range in the XDP-100R, so this player is technologically advanced and fully meets Pioneer's claims for quality, putting it ahead of all other DAPs in this important respect.

It's good to see the XDP-100R uses this super high-quality DAC chip, since few others do as it is expensive. Downline is an ESS headphone amplifier chip that connects to the single 3.5mm stereo headphone jack. It can be set to act as an analogue Line output (fixed or variable) and as such it will drive any hi-fi amplifier, being able to deliver 2V – the same as a CD player.

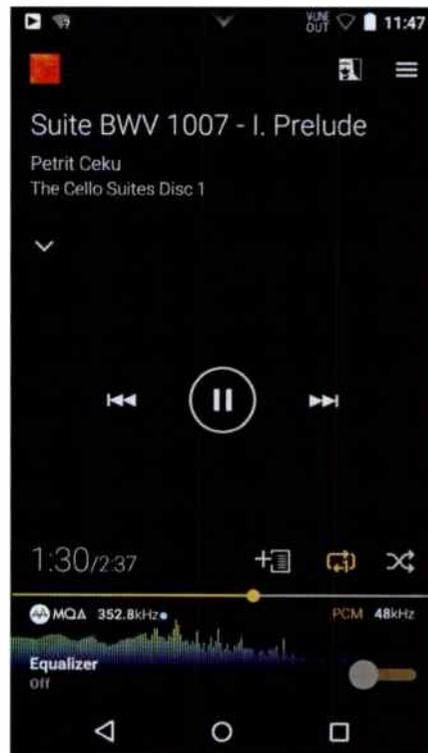
With Line off you get normal headphone output – and here strange

it can run from a USB phone charger whilst playing so the battery will not run down.

With so much processing power crammed on-board, the Pioneer is neither small nor light. It measures 147mm high, 77mm wide and 15mm deep, although end bump stops can be removed to lessen the height to 129mm. On our scales it weighed 205gms with end bumpers attached. An AK120 is both smaller and lighter, as are FiiO players.

The XDP-100R is very solidly built, having a machined aluminium case – its large size means the screen is big and easily legible. This player is well finished and comes over as a quality product. Pioneer fit a large 1630mAh battery, giving 12hr-15hr with screen off. Start up time is long at 32 seconds. A silent mode is available that switches Bluetooth and Wi-Fi off to lengthen playing time.

I also got the drift from Pioneer's literature that computers are PCs – not Macs! And I was right. Although a little green Android man appeared when I plugged the player into a Mac running El Capitan, this default



**An MQA logo appears when this new file format plays, here at 352.8kHz in a studio approved file (blue).**



*One of the more important menus, with output and filter setting options.*

As the handbook says nothing about all this, instead talking about a PC loading App, best to be aware that the XDP-100R is not Mac friendly and Pioneer are obviously not Mac aware. This is the most complex and quirky user interface I have met in a DAP; there are two long settings menus with digital filters duplicated,



*With both wi-fi and Bluetooth this player is strong on communication.*

for example, yet no explanation of differences between the three options: Sharp, Slow and Short.

MQA files trigger a small MQA logo and a green beacon indicating sound identical to source (MQA), or blue (MQA Studio) meaning it has been approved by studio, producer artist or copyright owner. Playing MQA flagged up an advisory that the Short digital filter should be used.

The USB digital output can only be connected through a USB2 On The Go (OTG) digital cable. Our Audiolab M-DAC+ was not detected through either of its USB inputs but our Oppo BDPI05D Universal player linked straight away. The battery does not charge in this play mode I found, so USB linking has drawbacks.

Unexpectedly, the sound was often sharp and not especially pleasant when played via USB through the Oppo, connected balanced to Quad QMP monobloc power amplifiers and Martin Logan Renaissance hybrid electrostatic loudspeakers. I ran a full set of measurements of Pioneer with Oppo, to find why – but all was well, except that the filtering imposed was that of the Oppo, not the Pioneer, and frequency response was flat right up to 90kHz. Leaving me to speculate that the sharpness was by some mechanism due to this extended response being made obvious through the Martin Logan Renaissance I5in electrostatic panels, that transmit massive high frequency acoustic power. The analogue headphone output sounded fine however, connected as a 'CD player' in variable Line out mode driving the power amps direct.

With this issue, a Music App (needed to drive USB) crash and all the selections that must be made and inability to charge whilst tethered, the XDP-100R makes digital connection via USB hard work. I can see why S/PDIF is the usual choice.

**SOUND QUALITY**

With Oppo PM1 planar magnetic headphones I was immediately aware that the XDP-100R offers deeper insight into music than other players, having a fuller and richer sound. This is typical of the ES9018 Sabre32 DAC.

It didn't suit the warm, laid-back character of the PM1s, or their low sensitivity when run from the Headphone output setting; I had to use Line Out Variable. This brought life and vivacity to the sound,

although it still lacked the visceral slam of my Astell&Kern AKI20. But this isn't a criticism so much as an observation.

The Pioneer is a deeply insightful and capable player. I was drawn in by its smooth, slick ability to sort out my standard test tracks like Fleetwood Mac's 'Dreams' (24/96), where I could better understand Stevie Nicks intonations, discern the fine impact of Mick Fleetwood's stick against cymbal in a constant and delicate stream, the fullness of the guitar accompaniment and the sense of a coherent atmosphere of a live



*A music file list with plenty of MQA. At top is a clock, battery state and Variable Line Out beacons.*

analogue studio performance (if later transcribed to digital of course!).

Swapping from Oppo PM1s to the livelier if less subtle Philips Fidelio X1 headphones helped pep things up, so a point to note with this player is that it does have a particular presentation that not everyone may take to, especially if they want rock to, well, rock. But even with my regular rock test tracks I could hear more from every performance – and the Pioneer slowly convinced me of its abilities.

With Bach's 'Concerto for Harpsichord, Flute and Violin' (DSD at normal 2.8MHz rate, .dff file) the Pioneer had a full and mellow quality, crammed with fine detail from the violins and a gentle but rich voice from flute, with harpsichord weaving

a fast tapestry of notes and runs in the background, all instruments separated in convincing fashion – something DSD manages better than PCM.

I heard much the same smooth and deep presentation from Vivaldi's 'Concerto in D Minor, Opus 48 No8' (DSD at 2.8MHz, .dff file), and a double rate DSD recording (5.6MHz .dff) of 'Suite For String Orchestra. Op. 1' by Carl Nielsen played without difficulty, similarly sounding deeply detailed and atmospheric. Alex de Grassi, playing 'The Water Garden' (Blue Coast, .dsf) was identified and played, coming across as a tad less obviously 'fast' in reproduction of string transients than I am used to, but more naturally fleshed out as an image, with greater sense of body and sheer content to the performance.

MQA files sounded clinically clean and nicely ordered; there was a tidiness about them that was good to hear. Amy Duncan's 'Fragile From The Storm' (44.1kHz, blue) sounded like tidy CD and, in this company of high rate files, inevitably a little barren in string detail. But with the guitar of Petrit Ciku playing 'Bach Cello Suites' recorded in double rate DSD but here an MQA blue 352.8kHz file, the acoustic of the church in which he plays came across beautifully,

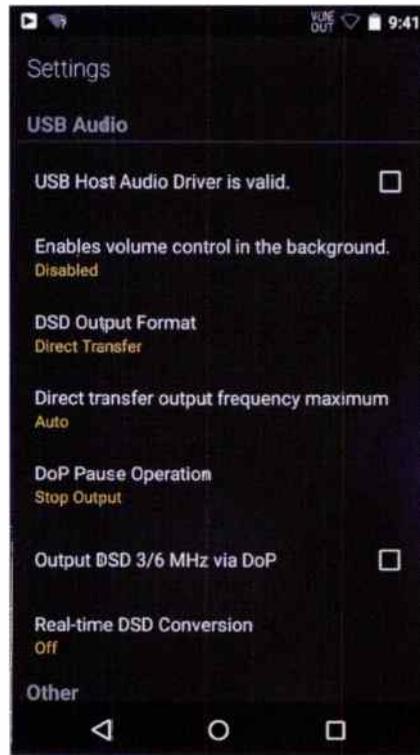
especially via USB and the Martin Logan Renaissance loudspeakers.

Which brings me on to the topic of USB replay again. There were times, especially with DSD output set to Direct Transfer and the many DSD recordings I played, that sound quality through our electrostatics was deeply impressive in its sense of open space and naturalness. I had to wonder whether USB was offering a more insightful transfer than the S/PDIF I am used to, and the sharpness in many tracks was actually in the recording and revealed strongly by these loudspeakers. This was an unsolved mystery, because measurement revealed no explanation.

**CONCLUSION**

This is an awesome player – and that's good and bad. It has an awesomely good sound - but is awesomely complex. You have to accept the bad to get the good, which leaves me wondering what to say in conclusion. It is technologically so complicated, and its user interface so random, with filter selection in two menus for example and no explanation of their purpose, that I feel it will not appeal to most.

Astell&Kern offer a simpler user experience with great sound, as do FiiO. All the same, this is – arguably



**A formidable array of USB output options, including DSD Direct Transfer to avoid PCM conversion.**

– today's best high-resolution digital audio player. I enjoyed listening to it and was intrigued by the USB link into our hi-fi, if not by the Apps or Widgets.

**MEASURED PERFORMANCE**

It's easy and not uncommon for a good DAC to be compromised by poor local conditions in terms of deficient PCB layout, RF radiation etc. Worse is use of a noisy I/V converter and headphone amp that limit dynamic range. By using a matching headphone ESS headphone amp, shielding the DAC and putting it on a digital board to prevent high frequency leakage, Pioneer have come up with the best measuring DAP to date by some considerable margin. Dynamic range measured 123dB, which is better than most mains powered hi-fi DACs, and much the same as mains powered ESS ES9018S Sabre32 DACs. Only a Chord Mojo manages better at 125dB, and it's a DAC (Digital to Audio Converter), not a DAP (Digital Audio Player).

To achieve this value low noise and distortion are necessary, so no surprise then that at -60dB distortion measured a very low 0.017%, again better than most hi-fi DACs. At full output it was 0.01%. Maximum headphone output measured 0.44V, relatively low, if enough for good volume. Set to Line output

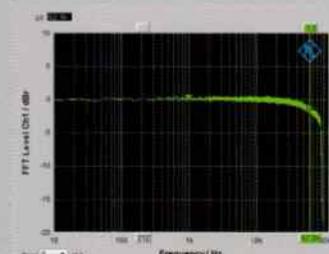
it measured four times more at 2V – enough to drive even the most insensitive headphones to very high volume, if not the 3V or so of rivals.

Frequency response reached 90kHz (-1dB) with a 192kHz sample rate file, the Sharp, Slow, Short filters making little difference, but Slow is arguably best by rolling down response smoothly above 30kHz, for best impulse response in the time domain. With CD the response limit was 18kHz (-1dB) and again the filters made little difference.

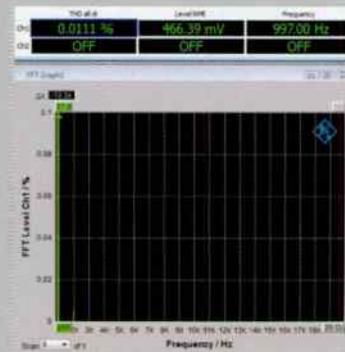
The XDP-100 measured very well in all areas, out performing the best from FiiO, Astell&Kern and Sony in particular. **NK**

<b>Frequency response (-1dB)</b>	<b>4Hz-90kHz</b>
<b>Distortion (24bit)</b>	<b>0.01</b>
<b>0dB</b>	<b>0.017%</b>
<b>-60dB</b>	<b>88dB</b>
<b>Separation (1kHz)</b>	<b>119dB</b>
<b>Noise (IEC A)</b>	<b>122dB</b>
<b>Dynamic range</b>	<b>2V</b>
<b>Output</b>	<b>2V</b>

**FREQUENCY RESPONSE**



**DISTORTION**



**PIONEER XDP-100R £450**



**EXCELLENT - extremely capable**

**VERDICT**

Complex but technically advanced player, for the more committed user. Great headphone sound quality, of the smooth, deep variety. Sounds good in a hi-fi too.

**FOR**

- good sound
- excellent value
- facilities
- direct DSD sound over USB

**AGAINST**

- overly complicated
- big and heavy
- not Mac friendly

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Updated: 7 Dec, 2014  
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Compatibility: Requires iOS 5.0 or later. Compatible with iPhone, iPad, and iPod touch.  
Language(s): English

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# Heart of Glass

**QED's new optical interconnect uses bundles of glass fibres for a better performance, says Jon Myles.**

**O**ptical cables can be something of a mixed bag – especially when used to transmit high-resolution audio. On the plus side they are less prone to electrical/RF interference and so are said to be better over long lengths. On the minus side varying standards of construction and materials used frequently mean they will simply refuse to pass a signal.

I've lost count of the number of Toslink leads which after being plugged into my system simply refuse to handle 24bit/192kHz files. Therefore my preferred mode of connection is invariably coaxial. However this isn't

connector with a flexible yet tough body and sturdy Toslink plugs.

## SOUND QUALITY

The QED Reference Optical Quartz was used between a variety of different components including Chord's 2Qute and Mojo DACs, a Naim NDX streamer, Oppo BDP-105D universal disc player and Audiolab's new M-DAC+ digital-to-analogue convertor/pre-amp.

– with Paul Chambers' bass notes packing a real punch and Davis's trumpet floating vibrantly above this foundation.

Moving onto something a little more upbeat the QED shows that it really does time very well indeed with the right equipment. The Smiths' 'Queen Is Dead' romped along with foot-tapping energy – helped by the fact that there's good separation between the various instruments and



practical for all equipment – many high-resolution portable digital audio players, for example.

Which is where QED's new Reference Optical Quartz digital interconnect comes in. The cable uses the company's proprietary Glasscore technology which utilises 210 borosilicate glass optical fibres which is said to increase bandwidth compared to lossy plastic cores, helping minimise jitter and timing errors. QED claims the Optical Quartz has a bandwidth of over 150MHz – one which is totally unaffected by bending the cable.

At £79.95 for a 0.6m length (a 3m length will cost you £149.95) it's a decently priced for a quality

Whatever the combination the QED never failed to pass a signal all the way up to 24bit/192kHz while the Toslink connections fitted securely and remained tight throughout (not something that can always be said with some cheaper interconnects).

Music also has a tight, full-bodied sound to it. Compared to stock optical cables there's a greater snap and sense of body to the likes of drums and bass lines. Midband and treble are also possessed of a pleasing transparency and sense of detail.

On Miles Davis's classic 'Kind Of Blue' (24/192) you can hear the air and atmosphere of the studio

overdubs, letting you hear deep into the mix. It's when you switch back to a stock optical cable that you get a true picture of what the

Reference Optical is doing. Suddenly things sound more closed-in and indistinct – as though the flow of the musical signal is being subtly attenuated. Put the QED back in and everything opens up again for the better – always the sign a cable is doing something right.

## CONCLUSION

If you thought all optical cables were built the same then the QED will make you think again. Its enhanced bandwidth means there's never any problem passing a high-resolution digital signal. It sounds clear, open and rhythmically authoritative. If you're looking for a good digital optical connection at a reasonable price then this glass cable is hard to beat.

**QED REFERENCE OPTICAL QUARTZ**  
£79.95 (0.6M - OTHER LENGTHS AVAILABLE)



**OUTSTANDING - amongst the best**

**VALUE - keenly priced**

## VERDICT

A quality optical cable that performs brilliantly with high-resolution files and doesn't cost the earth. Highly recommended.

## FOR

- reliable  
- well constructed  
- open, vibrant sound

## AGAINST

- nothing

QED  
+44 (0)1279 501111  
www.qed.co.uk

# WORLD STANDARDS

Your guide to the best products we've heard that are currently on sale in the UK...

## TURNTABLES

**AVID INGENIUM** £800  
Great bass response and upper midrange 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 tangential arm, or any conventional design. Awesome.



**INSPIRE MDNARCH** £4,350  
A rebuilt from the ground up Technics Direct Drive, having blistering pace and dynamics allied with smoothness, sophistication and purity of tone. A true reference.



**LINN LP12SE** £3,600  
The UK's most iconic turntable, the legendary Sondek goes from strength to strength. New Keel sub-chassis and Radikal DC motor add precision and grip to one of the world's most musical disc spinners. Expensive though.

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



**PRO-JECT ESSENTIAL DIGITAL** £300  
A budget turntable that turns in a great analogue performance, but also has a hi-res digital output. Send 24/96 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 MkII Direct Drive but with improved plinth, isolation, main bearing and power supply, plus an SME arm (add £1500). DD convenience, rock steady pitch and fab sound at a great price. Our in-house reference.



## TONEARMS

**ORIGIN LIVE ENCOUNTER MK3C** £1,745  
Origin Live combines carbon fibre and ebony to marvellous effect in its new 12-inch arm. Creamy and rich in presentation, the Encounter delves deep into the mix for a satisfying listen.

**HADCOCK GH-242 EXPORT** £810  
Consummately musical, lyrical sounding tonearm, but needs the right turntable.

**ORIGIN LIVE ONYX** £450  
Easy, smooth, creamy nature that reminds you why you're listening to vinyl in the first place. Essential audition at the price.



**REGA RB303** £300  
A one piece tapered casting makes this arm's structure almost unrivalled. Great dynamics and superb imaging, for MM and MC. Reference quality for peanuts.

**SME 312S** £1,600  
Twelve inch magnesium alloy tapered arm tube plus SME V bearings. An insightful yet smooth and relaxed sound. Superlative build completes the package. Our Editor's steed.



**SME 309** £1500  
A one-piece tapered 9in arm finished like a camera and slick to use. Superlative SME quality and sound at affordable price.

**SME V** £3000  
Offers rapid fire timing and a sense of precision, plus rock solid dynamics. Top dollar for deep pockets.

## CARTRIDGES

**AUDIO TECHNICA AT-OC9 MLIII MC** £420  
A fine sounding MC with strong bass and super fine treble from a great stylus – yet inexpensive.



**AUDIO TECHNICA AT-F3/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** £595  
Smooth, lucid and full-bodied, award-winning, hand-made cartridge from Switzerland.

**BENZ MICRO WOOD SL MC** £945  
Highly finessed 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 LP, helped by diamond coated, boron rod cantilever.



**ORTOFON 2M MONO SE MM** £80  
 A mono cartridge purposed for The Beatles in Mono microgroove LPs. 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 livelier 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 A95 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 1012GX MM** £250  
 A glorious sounding cartridge with solid bass and strong dynamic punch, plus excellent treble from its Fritz Geiger stylus. Fun and affordable.



**SHURE M97XE** £80  
 Big warm sound, but great tracking and bullet proof stylus protection from damped guard. A survivor.

**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  
 Clean, concise sound from MM and MC cartridges at a very low price. A real bargain.

**ICON AUDIO PS3 MKII** £1,200  
 All valve MM phono stage with MC transformer option, graced by big, spacious and relaxed sound.



**IFI IPHONO** £350  
 Multi EQ phonostage 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-JECT TUBE BOX DS** £425  
 Compact MM and MC phonostage with valve output circuit and a big sound.



**QUAD QC24P** £995  
 MM and MC, oodles of gain, a volume control – and valves! Looks superb and sounds even better: smooth, atmospheric and big bass.

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

**PREAMPLIFIERS**  
**ICON AUDIO LA-4 MKIII** £1,300  
 Uses early 6SN7 triodes for liquid sound. Has plenty of gain and a remote control into the bargain.



**MF AUDIO CLASSIC SILVER** £4,500  
 One of the best preamplifiers 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**  
**ARIAND PRO845SE** £1,499  
 Pure single-ended valve magic. Low-powered but immediately gorgeous, easy-going yet forcefully dynamic at the same time.



**AUDIO RESEARCH VS160** £3,500  
 Power house sound with enormous pace and punch from traditional U.S. muscle master Audio Research. Breathtaking, but expensive.



**CAMBRIDGE AUDIO AZUR 651A** £350  
 Dual-mono construction and meaty toroidal power supply combine to produce a solid and sharp sound with sonics far beyond its price point.

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



**CYRUS 8DAC** £1,400  
 Trademark shoebox-sized Cyrus integrated now offering 88Watts per channel, plus DAC. Svelte delivery from a dainty case that fits in anywhere – and isn't Class D!

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



**ICON AUDIO STEREO 60 MKIII** £1,700  
Excellent tube integrated with plenty of power and an expansive soundstage, plus KT150 tube option and bias meter for easy adjustment.



**NAIM NAIT 5SI** £925  
Naim's fabled entry-level integrated amplifier is updated to si status. Demos Naim's superbly muscular sound at entry level.

**SUGDEN A21SE** £2,480  
Class A amp with fantastic sound quality producing hard, sculpted images, deep detail and tight bass. Just don't expect disco-like sound levels!



**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  
Oodles of power with enormous punch. Rafael Todes said it provided "shock and awe" while retaining incredible smoothness and texture.

**ICON AUDIO MB845 MKII** £5,500  
With 120W from big 845 valves right down to low frequencies, this power amplifier has massive dynamics and bass swing, yet is easy on the ear.



**ICON AUDIO MB81** £10,000  
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 QMP MONOBLOCKS** £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.

**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.



**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 V** £1,600  
A big floorstander at a modest price that suits the average room. Refined ribbon treble and deep bass give it a great delivery.



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

**EPOS K2** £1,000  
A fun sound that is tidy all round and very engaging, with solid bass. Music as you hope it to be.

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

**MARTIN LOGAN SUMMIT X** £16,698  
Matches Martin Logan's XStat electrostatic panel to a powerful subwoofer to provide extended, powerful bass. Dramatic sonic purity. Awesome – all but unmatched.



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



**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.

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



**Q ACOUSTICS 2050I** £480  
A large floorstander at a budget price. Offers high sensitivity and big sound and has very few flaws for the price.

**SPENDOR SP100 R2** £6,495  
Retro looks but a sound that's hard to match. Spendor's 12" bass unit provides massive low-end grunt with a room-filling sound.



**SPENDOR A3** £1,300  
Fine little floorstander with a smooth, natural midband and even tonal balance. Ideal for smaller rooms.

**TANNOY DEFINITION DC10 TI** £6,000  
Enormous power with great projection. Glorious subsonics too. Need little power to go very loud and have superb finish into the bargain.



**TANNOY KENSINGTON** £9,950  
Big but not overpowering, punchy modern sound from classic cabinetry. Need little power to go very loud and suit a traditional home, or castle.



**LOUDSPEAKERS STANDMOUNT**

**ACOUSTIC ENERGY NEO 1 V2** £225  
Civilised sounding speaker with fast and tuneful bass.

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



**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. planar magnetic bookshelf loudspeaker with unrivalled mid-band and treble. Hear it before all else.

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



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



**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 mini-monitor and all the better for it.



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



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

**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.



## HEADPHONE AMPLIFIERS

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

**CHORD MOJO** £399  
Class leading portable DAC and headphone amp with ability beyond all else. Big, open spacious sound.



**EPIPHANY 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 HP8 MKII** £650  
The HP8 MKII valve-based headphone amplifier brings the spacious sound of valves to headphones. And it matches 'em all.



**FIDELITY AUDIO HPA 100** £350  
Great little headphone amplifier with a lively yet refined and open sound.

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



**OPPO HA-2** £250  
Remarkable performance and sound from ESS Sabre32 DAC in a slim portable package.



## CD PLAYERS

**AUDIOLAB 8200CDQ** £949  
Inspired CD player and DAC with price-performance ratio like no other. Capable of matching designs costing much more.



**CANOR CD2+** £3,100  
Musically coherent and tuneful valve-driven CD player from Slovakia. 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 that could well be the best CD player available. Chord's Pulse Array 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 flawless presentation.



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

**ELECTROCOMPANIE EMP-1/S** £4,650  
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.



**OPPO BDP-105D** £1200  
Universal player and DAC that makes CD and Blu-ray (+DVD) sound deep, spacious and full bodied. Reference quality that's affordable.



**REGA APOLLO-R** £550  
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 superb sonic ability.



**ROKSAN KANDY K2** £900  
A charmingly musical performer at the price - this is a surprisingly sophisticated CD player for the money.

**TUNERS**

**CAMBRIDGE AUDIO AZUR 651T** £299  
Value-packed AM/FM/DAB and DAB+ ready tuner. Precise and detailed with excellent resolution of spoken word.



**CREEK DESTINY 2** £550  
Creek's tuner expertise shines through in the Destiny 2. This AM/FM receiver is wonderfully three-dimensional and smooth.



**MAGNUM DYNALAB MD-90T** £1,900  
Exceptionally able, but commensurately priced, audiophile tuner that cannot fail to charm.



**DACS**

**AUDIOLAB M-DAC** £600  
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.



**AUDIOLAB Q-DAC** £250  
Stripped-down version of Audiolab's M-DAC loses some features but retains much of the sound, making it a veritable bargain.

**ANTELOPE ZODIAC GOLD/VOLTIKUS** £3,095  
DAC/preamp/power supply combination majors on detail but has a remarkable un-digital sound. One of the best at its price.



**CHORD 2QUTE HD** £990  
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** £8,000  
DCS's bespoke 'Ring DAC' circuit gives a beautifully-fluid, almost analogue sound that encourages long listening sessions. Not cheap but worth every penny.

**NORTHERN FIDELITY DAC** £650  
Packed full of features, including Bluetooth and USB, this ESS Sabre32 equipped DAC offers crisp, insightful sound at low price.



**METRUM OCTAVE** £729  
Unique two-box digital-to-analogue converter with great sound at a great price. Cuts upper treble, though.

**NAIM DAC** £2,400  
Superb high-end digital converter with a probing, punchy and forensically-detailed sound.



**TEAC UD-501** £699  
Feature-packed DAC with benefit of DSD playback. Superb sound means little to touch it at the price.



**RESONESSENCE INVICTA MIRUS** £4,499  
One of the most highly spec'd DACs available, with a smooth yet enthralling presentation. Few approach it.



**NETWORK PLAYERS**

**CHORD DSX100** £7,500  
Chord's proprietary DAC circuit shines in their top-of-the-range streamer. Hear-through clarity with a sound rich in detail, dynamics and soundstage.



**CAMBRIDGE AUDIO NP30** £399  
Budget offering from Cambridge offers a great introduction to network streaming.

**CYRUS STREAM X** £1,400  
Gorgeous sound quality even from compressed digital music. New control app makes everyday operation a doddle.



**ENTOTEM PLATO** £2999.00  
A network player with amplifier that does it all, including turn LP to hi-resolution digital, and add cover artwork from the 'net.



**NAIM NDX** £2,995  
Clean, incisive and very detailed sound with Naim's traditional pace and timing make this one of the best network music players around.

**NAIM ND5XS** £2,175  
Great sound quality with traditional Naim heft. A wonderful DAC with full 24/192 handling. Only the display could be better.

**NAIM NAC-N172 XS** £1,650  
A pre-amp/DAC/streamer package provides a taught, rock-solid presentation with a tonally rich midband and a superior sense of rhythm.



**PRO-JECT STREAM BOX RS** £1,095  
Unusual valve-based streamer/preamp with variety of inputs and a lovely liquid sound. Not the most detailed but compensates with sheer musical verve.

**QUAO PLATINUM OMP** £2,500  
Combined CD/network player has all the usual Quad elements but with added zest and detail that brings life to everything you care to play.



**DIGITAL SOURCES**

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



**FIIO X3** £150  
Fabulous value player with nice easy sound and full range of abilities. Small and light. For newbies.

**LOT00 PAW GOLO** £1,500  
Reference quality sound; it's like carrying your hi-fi in your pocket. Equivalently large too, but stunning headphone quality.



**NAIM HOX** £4,405  
Interesting one-box network-enabled hard-disk music system that gives superb sonics together with impressive ease of use.

**NAIM UNILITE** £1,995  
A 50W amplifier with traditional Naim heft, a CD player and vhf/fm radio, plus network input and Bluetooth make this a great all-in-one.



**PORTABLE SPEAKERS**

**BAYAN SOUNBOOK** £149.99  
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.



**IRIVER IBA-50** £69  
Big, warm sound with plenty of volume and clean at high levels. Muscular sound compared to many rivals.

**CABLES**

**BLACK RHODIUM TWIST** £71/3M  
Twisted to fight off radio frequency, the Black Rhodium speaker cable is easy on the ear with a fine sense of clarity and focus. A remarkable performer at the price.



**MAINS CABLES R US NO.27** £95  
Offers a sprightly pace with a precise nature. Fast performance enhance frequencies and beautifully etched detail.



**CHORO SIGNATURE REFERENCE** £900  
Majors on timing, detail and openness. Capable of getting the best from most systems and a recommended upgrade.



**TELLURIUM Q BLACK** 280/3M  
A deep, dark, velvety performer that's nevertheless highly musical, it represents excellent value as mid-price cables go.

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



**HEADPHONES**

**AUOZE LCO-3** £1,725  
A planar magnetic 'phone that offers monitor quality. Strong sound with silky, dark quality that others struggle to match.



**B&W P3** £170  
Beautifully presented headphones from the loudspeaker specialists. Feed them a good quality source signal and they reward with excellent sound.

**JAYS V-JAYS** £49  
Wonderful little budget over-ear portable 'phones with a clean, clear sound to beat the best of the rest at the price.



**NOBLE K10 INC. FITTING** £1,279  
Custom fit in-ear phones with 10 drivers deliver a sound that is out of this world. Personal and perfect.



**PHILIPS FIOELIO X2** £260  
Aimed firmly at the upper end of the market, these X1 updates are super-accurate 'phones that match the best. Hear them before anything else.



**ONKYO ES-HF300** £180  
Detailed and fast sound with good bass and finely-etched treble. Have great presence without colouration.

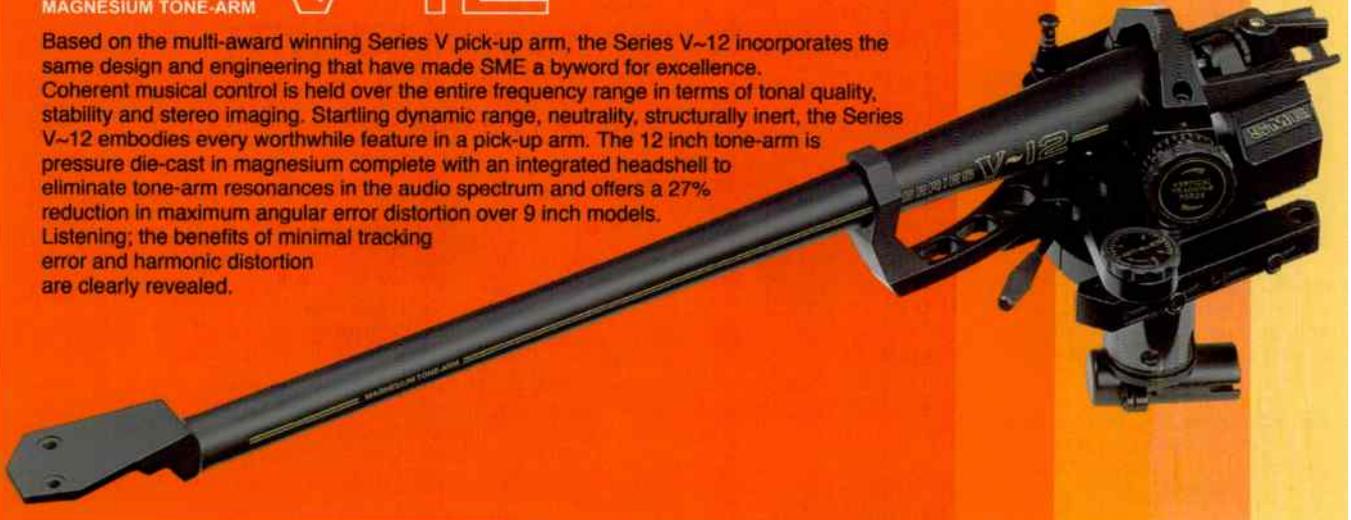
**OPPO PM-1** £950  
Planar magnetic phones with a warm, easy but big bodied sound that draws you in. Need a lot of drive, but deliver superb bass.

**SENNHEISER H0700** £599  
Tremendously fast with a strong, focussed, lower-frequency range and a firm bass punch.

**YAMAHA HPH-MT220** £150  
Purposeful 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.

# SERIES V-12 MAGNESIUM TONE-ARM

Based on the multi-award winning Series V pick-up arm, the Series V-12 incorporates the same design and engineering that have made SME a byword for excellence. Coherent musical control is held over the entire frequency range in terms of tonal quality, stability and stereo imaging. Startling dynamic range, neutrality, structurally inert, the Series V-12 embodies every worthwhile feature in a pick-up arm. The 12 inch tone-arm is pressure die-cast in magnesium complete with an integrated headshell to eliminate tone-arm resonances in the audio spectrum and offers a 27% reduction in maximum angular error distortion over 9 inch models. Listening; the benefits of minimal tracking error and harmonic distortion are clearly revealed.



# SME

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THE EXCLUSIVE TECHNOLOGY OF OUR VERY BEST HIGH END CABLES  
CAN NOW BE ENJOYED BY A MUCH LARGER AUDIENCE

## You Need Timing...Very, Very, Very Good Timing

### Black Rhodium FOXTROT Loudspeaker Cable

*"Vocals have plenty of detail and all the nuances of expression are very evident. Imaging and timing are both excellent."*

Hi-Fi Choice



### Read the Hi-Fi Choice review

Visit [www.blackrhodium.co.uk](http://www.blackrhodium.co.uk) and download the review from the link on the homepage



### EXCLUSIVE FEATURES

- |                      |   |                            |   |
|----------------------|---|----------------------------|---|
| Stunning Clarity     | ✓ | Extensive Dynamics         | ✓ |
| Sharp Definition     | ✓ | Natural Decays             | ✓ |
| Spacious Ambience    | ✓ | Effortlessly Open          | ✓ |
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# Smooth Savant

**Noble Audio has redesigned its mid-priced in-ear Savant headphones – making them even better value, says Jon Myles.**

**R**ather like loudspeakers, in-ear headphones can be tricky to get just right. The basics are deceptively simple (they are both transducers in an enclosure) but so much depends on the quality of the casing and drive units, how they interact together and the voicing of the total package.

Very few are perfect for everybody – but some do it better than others. In this respect I've always been impressed with Noble's series of in-ear monitors. Designed by audiologist Dr John Moulton they feature anything from three to 10 balanced armature drivers per side (depending on price) and each model has a distinctive sound quality.

Of these the Savant is said to be the most subjectively balanced of the range – neither too heavy in the bass nor too sharp in the treble

and thus suitable for varying musical genres plus partnering equipment, be it mobile 'phones or high-definition audio players.

I listened to the original last year (see *Hi-Fi World* November 2015) and was impressed, but now Noble has released a revised model featuring an all-new body which, to my ears, makes an appreciable difference.

The crucial change is that the original's acrylic body has now been replaced by a machined aluminium housing. The new form factor is a little slimmer but feels sturdier and is also nicely sculpted with a distinctive faceplate.

For connection to the 'phones themselves Noble supplies its standard cable which uses a 0.78mm diameter two-pin configuration. These can be a little fiddly and need care inserting – but once done they remain firm.

Included in the handsome carrying case are no less than 11 different eartips for achieving the correct fit – and experimentation here is definitely advised. Comfort will vary from person to person and it is worth trying all the options to discover which suits you best.

## SOUND QUALITY

Plugging the new Savants into a FiiO X5 DAP it quickly became clear what the new body is doing. There's an extra sense of bite compared to the previous model but the overall sonic



signature remains broadly similar.

As such you do not have over-extended bass nor spine-tingling treble but what you do get is a nice, even presentation with plenty of detail.

Playing Daft Punk's 'Random Access Memories' (24bit/88kHz) there was air and atmosphere to the sound, with good tempo, making tracks like 'Get Lucky' speed along.

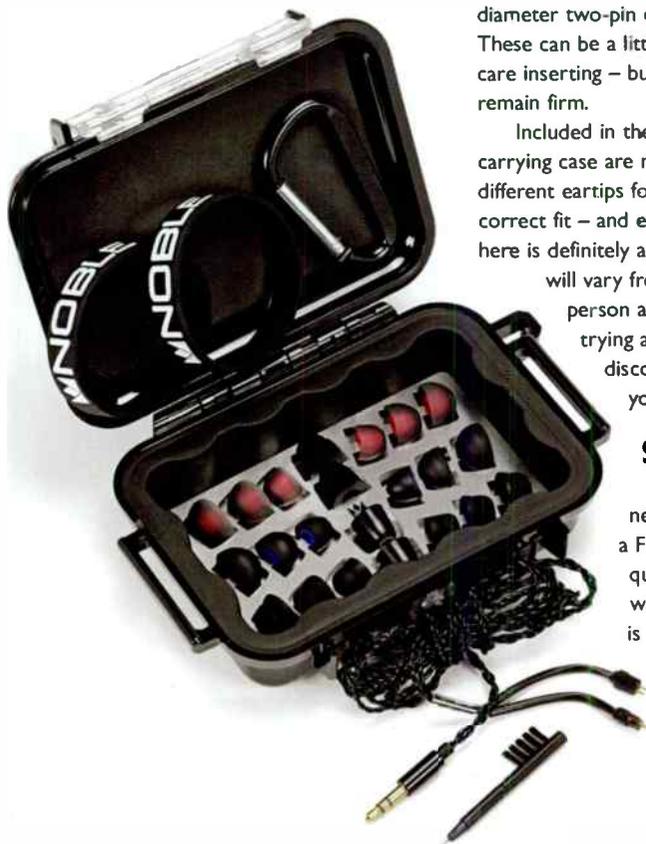
I could also hear into the mix on denser material such as Test Department's 'The Unacceptable Face Of Freedom'. Here the drums had a rich, resonant sound. The low-end is not as deep as you'll get on Noble's range-topping Kaiser 10U but nor does it lack energy. There's also seamless integration between the midband and treble which makes whatever you play all of a piece.

For anyone with a wide-ranging musical collection the Savants can be highly recommended as they don't favour one end of the frequency spectrum over another. I played a variety of jazz, classical and rock selections with consistently enjoyable sound.

At £420 the Noble Savants aren't the cheapest in-ear 'phones around but they are certainly one of the best you can get at the price.

## CONCLUSION

The original Savants were already a good buy – but the new design has taken them to another level. Highly recommended.



## NOBLE SAVANT £420



**OUTSTANDING** - amongst the best

### VERDICT

Striking design allied to a smooth, even sound makes the Savants an excellent buy. They particularly shine on high-resolution material.

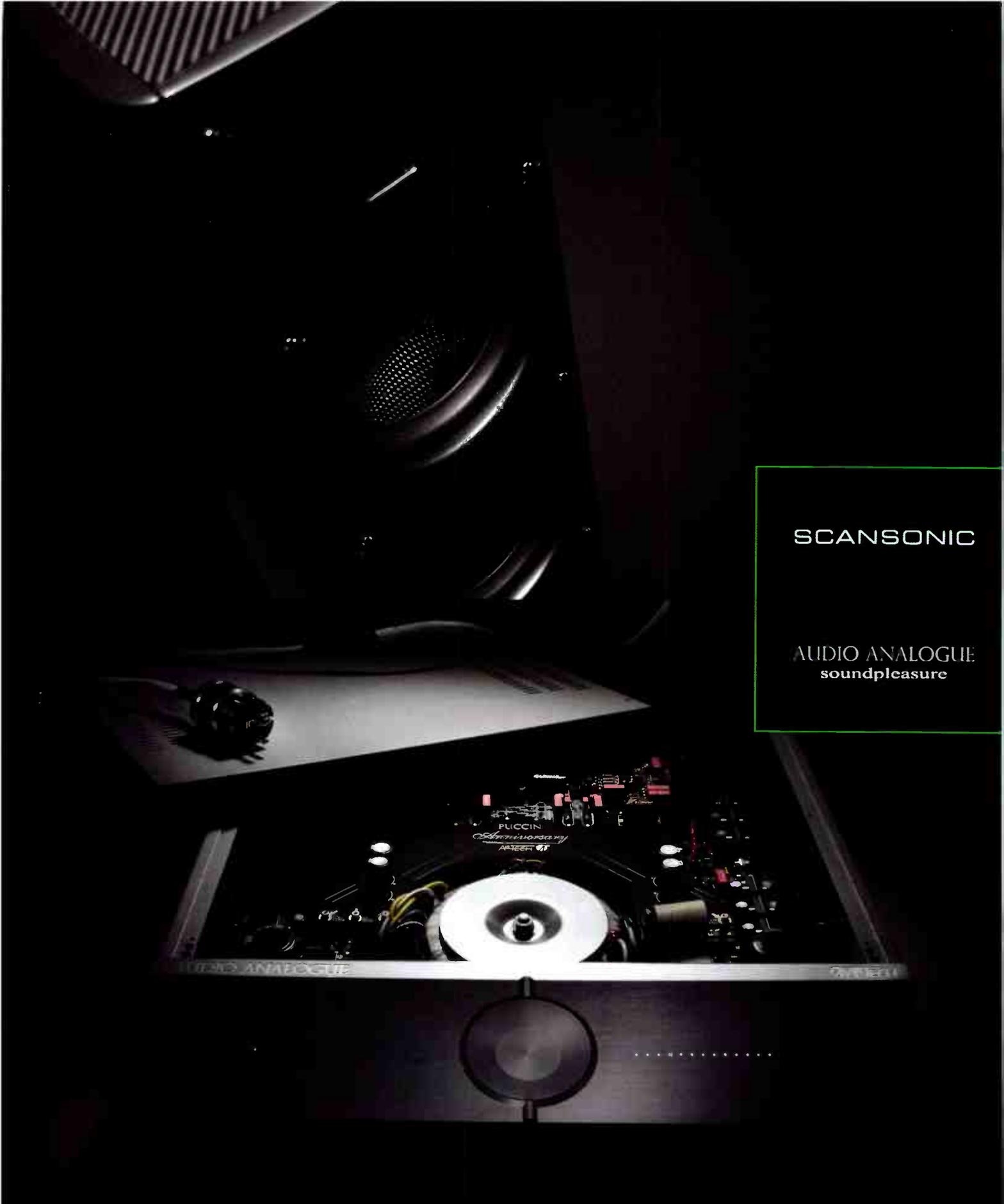
### FOR

- aluminium body
- smooth sound
- balanced nature

### AGAINST

- two-pin connection can be fiddly

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# Eastern promise

Martin Pipe is impressed with Questyle's CMA600i, and its headphone amplifier technology.

China's Questyle, a relatively-new entrant into the world of high-quality audio – in this country – has been attracting interest of late. Much of this is down to its QPI personal music player, which is intended to challenge the likes of Astell and Kern. What's next? A natural move is to embody all of the groundwork in a DAC/headphone amplifier that enables you to enjoy its benefits at home. Questyle introduced the CMA800i for this purpose but now offer the less expensive CMA600i, reviewed here.

The new CMA600i misses out on the choice of digital-filter characteristic (the website claims you can do this, but no switching is provided – and it's not mentioned in the manual!) but adds a balanced headphone socket in the form of a 4-pin XLR socket. Pretty good for a 'budget' product! That said, you still get the two 6.3mm jacks of the dearer model.

Another change is the DAC chip; instead of the CMA800i's Wolfson WM8741, Questyle has specified the AKM AK4490EQ (described by its maker as a 'premium 32-bit 2-channel DAC') for its new baby.

The AK4490EQ in the CMA600i processes DSD natively, unlike the Wolfson. Both chips offer differential outputs, a property that has been harnessed by Questyle's engineers, so the most is made of the 'full balanced output design' highlighted in the CM600i spec-sheet. This states that four sets of amplifier circuits are involved in the driving of balanced headphones.

Which brings me neatly to Questyle's proprietary amplifier technology – the culmination of a 2004 university project undertaken by company founder (and die-hard audiophile) Jason Wang. CMA first saw the light of day in Questyle's CM800 headphone amplifier, back in 2007. Claimed benefits include a significant reduction of distortion

– especially transient intermodulation distortion, which can yield harshness and listening fatigue. A low-impedance output helps the amplifier drive difficult loads, and you also get an extended frequency response. Such benefits can be seen in the test reports that accompany every CMA600i – quite unique for gear in this price range!

Internal construction is neat, but a few 'bodes' could be seen in our sample – presumably a pre-production unit. High-quality components are much in evidence and the mains power supply is a 'linear' type fed by a toroidal transformer. A row of audio-grade electrolytic capacitors help to minimise ripple and hum.

And it's all easy to use. There's even a remote control, but all it does is mute the output and adjust volume. The handset's input-selection buttons don't work; you can only do this with toggle switches. Annoyingly, a two-stage operation is involved



here, as you must switch between the optical and coaxial input using a rear-panel switch!

More positively, a pair of phono sockets enable the CMA600i to be used with line-level analogue sources. The instructions suggest that they only work with the headphone amp – however, the volume-controlled signals are available on the line outputs too – a feature that certainly increases the flexibility of the unit! Indicators confirm that you're listening to a PCM or DSD source – a great setup aid for those using PCs as USB sources.

On which subject, Questyle has – like the Italian valve-lovers Unison Research – gone to the trouble of explaining how to set up your computer and player software (in my case, Foobar2000). I was able to quickly configure my Windows 7 PC and get listening to DSD files natively.

## SOUND QUALITY

With the CMA600i I used Oppo PM3 headphones, a Windows 7 PC (interfaced via USB) and a Cambridge CXN streamer (connected via coaxial digital). Non-headphone listening involved an Arcam A49 integrated amplifier and a pair of Quadral Aurum Wotan VIII loudspeakers.

First up – and in the spirit of this summer's Olympics – was the 2000 Continental CD of Estudando O Samba, a mid-seventies album by



*A busy but well laid-out interior, with the (linear) power supply selection on the left. The middle section is occupied by the CMA output amplifiers, while the DAC circuitry can be seen on the right. High-quality components are in evidence, but on close inspection some circuit-board bodes are evident.*

Brazilian artist Tom Zé – who was later to prove such an influence on David Byrne. The rhythms and lush instrumental textures of this quirky-yet-accessible samba-influenced album came across well, as did the frequently-simple stereo placement (guitars, percussion and vocals locked to left, centre and right!).

As one might expect, a good sense of rhythm is needed to complement this sort of music – and the CMA600i didn't disappoint, as it drives the music along with natural pace and purpose. It also sounded

very clean and detailed, providing insight into the subtleties of how the album was put together – yet not at the expense of musical enjoyment.

Such analytical qualities were also put to good use with Radiohead's latest offering (A Moon Shaped Pool, CD, lossless rip). With lesser systems, this album – and, come to think of it, some previous albums by this iconic band – can sound rather murky and indistinct, in part due to the electronic treatment and other studio trickery they employ. Yet here, what they're getting at was revealed



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Beautifully-machined casework gives the CMA600i a distinctly luxury feel. It's a pity that you have to switch between coaxial and optical inputs with that rear-panel switch – a more convenient switch on the front of the unit switches between the selected digital source and USB. 'Soft' switching would be more convenient – and make remote control of source selection a possibility.

clearly – especially with my Oppo PM3 headphones.

There was a natural tonal balance that didn't colour frequency extremes. Bass and kick-drum within The Numbers was tight and correctly-proportioned, while the percussive elements at the higher-end of the spectrum had just the right amount of 'bite'.



These attributes proved useful when listening to a selection of classic house-music and techno cuts (careful 24/48 vinyl rips); the excitement and flow were well conveyed, with no tiresome over-exaggeration. Similarly, the rhythms of Steve Reich's Music for a Large Ensemble (ECM CD, lossless rip) pulsed

*This little handset serves several different Questyle products, and some of its functions aren't relevant to the CMA600i. You can mute the output or raise/lower volume (the CMA600i's level control is motorised), but remote selection of input isn't possible.*

along nicely, with firm delineation of the instrumental strands and the tonal colours they impart.

On which subject, the solo instrument of Mozart's Clarinet Concerto (Deutsche Kammerphilharmonie Bremen/Martin Frost, BIS SACD – lossless rip of CD layer) was beautifully-defined. Every nuance could be heard, and Frost's clarinet was in perfect balance with the orchestral backing.

Finally, I tried a DSD64 (Blue Coast DSF download) of Jenna

Mamma and John R. Burr's When I'm Called Home – a beautiful piano/vocal duet. It was evident through listening that the recording was a simple 'one-take' affair, the resulting delicacy and emotion of the performance laid bare. That said, I found that – although excellent – it didn't quite have the same organic 'flow' that I'm used to with the Chord Hugo TT.

Great though the Chord is the headphone amp built into the CMA600i is arguably more capable. The effortless drive and dynamics

it can deliver are little short of incredible. With appropriate cabling, I even had it getting useful sound levels out of a pair of small speakers (B&W LM7s). I wouldn't recommend doing this for long periods, but this trick certainly shows off the potential of Questyle's

**CONCLUSION**

An excellent DAC and an even better headphone amp are combined in a single package of relative affordability. If you take headphone listening seriously, treat yourself to a demo!

**MEASURED PERFORMANCE**

The headphone outputs delivered 8.2V maximum, far above the 1V-2V necessary for headphones, and the rear balanced XLR audio output delivered this too, the Phono socket (unbalanced) outputs swinging 4.1V maximum before overload. They are easily able to drive external power amplifiers, which typically need 1V.

Dynamic range measured a very high 120dB via all digital inputs, S/PDIF

and USB, due to very low levels of noise and distortion. Our distortion analysis shows just 0.03% at -60dB with 24bit, rising to 0.21% with CD (16bit), both good results with CD being self-limited as always by 16bit quantisation noise.

The USB input offered the same results all round as S/PDIF, the main difference being ability to accept up to 768kHz sample rate PCM.

With 192kHz sample rate PCM, frequency response extended to 45kHz before rolling away gently to a 96kHz upper limit. However, the optical input has a 96kHz sample rate limit so extends no further than 45kHz and falls silent with 176.4kHz or 192kHz sample rate inputs.

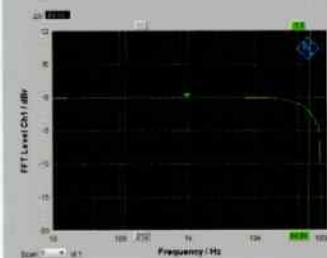
The balanced 4-pin XLR headphone output delivered 14V out maximum and had a gain of x8 from the rear mounted analogue input sockets – both high values.

The CMA600i measured very well in all areas. It has a particularly good digital convertor with wide dynamic range and this alone puts it ahead of most rivals.

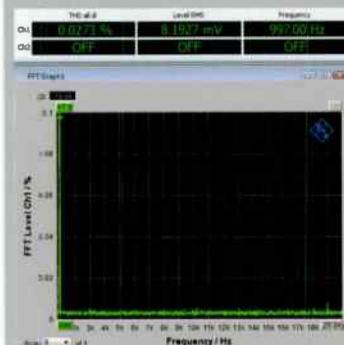
NK

Output (Phono/XLR)	4.1/8.2V
Frequency response	4Hz-44.8kHz
Separation	92dB
Noise	-118dB
Distortion (24bit)	0.03%
Gain	x8

**FREQUENCY RESPONSE**



**DISTORTION**



**QUESTYLE CMA600i £1000**



**OUTSTANDING - amongst the best.**

**VALUE - keenly priced.**

**VERDICT**

A little operational inflexibility does not detract from what is a fine-sounding product, capable of driving practically any pair of headphones on the market.

**FDR**

- superb headphone drive
- tonally-balanced, rhythmic and detailed
- easy setup

**AGAINST**

- input switching could be improved
- can get rather warm in use
- some circuit-board bodes (performance unaffected)

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# Sleek Sonorous

**Final Audio Design has trickled down technology from its flagship models into a new set of mid-priced headphones. Jon Myles likes what he hears.**

**O**ver-ear headphones from Japan's Final Audio Design are nothing if not distinctive. To start with they are larger than average thanks to the use of in-house designed proprietary 50mm dynamic drivers. Then, their top of the range Sonorous X model has a serious bling factor with stainless steel construction and gold leaf embellishments on the ear-cups.

Whether you like that look will be a matter of taste – but I found they provided an impressively large, if relatively warm, presentation when I reviewed them back in *Hi-Fi World* February 2016.

The only obvious drawback was the price of entry being some £3500. Now, though, Final is trickling down the technology from the Sonorous X into some more affordable models – most especially the new Sonorous III on review here which costs a rather more affordable £299.

Obviously at that price you lose the stainless steel and gold leaf but the driver technology remains the same. That means the same 50mm titanium driver which is integrated with the front plate in an effort to reduce vibration, with that plate made from polycarbonate strengthened with 30 per cent glass as opposed to the aluminium found on the high-end models. As a consequence the Sonorous IIIs, while still large, are relatively light at 410g. Comfort is also helped by a well-judged headband which is easily adjustable and features imitation leather covering which sits well on the head.

They are a closed-back design with noise-isolating ear-cups which wrap well around even the largest ears and come with a usefully-long

1.5-metre detachable cable.

Examine them closely and you'll also see two small holes at the bottom of the ear-cups. These are part of Final's BAM (Balancing Air Movement) technology which acts to optimise air movement inside the housing and control unwanted vibrations.

## SOUND QUALITY

If there's one characteristic to the Sonorous range it's the depth of the soundstage they generate. This new model is no exception. The ear pads seem to fit slightly further off the ears than other makes which gives a much more out-of-head experience.

Playing The Clash's 'Live At Shea Stadium' via the headphone output of a Naim Supernait 2 was a truly immersive experience. This isn't the best recorded live album ever but it does have a raw energy that the Finals captured well.

Bass was punchy with good extension, the midband sounded smooth and clear. Even better, Joe Strummer's vocals were suitably gruff and rough-edged, adding to the potency of the music. The Sonorous IIIs do not sugarcoat the music so it loses all passion, but present instead exactly what's on your files.

This works well with high-resolution tracks. Johnny Marr's multi-layered guitar work on The Smiths' 'Barbarism Begins At Home'

(24/96) was extremely powerful with a wonderful sense of the plectrum hitting the strings.

There is a small roll-off to the treble which means the Finals do not sound quite as detailed as some rivals. But this is compensated for by the fact that they never sound shrill or grating even when the volume is turned up high.

In that respect they are reminiscent of the flagship Sonorous X – except for a lot less money.

## CONCLUSION

This is an extremely assured set of headphones that extends the signature Final sound into a different price point. They combine a large soundstage with well-judged frequency extension to make listening never less than a pleasure. If you are looking for a £299 pair of over-ear headphones they deserve an audition.



**FINAL AUDIO DESIGN  
SONOROUS III £299**



**OUTSTANDING - amongst the best**

**VALUE - keenly priced**

### VERDICT

A large-sounding, well-balanced headphone that represents extremely good value for money

### FOR

- soundstage
- comfort
- good bass

### AGAINST:

- slightly rolled-off treble

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**Wharfedale has taken the design elements that made its Diamond 200 series a best-seller and improved on them for the new Reva range. Jon Myles takes a listen.**

# Viva La Riva

**T**rickle down development is commonplace in hi-fi – where concepts used in a manufacturer's higher-priced range gradually make their way into cheaper models. Trickle up technology, however, is rather more unusual – but that's exactly what Wharfedale have done with their new Reva series of loudspeakers.

The Reva range builds on the design of the budget and best-selling Diamond 200 loudspeakers but uses better materials and cabinet construction to make a higher-end model.

As designer Peter Comeau explains, "The fundamental principles of loudspeaker design remain consistent across different price bands; higher price points allow more sophisticated materials and engineering techniques to build better enclosures, drive units and so on, thus improving both sonic and aesthetic qualities. Trickle down technologies from more expensive ranges makes a good marketing story but often leads to compromise when costly technologies are implemented more cheaply. In some respects it's more practical to develop core elements at lower price points, then

improve on them by raising the budget to develop them further".

The Reva range consists of two floorstanders, a centre channel plus two standmounts including the Reva-2 on review here, priced at £599.95.

The immediate similarity to the Diamond 200 series is the use of Wharfedale's proprietary Slot-Loaded Distribution Port. Instead of a conventional circular reflex port, all Reva models incorporate a port that exits at the base of the speaker cabinet loaded by a slot that is created by the plinth.

Wharfedale's engineers say this gives a smoother transition



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between the pressure variation in the cabinet and the low-frequency sound developed in the room as well as increasing the port's efficiency. It also means the Reva-2s can be placed relatively close to a rear wall with no adverse effects - useful if space is at a premium.

Also borrowed from the Diamond loudspeakers is the method of cabinet construction - using differing densities of particleboard and MDF to cut down on unwanted resonances. For the Reva extra layers have been added to the matrix. This multi-layer assembly is then bonded together in a heated press to form the structure of the curved side panels. It certainly gives the Reva-2 a solid feel with an aesthetically pleasing look.

All the Reva loudspeakers use the same 25mm fine-weave textile soft dome tweeter, accompanied by one or more woven glass-fibre mid/bass drivers - which is a single 125mm unit for the Reva-2.

The entire package looks handsome and is certainly well-built - each 'speaker weighing in at 7.8kg and measuring 357mm x 204mm x 275mm (H/W/D).

**SOUND QUALITY**

Some standmount loudspeakers make an immediate impression with a seemingly raised treble or pounding bass - a trick often used to make them sound bigger than they are. The Reva-2 is rather more subtle having a much smoother, rather well-balanced sound.

Listening to the Allegri String Quartet's 'String Quartets By Alec Roth' CD it was striking just how natural the Wharfedales sounded. The cello, especially, had a rich firm resonance while the other string instruments were finely delineated. Timing was also good with a nice rhythmic flow to the various pieces.

The slot port works well, allowing the Reva-2s to dig out a good amount of low-end energy. On The Chemical Brothers' 'Block Rockin' Beats' bass was firm and well-defined with no unnecessary boom, even with the 'speakers pushed close to a rear wall. OK, you

don't get the sheer visceral punch a big floorstander can provide, but nor do you feel there is anything missing.

Higher up the scale the 25mm tweeter gives plenty of detail. It has a slightly forward nature that projects female vocals strongly into the room, giving the likes of Sinead O'Connor a lovely, lifelike feel. It doesn't have quite the bite you'll find from a ribbon tweeter but nor is it edgy or harsh. It also integrates well with the mid/bass unit so there's a cohesiveness and sophistication to the performance.

Put all this together and what you are getting is a loudspeaker that has all the attributes of the Diamond 200 range but has moved the sound quality up a level. And while you are paying more for them, at £600 you are getting a supremely capable loudspeaker that can hold its own with any other standmount at this price.

**CONCLUSION**

The Reva-2s could sound a little restrained compared to other, initially more exciting loudspeakers at this price in a showroom audition. Don't let that fool you - they are instead supremely natural and enjoyable, eschewing artificially enhanced bass or treble for poise, precision and genuine insight. As such they'll reward

long-term listening much better than some other 'speakers whose initial charms quickly fade after a while. If you are looking for a clean-sounding standmount that rewards over extended periods then put them on your audition list. There's obviously something special in this trickle-up philosophy!



*Twin 'speaker posts allow for bi-wiring while the slot port arrangement at the bottom of the Reva-2 means the Wharfedales can be mounted close to a rear wall.*

**MEASURED PERFORMANCE**

Frequency response of the Reva 2 shows a small amount of emphasis above 2kHz and this may well enough to subjectively enhance detail and a sense of analysis. The tweeter maintains output strongly all the way up to 20kHz, even off axis, so it pushes out quite strong acoustic power as dome tweeters go, meaning treble will be quite obvious from this loudspeaker, but it is unlikely to sound overly bright all the same.

Bass output extends smoothly down to 40Hz, with a small roll down below 100Hz meaning they can be positioned close to a rear wall without sounding bass heavy or ponderous. The narrow-slot resistive port in the base works down to 30Hz but the impedance curve suggests it isn't ideally tuned. For a small loudspeaker though, the Reva 2 reaches low and will produce good quality bass.

Sensitivity was 86dB into a measured impedance value of 7 Ohms, quite a high value meaning an amplifier of 60 Watts is plenty enough to go loud. Our impedance curve shows that the port is tuned a bit low at 42Hz, leaving

a large residual peak at right. The curve would be flatter and less reactive if this was 60Hz or so.

The Reva 2 measures well. It will be very detailed and forthright, whilst bass reaches down to a low 40Hz. NK

**FREQUENCY RESPONSE**

Green - driver output  
Red - port output



**IMPEDANCE**



**WHARFEDALE REVA-2 £599.95**



**OUTSTANDING** - amongst the best

**VALUE** - keenly priced

**VERDICT**

Takes all the good elements of Wharfedale's Diamond 200 series and improves on them to create a new reference at the price.

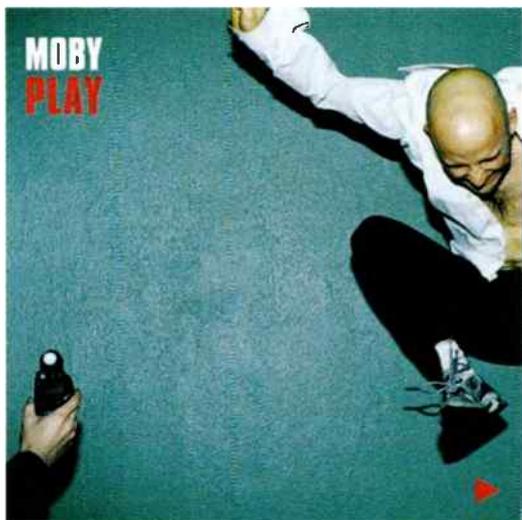
**FOR**

- detail
- smooth treble
- deep bass
- easy positioning

**AGAINST:**

- nothing at the price

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**R**leased in 1999, this mainstream electronic dance LP was more of a sequel to the 1997 compilation 'I Like to Score: Music From Films Vol.1' rather than the disastrous alternative rock outing of 1996's 'Animal Rights'.

Moby has never really been an innovator but he has the happy knack of examining what has been and then arranging a recipe of ingredients to produce a brilliant new concoction. The first two tracks on this album, 'Honey' and 'Find My Baby' are fine examples of this practice as they use blues and gospel samples wrapped up in a techno package to add credibility to the dance-like technologies. Both are also seen as being rather canny in terms of their intended broad appeal and their ability to attract that all important crossover audience.

This album is not a one trick pony, however, because it also rewards dedicated fans with Moby's own trademark techno melancholia

that he does so well, as on 'Porcelain'. Also, for someone who can't sing, he manages to manoeuvre his voice to allow the music to support his efforts. He's not quite Frank Sinatra but he knows his limitations and makes the best out of them.

This limited-edition double album includes both discs in a single sleeve with the records packaged within die-cut card sleeves, replete with polemic accounts from Moby on life, society and personal choice.

In audiophile terms, this album has been well produced. Notably, on 'Find My Baby', the plectrum-strummed acoustic guitar has a particularly edgy, metallic tone that is exquisite in terms of precision and focus. This one instrument is made more impressive by being pushed far into the central distance of the 3D soundstage.

Also look out for other reissues in this limited-edition series including 'Animal Rights' and the superb 'Everything is Wrong' from 1995.



FIREBEATS, INC

Firebeats, INC  
Round 2

**T**his LP was released in 1966 but the band was created in 1964 in Oslo, Norway by Yngve Bjerke (vocals, guitar) and his brother Walther (bass) as the beat-oriented The Four Beats.

The band expanded with the additions of both Øystein Braathen (guitar) and Aage Mjøs (drums) while they successfully landed an EMI contract in 1965 that presaged their name change to the Firebeats, INC. Singles releases hit No 4 and No 5 in the Norwegian charts.

This album tweaked the beat sound into freakbeat and collectors of the same have been searching for one of just 500 copies originally pressed ever since.

Listening to this album, though, there is a little less freak here and a lot more beat because the songs dovetail more towards early Hollies outings than anything as nasty as The Sorrows, for example. That said, there is something quite lovely about

the stripped 'I Never Knew The Sun Could Shine So Brightly At Night'.

Audiophiles will not be surprised to encounter a sense of compression, no doubt applied on the original masters, especially on the guitar crescendos. That said, Round 2 should be congratulated for getting the most from the original sources here. There is a real sense of air and space in the arrangement that gives the first track, 'Funny Things', a live feel that adds to the excitement and vigour of the performance while the bass performance is strong and powerful.

On 'Goodbye To This World' I was pleased to hear admirable instrumental separation, highlighted by the plucked guitar performance which was both characterful and impressively focused.

You can find other new titles on the Round 2 range including the singles and outtakes collection from Firebeats, INC called 'Let Me Tell You' plus the Fairport Convention-like Folque self-titled release from 1974.

**T**his new seven LP box set features 'What's Going On' (1971), 'Trouble Man' (1972), 'Let's Get It On' (1973), 'Diana & Marvin' (1973), 'I Want You' (1976), the double-LP 'Here, My Dear' (1978) and 'In Our Lifetime' (1981).

Apart from the classics (i.e. 'What's Going On' and 'Let's Get It On'), other notables include the mostly instrumental soundtrack album 'Trouble Man' (1972) and 1973's 'Diana & Marvin', Gaye's final duets album, covering 'Stop, Look, Listen (To Your Heart)' and the hits 'You're a Special Part of Me' and 'Don't Knock My Love'.

Addressing the audiophile side of this luxurious box set, I did find that the albums retained a slightly forward tone across the soundstage as if the recordings have been the recipient of a broad sweep of compression.

This could be heard in vocal crescendos but also within

background strings on the title track to 'What's Going On' as well as the backing band on the title track to 'Let's Get It On'. The compressive effects, which even occur on the 1981 release 'In Our Lifetime' are not excessive or aggressive and, in many areas of the soundstage, relatively subtle but, on a decent hi-fi system, noticeable and, at a high gain, may result in some listening fatigue.

That said, the cut is quiet and clean while there is plenty of detail on offer. The bell tone secondary percussion on 'What's Happening Brother' from the former LP offers an incisive clarity while percussion on 'Flyin' High (In The Friendly Sky)' offers an atmospheric 'playing in an enclosed swimming pool' reverb effect.

Despite the less than perfect sound quality, this release remains an impressive box set as it adds to the previous volumes to form an epic analogue history of Marvin Gaye.



## MARVIN GAYE

Volume Three: 1971-1981  
Back to Black

# AUDIOPHILE VINYL

**R**eleased in 1983, this synth pop hit LP was the first the group recorded as a trio.

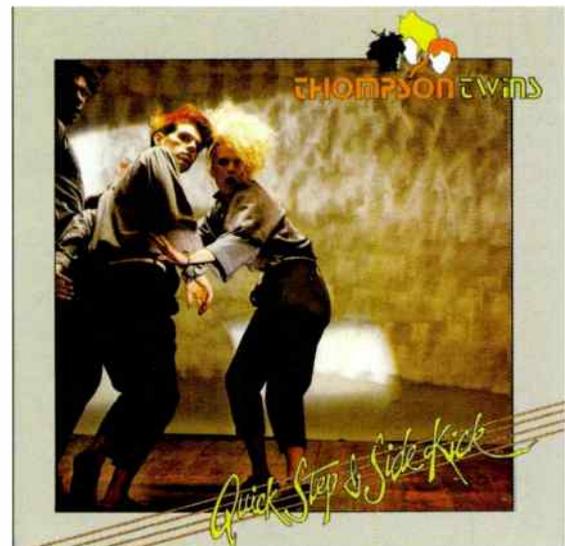
The singles 'Love on Your Side' and 'We Are Detective' are the remembered songs from this LP but it is an enjoyable album in toto. Nicely produced pop and catchy with it, Quick Step & Side Kick began an intense yet succinct period of chart and career success for the group.

It is available in two flavours from Vinyl180. The black vinyl double album is limited to 500 copies and pressed on 180g vinyl. It features the original LP and a second disc with six remixes: 'Love Lies Fierce', '(Long) Beach Culture', '(Dub) Lies, Love On Your Side (Rap Boy Rap)', 'Frozen In Time' and 'Fallen Out'. With new artwork for both inner sleeves, Tom Bailey has written exclusive sleeve notes for this special edition. There's also a single disc version pressed on yellow vinyl.

For audiophiles? You can relax. The label has done a great job, offering a quiet cut with plenty of silence behind it, while also retaining that essential 80s presentation of bouncy, beaty, clipped and shiny drum beats with shallow synth sounds and a tonally stark presentation: exactly how it should be, in fact.

The instrumental and vocal separation is on the money, giving the soundstage a fullness that enables the ear to discriminate between each and every voice and instrument. It still delivers a busy and rich arrangement where the vocal delivery is incisive and clear enough to provide a sense of nuance, while retaining that slightly drawling Tom Bailey lead vocal style.

Also look out for other Thompson Twins reissues of the rare second album 'Set' (1982) on red vinyl (issued for Record Store Day) and 'Into The Gap' (1984) on blue vinyl.



## THOMPSON TWINS

Quick Step & Side Kick  
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Developer	audio web publishing ltd
Category	Entertainment
Updated	7 Dec, 2014
Version	1.0
Size	9 MB
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Family Sharing	Yes
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# "You've read about the vinyl revival but there's something more fundamental going on here"



Noel Keywood

**T**he more I studied Technics new SL-1200GAE turntable the more I felt that there was a sub-text to the introduction of what, superficially, looks like a simple upgrade of their universally popular Direct Drive SL-1200 introduced so long ago – 1972 no less. Why would Technics, a division of Panasonic, want to put so much effort into entirely re-building this turntable, whilst keeping it looking the same outside?

My suspicions inevitably home in on what this massive Japanese electronics company see as a major past success that has endured for so long, and where it might profit from a similar success in the future. The out-going SL-1210 Mk2 not only endeared itself to people around the world, it lasted long enough to live out the decline of LP – and then its extraordinary re-birth.

Methinks the new design is what the company see as a dependable long term future in economic terms, suggesting they view LP's revival as more than a short-term phenomenon. The new motor, which I looked at closely, is a sophisticated design that I could describe as twice as mechanically complicated than the old one – perhaps more – yet it offers only a small increase in performance. I'm sure a simpler, less expensive, motor would have done the job just as well.

The new motor is twice as complicated because it has dual rotors, meaning magnets spinning around both above and below the drive coils; the outgoing SL-1210 Mk2 that worked so well had just a single rotor. This produces a big increase in complexity and manufacturing cost, requiring an altogether more elaborate bearing just to support the weight and make twin rotors possible. Then there's a new, rigid cast aluminium chassis to support it

all.

Whilst Technics drive electronics use the latest motor control techniques equipped with massive processing power, this is all now available on commercial chip sets that likely cost less than the original simpler circuits. But any cost saving here isn't going to balance out the price of the new motor mechanism.

I find it hard to see what the justification is, other than a belief LP is going to have a long and illustrious future – definitely interesting. It is also surprising, given that Technics, a branch of Panasonic, is hardly a backward looking company. They're not likely, I would have thought, to quickly get romantic about this dated technology, or the glorious machines Japan produced to spin LPs way back in the country's industrial heyday, the 1970s.

But if you look at the amount of music that was delivered to people around the world on LP, over the total period of its existence, and you consider the quantities that still exist to be played, in collections around the world, then the picture starts to change a little. You've read over and over about the vinyl revival and how young people collect them even though they have no record player, but there is something a little more fundamental going on here.

Take for example this comment from The ARChive of Contemporary Music ([www.arcmusic.org](http://www.arcmusic.org)): "We view the past through the artefacts that survive, so the ARChive collects and preserves everything that's issued, hoping to define 'what happened'."

That means what happened culturally over the lifespan of the LP, as captured by it – on a global basis. They have in store, in New York, millions of LPs from around the world, as well as CDs and even 45rpm record centers! Take a look at their website to see some of the

wacky stuff most of us have wilfully forgotten – or mercifully never knew about!

The LP is now a "cultural artefact" as the New York Times put it, far more than just being a source of bemusement as it has become to audiophiles who may see the revival as pointless nostalgia in a digital age where music can be so easily stored and transmitted, and a million LPs could be stored in a few hard drives, rather than occupying a New York warehouse.

So in the background I suspect Technics see this bigger picture, one that Japan is likely well in tune with. It is this view that has induced them to invest so heavily in the new SL-1200, to ensure it stays out in front for the next 40 years as it has for the last 40 years.

Is this why they started production with a limited edition of 1000? The first edition has now become what all collectors treasure so if you buy and store – and live long enough – then you will have made a good investment.

Here's an appropriate example: someone at Hi-Fi World once bought a new and boxed Garrard 401 that had been in a loft for 30 years awaiting a plinth! The owner had died and his wife was very happy to be paid £250 for it. It went onto eBay and was bought by a Japanese collector for £1800 – 10 years ago.

So I believe Technics see a larger picture and a long life for the LP, which is why they have invested in it. I also suspect the motor is unnecessarily powerful for its purpose in the SL-1200, and it is likely to be used to turn an even heavier platter in upcoming high-end equivalents to the SL-1000 series, for example, that once graced radio stations and the like.

So there is more to come – a lot more, I believe. ●

# THE VINYL REVOLUTION



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# "Immerse yourself in some marvellous, adventurous, guitar-filled exploration"



Paul Rigby

**P**resent day society's general perception of the world around us is, on the whole, based upon a narrow band of time and events that have occurred in the last five minutes or within recent media memory at the most. How many people have you known who have viewed a crime report on TV, heard about job losses on the radio or read of a scandal in the newspapers and possibly declared to all and sundry "The country's going to the dogs!" or "This never happened in my day".

Of course, these knee-jerk reactions have absolutely no basis in truth. Because, if this person had any understanding of history, they would realise that these sort of things did happen in their day, were often far worse and that society, as a whole, is steadily improving and moving forward.

Trouble is, we are in the centre of things and can't see the wood for the trees. Similarly, if you asked a living person who is the best actor/actress in the history of film and theatre then any answer received would be completely worthless because of the filters employed by age, the media, exposure to enough variation of talent, insider knowledge and more.

That is why, when people ask who was the best guitarist out there then the same old names are lazily trotted out: Jimi Hendrix, Eric Clapton, Jimmy Page and Jeff Beck with a few added favourites thrown in for good measure.

Odd, isn't it, that these names all appeared from the same era (the sixties) and the same musical genre (in broad rock terms).

While the talent of each is unquestioned, what effect has time, the fact that each neatly fits into

'First Generation Rock Star' status and consistent critical analysis from similarly-aged 'fans' had on each man's status?

If each guitarist began their career right now and were treading the boards...would they attract the same spotlight?

I have seen and heard many outstanding guitar practitioners of multiple genres who take the breath away (one of which buses around the corner from my house) and yet they have very little media attention given to them because the industry is a completely different machine now. Music is everywhere and is almost too accessible.

I've also heard some superb contemporaries of The Rock Gods that are still cruelly ignored. You don't even have to look very far and you don't even have to gaze into obvious alleyways either. Let's check out one very small label of exotica with a very small name, *él*, for example.

Mary Osborne. "Who?" you ask? Well, exactly. I rest my case here and now. Except to say that if you created a being that was a cross between Les Paul and Charlie Christian and then, shock and, indeed, horror, placed a skirt upon this creature to form... a woman (I know, it's amazing) then you would have Mary Osborne standing in front of you.

I emphasise the horribly sexist comments above because Osborne was not just a great guitarist but she needed the strength to force her way through jazz's male-dominated gender barrier (one that is hardly ever talked about by journalists) to achieve worthy and deserved recognition. Inventive and original, she was a rarity: she toted an electric guitar but swung her jazz until it caused migraines. She can be found on 'A Girl & Her Guitar' on *él*.

If you want to go back a bit and

keep Les Paul and Charlie Christian in mind, then their main influence was a certain Django Reinhardt, possibly the greatest guitarist there has ever been. A man of Gypsy birth he suffered severe injury in a terrible caravan fire in 1928, so that he played with two disabled fingers!

His solos, back in the thirties, were joyous and uplifting yet many are not aware of his jagged bop jazz excursions in the late forties. You can catch up with him via 'At The Movies' on *él*.

Vilayat Khan played a sitar ("But that's not a guitar, what are you on about?" you cry). True, actually it's harder to play a sitar properly. As a certain George Harrison, a supreme guitar player, himself confirmed).

Khan was one of the most important figures of the twentieth century in north Indian classical music. He was, as Ravi Shankar put it, along with himself and Ali Akbar Khan one of the original "Three Musketeers" of Indian musicians who had conquered the west.

Khan scored music for the brilliant Indian film director Satyajit Ray. Ray, a keen judge of creative talent said that Vilayat Khan was an even better sitarist than Ravi Shankar. He was that good. You can find him on 'The Genius of Vilayat Khan' on *él*.

I could go on, looking through just this one specialist CD catalogue and picking out guitarists playing for The Ventures, Chet Atkins, Sabicas and Escudero (look them up) and accomplished artists attached to genius figures such as Ennio Morricone.

This, dear reader, is guitar talent. I encourage you to peep over the boundaries fed to you by the media and immerse yourself in some marvellous, adventurous, guitar-filled exploration. You'll find it a real pleasure. ●

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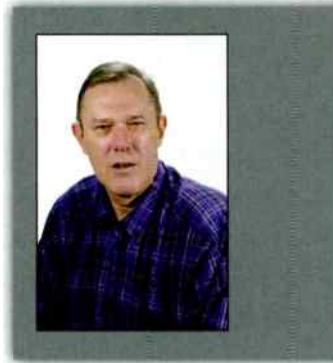
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# “In hi-fi like in fashion, what goes around often comes around years later”



Jon Myles

**F**or all its technological sophistication and constant development, hi-fi can be a strangely cyclical business at times. What was once popular goes out of fashion but then, almost magically, reappears some years later as the flavour of the day.

Take off-board DACs, for example. They were virtually unheard of in the domestic environment at one time until Arcam launched the Black Box way back in 1987 as a means of improving the performance of the CD players of the day. Other manufacturers quickly followed suit but then the breed virtually disappeared as the performance of silver disc players improved beyond all recognition.

Now, however, they are back with a vengeance thanks to the increasing prevalence of digital downloads, high-resolution material and computer-based music collections.

Then there's the once much-maligned but now firmly back in fashion all-in-one hi-fi system. Those of a certain age cannot fail to remember the Amstrad range of tower components which consisted of a record player, cassette deck, tuner and amplifier all enclosed in a wooden rack-like assembly along with a pair of loudspeakers. If you really pushed the boat out for the top models they even included a graphic equaliser (highly popular amongst many people in the 1980s).

The whole thing was designed to look like a series of separates and so confirm hi-fi kudos on the owner, yet was in fact one single box with some fairly cheap components inside. They sounded flat, muddled and frankly pretty awful yet, thanks to their looks and a bargain basement price, sold by the bucketload through mainstream High Street retailers

across the country.

Indeed, they made Amstrad's name as a major electronics brand before the company moved into the burgeoning home computer business to similar success.

But even in the heyday of Amstrad, true quality sound came from separates and always was the perceived wisdom. Well, up until just recently. For, in the same manner as the standalone DAC, all-in-one systems have made a dramatic comeback over the past few years – and not just at the cheap and cheerful end of the market.

Look around the shelves of even some of the more up-market dealers and you'll see more and more of them on sale – with many coming from some very well-respected manufacturers indeed. The likes of Naim, Linn, Marantz, Cyrus and Sony all have their own individual take on the concept. Even that doyen of American high-end compact amplifiers McIntosh has the compact (well, for McIntosh) MXA70 package featuring a one-box amplifier, DAC and streamer together with a pair of own-brand loudspeakers.

Anecdotal evidence from dealers tells me that just like the aforementioned Amstrad these are all selling in healthy quantities. There could be many reasons for this – but I suspect the two main reasons are their sheer convenience allied to the smaller living spaces many people now occupy due to rising property prices.

A one-box solution comprising amplifier, streamer, CD and DAC, cuts down on wires and makes perfect ergonomic sense if you're in a two-bedroom apartment with one living room in the heart of a big city. It also, quite often, also helps with that crucial wife/partner acceptance factor.

I couldn't help reflecting on all this after my neighbour had a bit of

a financial windfall and turned to me for advice after he decided to spend some of it on a decent hi-fi for the living room.

Never one to pass up the chance of spending someone else's money, I duly arranged a round of auditions of various separates systems ranging from the mid-priced to the relatively expensive. All proved eminently enjoyable with some suiting his room better than others in sonic terms but none really grabbed him enough to see him unleash the debit card.

The reasons varied, but it generally came down to size, the number of components and overall complexity. All that changed, though, when attention turned to one of the more up-market one-box alternatives. Both the Cyrus Lyric and Naim Uniti were warmly received for their ease of use, space-saving form factor but also overall sound which was way ahead of anything that could have been expected from a single, do-it-all box just a few years ago.

The relative cost saving as well, compared to a similarly-equipped collection of separate components in three or maybe four boxes, plus the associated cables, also meant more money could be set aside for the loudspeakers.

Suffice to say, a buying decision was quickly made and my neighbour (and his wife) now has a big, fat, music-induced smile on his face most evenings.

I'm pretty sure those one-box set-ups of the late 1970s and early 1980s wouldn't have provided anywhere near the same level of musical satisfaction as his new set-up. But it just goes to show there was nothing wrong with the basic concept if engineered well enough. And also that, in hi-fi as in fashion, what goes around often comes around years later. ●

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# "The Proms will feature three pieces by Steve Reich - performed in a Peckham car-park"



Martin Pipe

**A**s I write, the First Night of the Proms is a week away – and I'm counting down the days! The internationally-respected Proms is designed to appeal to as wide a cross-section of the music-loving public as possible. In this, it fulfils the original vision of Sir Henry Wood. I note, in passing, that Prommers' tickets for those who can attend the Royal Albert Hall have gone up from £5 to £6 – the first rise for a long time, and a tiny price to pay for live music of the calibre offered.

Most of it will be performed by the various BBC orchestras and choral ensembles, which are world-class; it's good to know that the TV licence helps to sustain them. As far as I'm concerned, the pleasure I get from the Proms is alone worth that £145.50. And a lot of effort and money is involved.

And so with this broad appeal in mind we have new commissions, smaller-scale chamber performances, introductory talks, participatory events, Last Night/Proms in the Park and challenging late-night works alongside a Ten Pieces Prom for younger audiences (July 24th), a Gospel Prom (July 19th), an evening (July 21st) designed to tie in with Strictly Come Dancing and even a Prom (July 29th) devoted to the works of the late, great David Bowie. Rather than Philip Glass' 'Heroes Symphony', we'll get a programme of Bowie interpretations by the Berlin-based Stargaze collective. I wonder if Bowie's late '70s works will be given prominence here?

If you do like modern minimalist composers like Glass, though, you'll no doubt be intrigued by one of the Proms scheduled for September 3rd. This will comprise three pieces by Steve Reich. What's unusual is that they'll be performed not

in the Royal Albert Hall, but at a Peckham car park...albeit one turned into a creative space by the Bold Tendencies organisation. The unusual acoustic should yield an interesting sound.

Another one I will be looking forward to is Prom 64 (August 22nd), which brings us the music of the iconic Quincy Jones – with the great man in attendance.

The great composers naturally haven't been forgotten as well – and they'll be interpreted by some stellar soloists, orchestras and conductors. Take for example Prom 64 (September 2nd), which will bring us Mahler's Seventh – courtesy of the Berlin Philharmonic and Sir Simon Rattle.

The composer's 'Das Lied von der Erde' forms the core of Prom 41 (August 16th) and will be performed by the Halle under Sir Mark Elder. September 5th and 7th (Proms 69 and 71) respectively bring us Mozart's Piano Concerto 24 in C Minor (Staatskapelle Berlin/Daniel Barenboim) and his Piano Concerto 21 in C Major (Staatskapelle Dresden/Christian Thielemann, with pianist Daniil Trifonov). Both these Proms also include works by Bruckner – respectively his Symphonies No. 4 and No. 3.

Other composers featured this year include Bach, Beethoven, Brahms, Britten, Debussy, Dvorak, Haydn, Holst (Pluto the Renewer, composed in 2000 by Holst aficionado Colin Matthews, follows the Planets Suite on August 6th), Mendelssohn, Mussorgsky (whose opera Boris Godunov is scheduled for July 16th), Prokofiev, Rachmaninov, Ravel, Richard Strauss, Sibelius, Schubert, Stravinsky, Wagner and Vaughan-Williams. Oh, and of course Elgar will be performed!

Some of these concerts will have been broadcast by the time

you read this but they should still be on BBC iPlayer (which now streams stations other than Radio 3 in 320kbps AAC). Some will also be televised, principally on BBC Four.

Last year, the Proms concerts were carried with 4.0 (i.e. quadraphonic) surround sound. You needed to attach a computer to your surround-sound audio equipment and initiate streaming from a web-based player. It worked well, the rear channels being used to deliver hall and audience ambience.

However, this year's official BBC Proms Guide makes no mention of surround. Nor is the technology covered by the Proms sections of the BBC website. Could the Proms surround experiment be at an end? The Radio 3 press office eventually confirmed that the 2016 Proms will indeed be made available in this form. I find it daft that the BBC spends effort and money providing a valuable feature – and then doesn't bother telling anyone about it! But the player should live here: <http://bbc.in/29Msef9>; the BBC has published a FAQ at <http://bbc.in/29xWnOf>

Unfortunately, there's no 'catch-up' service for surround; you have to listen to the service as broadcast. I have lashed up a Linux PC with virtual soundcard and Audacity to record the concerts in 4.0 form but the BBC should give you the ability to, at the very least, listen to the previous night's stream. I doubt this would be particularly challenging for BBC engineers.

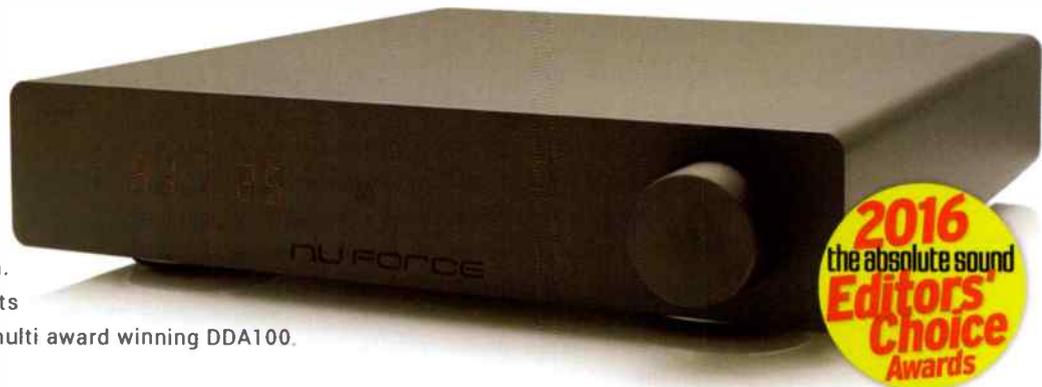
The press office alas claims otherwise: "There are in fact considerable additional resources and investment required to also offer surround sound on demand and we have to look at the benefit to audiences – because of this we are continuing the service for live listening only for the time being." ●

# NU FORCE

## DDA120

### Digital Music System

DDA120 was developed for one simple purpose: To allow you to enjoy music from any source in fantastic quality. Its diminutive size and elegant styling conceal a sophisticated amplifier capable of extracting every last detail and nuance from your music collection. The DDA120 builds on the success of its predecessor the critically acclaimed, multi award winning DDA100.



2016  
the absolute sound  
Editors' Choice  
Awards

## DAC80

### A class leading DAC for your home system

Designed from inception to become a class-leading Digital to Analogue Converter (DAC), the DAC80 simply extracts every last nuance and detail from your digital music collection. Destined to become the cornerstone of your high-end audio system with three different digital connectivity options and the capability to connect four devices concurrently, the DAC80 is an audiophile's digital music hub.

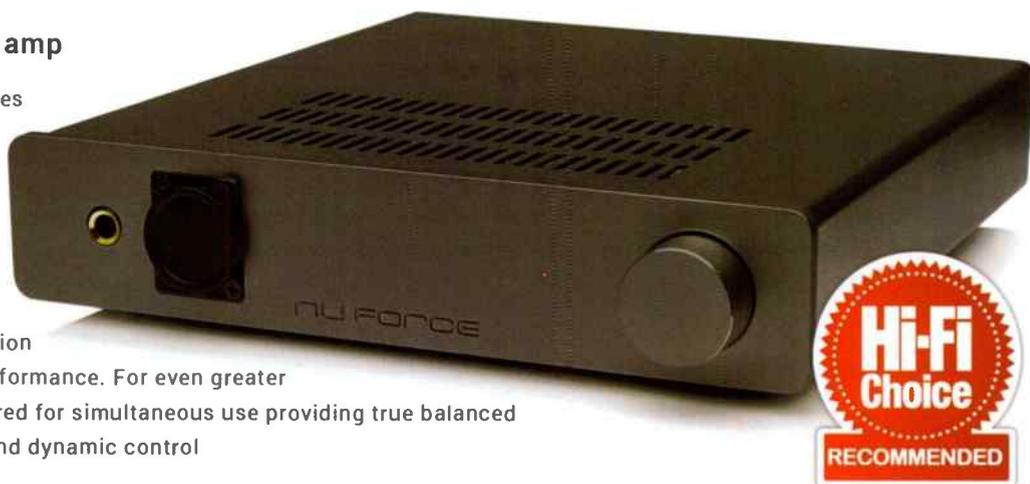


2016  
the absolute sound  
Editors' Choice  
Awards

## HA200

### High performance headphone amp

Capable of driving any set of headphones with more detail and greater scale, you will find the remarkable transparency reveals previously unheard nuances in familiar material. For the technically discerning, the HA200 utilises a purist Class-A design in a constant current configuration and offers true single ended output performance. For even greater fidelity two units can easily be configured for simultaneous use providing true balanced mode with increased transient speed and dynamic control



Hi-Fi  
Choice  
RECOMMENDED



# Turning Japanese



Last month, we examined the effect that Pioneer's budget PL-12D had in 1973. Martin Pipe argues that it's still a worthy 'starter turntable' today.

**B**ecause so many were sold between 1973 and 1977, PL-12Ds are commonplace today. You'll find them at car boot sales, stacked on audiojumble trestles and listed on eBay. They're cheap, too; usually much less than £50. The one featured in the photos was buried in a box at a boot sale and snapped up for a mere pound! The minimal outlay is a good reason to have a play with one, especially if you're on a limited budget or want to try playing vinyl on a hitherto all-digital playback system before committing yourself to more substantial investment.

Chances are the belt has disappeared or disintegrated if the deck was bought cheaply or 'not working'; new ones that will fit the PL-12D can be yours for £6 or so on eBay. Remove the mat, and rotate the platter until one of the elongated kidney-shaped holes lines with the motor pulley. Can you see the belt? If not, ensure it hasn't slipped off.

You can use these holes to pull

the platter off the central spindle/bearing, and the state of the belt (if indeed there is one!) should be obvious. If it has merely slipped off in transit, wrap it around the inner platter (which is visible when flipped over). Put your finger through one of the holes to 'catch' the belt, replace the platter so that the hole 'lines up' with the pulley and, passing it between the fingers of the speed-change mechanism, hook the belt around the motor pulley. Similar advice applies to all those Japanese belt-drive decks inspired by the PL-12D.

Actually, while the platter is 'off', try turning the motor by hand. It should move with no stiffness. I'd recommend lubrication of the motor and platter bearing - as per the PL-12D user guide, which along with the service manual can be freely downloaded from [www.vinylengine.com](http://www.vinylengine.com). A good-quality light sewing machine or cycle oil should suffice.

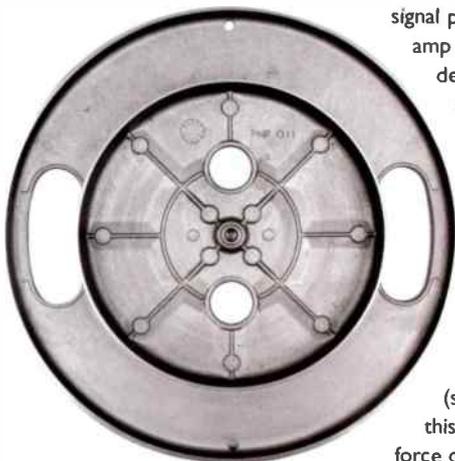
OK, so the mains wiring is safe and the label on the back tells you that the deck is set up for your mains



*The PL12D has a 'classic' stepped motor pulley to effect speed change. You don't have to fumble with the belt yourself. Here, a 'fork' coupled to a control lever shifts the belt onto the appropriate pulley. You can also see a lubrication hole for the motor, a four-pole synchronous design.*

voltage and frequency. Plug in the turntable and apply power (flip the function lever to its middle 'on-up' position). The motor shaft should be seen to rotate smoothly. If it doesn't, further work might be needed - it could be a faulty (or misaligned) microswitch, or (if you're unlucky!) a dead motor. If all is well, replace the platter and belt.

At this stage, I'd also regard the stylus as suspect if you don't have the means to inspect it but nevertheless value your vinyl. If you don't want the expense of a new cartridge at this stage, search out a replacement stylus for your existing cart (ideally elliptical/biradial, although cheaper spherical types can give better results from worn discs). Good sources are local hi-fi dealers (who can inspect and advise on replacement) and reputable eBay specialists. Those



**The PL-12D's platter is an aluminium casting that incorporates an inner hub for the belt. A kidney-shaped hole providing beneath-the-platter access allow the belt to be 'dropped' onto the motor pulley during assembly or maintenance.**

older transducers may not have the benefit of 21st century technology, but they'll certainly do a turn until such time as a replacement can be purchased.

If the PL-12D in your sights is a 'known quantity' or has been demoed to you before acquisition, all well and good. But what about an untried boot-sale or second-hand shop cheapie? Check first that the cartridge (almost certainly an MM type) is working to start with; connect the output and earth leads to your amp's phono input. With the volume turned down very gently rub the tip of the stylus; you should



**The PL-12D's tonearm was very good for a budget turntable, and it could accept decent MM cartridges - like an Ortofon VMS-20E or Shure M75ED. Audio-Technicas were another popular choice; I have been using one of their descendent (a AT-440MLb) with surprisingly-good results. The SME-type removable headshell allows easy stylus inspection and cartridge change.**

hear a low-pitched 'scratching' sound from your speakers. A replacement stylus should thus be viable. This procedure will also confirm that the signal path from the headshell to the amp is intact. One or both channels

dead? Unscrew the headshell and gently clean its contacts as well as the corresponding ones in the tonearm. Try the cart in another (friend's?) deck. Examine the 'table's captive cables; do they (or the attached plugs) show signs of damage?

With a replacement stylus, the tracking-weight checked (special scales are available for this purpose) and anti-skating force dialled to the appropriate value it's time to cue up a record and take a listen. If rumble is too high, mute your amp and listen for excessive motor noise coming from the deck; it could be worn out or need lubricating. The motor assembly is decoupled from the deckplate via three rubber bushes. These can go hard with the result that motor vibrations are transmitted to the deckplate and thence the arm. To check them, disconnect your PL-12D from the mains and remove the platter. Two screws at the 6 and 12 o'clock positions of the platter recess should be loosened and slid within their slots towards the platter bearing. Doing so releases the brackets that trap the sprung deckplate to the plinth. The deckplate can then be carefully flipped up, and the motor rendered accessible.

Replacement bushes are now unobtainable although with a bit of time and ingenuity you could probably fashion your own. I have however heard that hard ones can

be reconditioned successfully with an inexpensive spray ('Platenclene') intended for restoring the 'rubber' parts of computer-printer paper-feeds.

With the bushes replaced or the rubber of the existing ones returned to a more supple state, rumble should be less obtrusive. Mine were still in an acceptable condition - not bad for gear over four decades old - although I did have to find a new drive belt.

With the deck in an open state, I'd recommend cleaning out any dirt and rubbish (I found a stylus protector and birdseed in the recesses of my PL-12D!). Check the foam dampers in the springs. If they've disintegrated, replace it (foam of appropriate density is frequently used to pack delicate goods - like hi-fi equipment, hard drives and computer motherboards - for shipment).

But is all that effort worth it? I fitted an Audio-Technica AT-440MLb cart (£130), mounted on an ADC magnesium headshell, to my PL-12D's tonearm and carried out the necessary set-up procedure; the



**The PL-12D's simple spring suspension system. The foam within provides a modicum of damping but may need replacing if deteriorated.**



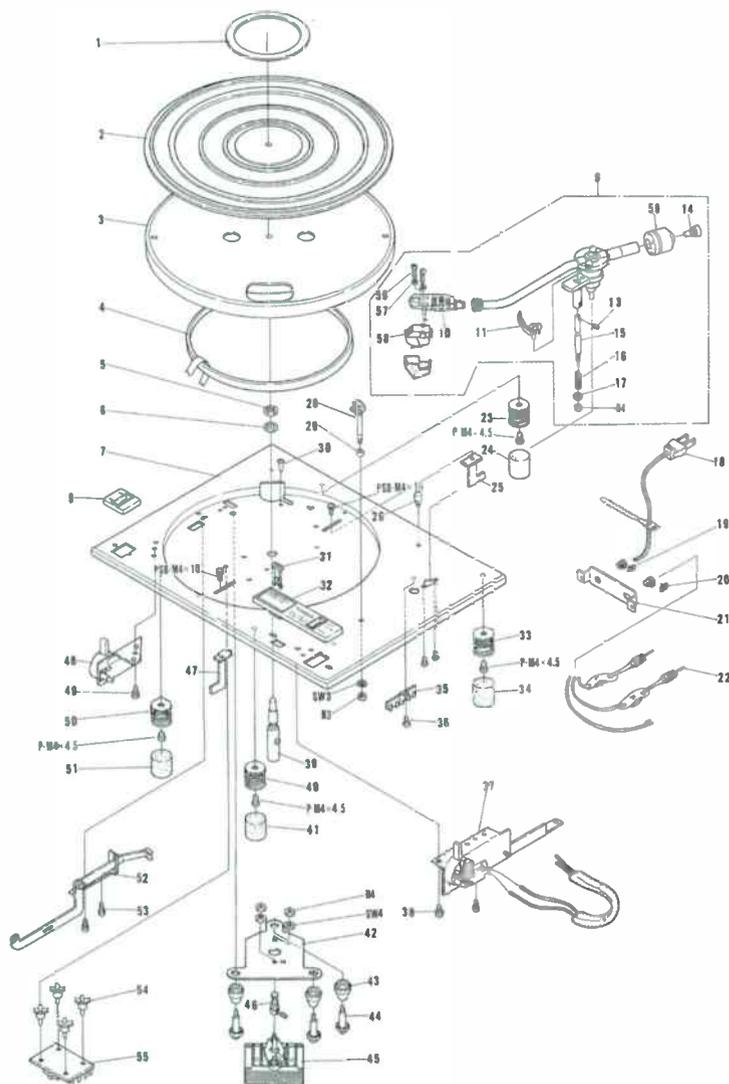
*Hi-fi magazine advice columns of the 1970s were full of 'mods', in the endless pursuit of improved sound quality at any price (and 'free' is always good!). One involved removing the PL-12D tonearm's lateral balance-weight – the mounting post of which screwed into the empty threaded hole visible here; in other words, the owner of our specimen had himself succumbed to 'tweak-fever'! Ironically enough, this weight cannot be seen in the exploded view...*

cartridge tracks here at 1.5g. Sadly, the finger-rest of the headshell is quite long and with the arm in its 'rest' position it fouls the lid!

I used Onkyo's wonderful A9010 budget integrated and a pair of Rogers GS5 floor-standers. First impressions were fair, but not outstanding. An ill-defined bass was eventually traced to tonearm pivot bearings that were slightly loose (screws and locking nuts on either side secure them). That rectified, listening could continue. The low-end experience was now surprisingly articulate, deep and well-controlled. A Chandos recording of the Scottish S.O. playing Holst's Planet Suite benefitted from a believable stereo image; furthermore the horn at the start of Venus was pure - none of the roughness caused by speed imperfections being evident.

Relatively-simple guitar and percussion tracks (The Shadows' Greatest Hits) fared well, the string 'twang' resonating with natural detail.

With rock albums (Yes and Pink Floyd), tonal presentation was



*The PL-12D is a simple but effective design, this exploded diagram shows. As a consequence, many of them survive; they continue to play records for their owners to this day.*



*The speed control is coupled, via a system of levers underneath the deckplate, to a pair of fingers that push the belt up or down and onto the relevant pulley step. Effective – and very easy to use.*

balanced - but the subtleties I am used to hearing with more upmarket tables were buried in the mix. Similarly, the PL-12D/AT combo isn't maybe the most persuasive performer when it comes to pace and rhythm - as proved by a selection of percussive electronic dance music.

A budget offering from Pro-Ject or Rega will trounce the Pioneer in such areas. But one of these will cost you rather more than a used PL-12D, and lack its olde worlde charm. I certainly find some albums are an easier listen on the PL-12D than on CD. If you want to try vinyl and stumble across one of these decks, grab it while you have the opportunity. And have fun!

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** 2009 £12,500  
Lavishly finished two box, two motor turntable with gorgeous Ikeda 407 tonearm bundled. Exceptionally stable and unfussy performer with a relaxed but highly enjoyable gait.



**FUNK FIRM VECTOR II** 2009 £860  
Innovative engineering gives a nimble, pacey and musical sound that's one of the best at the price.

**REGA P2** 2008 £300  
Excellent value for money engineering, easy set up and fine sound.

**MCINTOSH MT10** 2008 £8,995  
Big, expensive, controversially styled and glows more than some might consider necessary, but an astonishingly good performer.

**REGA P3-24** 2008 £405  
Seminal affordable audiophile deck with fine bundled tonearm. Tweakable, and really sings with optional £150 outboard power supply.

**ACOUSTIC SOLID ONE** 2007 £4,050  
Huge turntable, both in terms of sheer mass and sonic dynamics. Fit up to three arms and enjoy, just don't damage your back moving it...

**AVID VOLVERE SEQUEL** 2007 £4,600  
Stylish high end vinyl spinner with industrial strength build quality and a sound to match. Sound is edge-of-the-seat stuff.

**MICHELL GYRODEC SE** 2005 £1,115  
Design icon with superlative build. Sound is beautifully smooth, effortless and exceptionally expansive.

**MARANTZ TT-15S1** 2005 £1,299  
Cracking all in one deck/arm/cartridge combination, this must surely be the best sound/plug and play package at this price point.

**MICHELL TECNOOEC** 2003 £579  
Superb introduction to Michell turntables - on a budget. Top quality build and elegant design mean it's still the class of the mid-price field.



**MICHELL ORBE** 1995 £2,500  
The top Michell disc spinner remains a superbly capable all rounder 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 classical music.

**LINN AXIS** 1987 £253  
Cut-price version of the Sondek with LVX arm. Elegant and decently performing package. Later version with Akito tonearm better.

**TECHNICS SL-P1200** 1987 £800  
CD version of the Technics SL-1200 turntable. Massively built to withstand the rigours of 'pr' use and laden with facilities - a great eighties icon.

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

**DUAL CS505** 1982 £75  
Simple high quality engineering and a respectable low mass tonearm made for a brilliant budget buy. Polished, smooth and slightly bland sound.

**MICHELL GYRODEC** 1981 £599  
Thanks to its stunning visuals, this bold design wasn't accorded the respect it deserved. Clean, solid and architectural sound.

**TOWNSHEND ROCK** 1979 £ N/A  
Novel machine has extremely clean and fluid sound. Substantially modified through the years, and capable of superb results even today.

**MARANTZ TT1000** 1978 £ N/A  
Beautiful seventies high end belt drive with sweet and clean sound. Rare in Europe, but big in Japan.



**REGA PLANAR 3** 1978 £79  
Brilliantly simple but clean and musical performer, complete with Acos-derived S-shaped tonearm. 1983 saw the arrival of the RB300, which added detail at the expense of warmth. Superb budget buy.

**SONY PS-B80** 1978 £800  
First outing for Sony's impressive 'Biotracer' electronic tonearm. Built like a tank with a clean and tidy sound, albeit lacking involvement. Scarily complicated and with no spares support - buy with caution!

**TRIO LO-7D** 1978 £600  
The best 'all-in-one' turntable package ever made. Clean, powerful and three-dimensional sound, ultimately limited by the tonearm.

**ADC ACCUTRAC 4000** 1976 £300  
Bonkers 1970s direct drive that uses an infra red beam to allow track selection and programming. More of a visual and operational delight than a sonic stunner.

**PIONEER PLC-590** 1976 £600  
Sturdy and competent motor unit that performs well with a wide range of tonearms. Check very thoroughly before buying due to electronic complexity and use of some now-obsolete ICs.

**PIONEER PL12D** 1973 £36  
When vinyl was the leading source, this bought new standards of noise performance and stability to the class, plus a low friction S-shaped tonearm. Later PL112D was off the pace compared to rivals.



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

**LINN SONDEK LP12** 1973 £86  
For many, the Brit superdeck; constant mods meant that early ones sound warmer and more lyrical than modern versions. Recent 'SE' mods have brought it into the 21st century, albeit at a price

**ARISTON R011S** 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.

**GOLDRING Lenco GL75** 1970 £15.6S  
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.



**THORENS TD124** 1959 £ N/A  
The template for virtually every 1970s 'superdeck', this iconic design was the only real competition for Garrard's 301. It was sweeter and more lyrical, yet lighter and less impactful in the bass

**TO NEARMS**

**REGA RB251** 2009 £136  
Capable way past its price point, the new 3-point mount version of the classic RB250 serves up a taut and detailed sound. A little lean for some tastes, but responds well to rewiring and counter-weight modification.

**HELIUS OMEGA** 2008 £1,595  
Stylish and solid lump of arm with fabulous build quality, that turns in a dynamic and weighty performance.

**AUDIO ORIGAMI PU7** 2007 £1,300  
The classic Syrinx PU3 updated to spectacular effect. Hand made to order, with any mass, length and colour you care for. Fit, finish and sound truly impressive.



**GRAHAM PHANTOM** 2006 £3,160  
Sonically stunning arm with magnificent bass dexterity and soundstaging. Build quality up to SME standards, which is really saying something!

**TRI-PLANAR PRECISION** 2006 £3,600  
Immaculate build, exquisite design and one of the most naturally musical and lucid sounds around.

**MICHELL TECNOARM A** 2003 £442  
Clever reworking of the Rega theme, using blasting, drilling and rewiring!

**SME 309** 1989 £767  
Mid-price SME comes complete with cost-cut aluminium armtube and detachable headshell. Tight, neutral sound with good tonality, but lacks the IV's pace and precision.

**NAIM ARO** 1987 £1,425  
Charismatic unipivot is poor at frequency extremes but sublime in the midband; truly emotive and insightful.

**SME SERIES V** 1987 £2,390  
Vice-like bass with incredible weight, ultra clear midband and treble astound, although some don't like its matter of factness!

**NAIM ARO** 1986 £875  
Truly endearing and charismatic performer - wonderfully engaging mid-band makes up for softened frequency extremes.



**ALPHASON HR100S** 1981 £150  
First class arm, practically up to present-day standards. Buy carefully, though, as there is no service available now. Totally under priced when new, exceptional.

**SME SERIES III** 1979 £113  
Clever variable mass design complete with Titanium Nitride tube tried to be all things to all men, and failed. Charming nonetheless. with a warm and inoffensive sound.

**TECHNICS EPA-501** 1979 £ N/A  
Popular partner for late seventies Technics motor units. Nice build and Titanium Nitride tube can't compensate for middling sound.

**LINN ITTOK LVII** 1978 £253  
Japanese design to Linn specs made for a muscular, rhythmic sound with real dynamics. The final LVIII version worth seeking out.

**AUDIO TECHNICA AT 1120** 1978 £75  
Fine finish can't compensate for this ultra low mass arm's limited sonics - a good starter arm if you've only got a few quid to spend.

**HADCOCK GH228** 1976 £46  
Evergreen unipivot with lovely sweet, fluid sound. Excellent service backup.

**ACOS LUSTRE GST-1** 1975 £46  
The archetypal S-shaped seventies arm; good, propulsive and involving sound in its day, but ragged and undynamic now.

**SME 3009** 1959 £18  
Once state 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 cult, used prices unjustifiably high.

**PHONO STAGES**

**CREEK OBH-8 SE** 1996 £180  
Punchy, rhythmic character with oodles of detail makes this a great budget audiophile classic. Partner with a Goldring G1042 for an unbeatable budget combination.

**MICHELL ISO** 1988 £ N/A  
This Tom Evans-designed black box started the trend for high performance offboard phono stages. Charismatic, musical and punchy - if lacking in finesse.



**LINN LINNK** 1984 £149  
Naim-designed MC phono stage built to partner the original Naim NAIT - yes, really! Fine sound, although off the pace these days.

**INTEGRATED AMPLIFIERS**

**NAIM NAIT XS** 2009 £1,250  
With much of the sound of the Supera at half the price, this is powerful, articulate and smooth beyond class expectations.

**MUSICAL FIDELITY PRIMO** 2009 £7,900  
Seriously expensive, but one listen explains why. Wonderfully exuberant sound that can only come from a top quality tube design.

**SUGDEN A21A S2** 2008 £1,469  
Crystalline clarity, dizzying speed and forensic detailing. Power limited so needs sensitive speakers.

**CREEK OBH-22** 2008 £350  
Brilliant value budget passive, with remote control, mute and input switching, plus an easy, a neutral sound.

**CAMBRIDGE 840A V2** 2007 £750  
Version 2 addresses version 1's weaknesses to turn in a mightily accomplished performance, offering power, finesse and detail.

**SUGDEN IA4** 2007 £3,650  
Goodly amount of Class A power, icy clarity and a breathtakingly fast, musical sound make this one of the very best super-integrateds.

**NUFORCE P-9** 2007 £2,200  
Impressive two box preamp with superb resolution and an engaging sound.

**MELODY PURE BLACK 101D** 2007 £3,295  
The clarity and openness of valves plus firm grip and fine detail make this a preamplifier masterclass.

**AUDIOLAB 8000S** 2006 £400  
In another life, this sold for three times the price, making it a stand-out bargain now. Very clean, powerful and tidy sound.

**MCINTOSH MA6800** 1995 £3735  
Effortlessly sweet, strong and powerful with seminal styling to match.

**DELTEC** 1987 £1900  
Fast, dry and with excellent transients, this first DPA integrated is the real deal for eighties obsessives. Ridiculously punchy 80W per channel from a tiny, half-size box. Radical, cool and more than a little strange.

**EXPOSURE VII/VIII** 1985 £625  
Seminal pre-power, offering most of what Naim amps did with just that little bit extra smoothness. Lean, punchy and musical.



**AUDIOLAB 8000A** 1985 £495  
Smooth integrated with clean MM/MC phono stage and huge feature count. Extremely reliable, too. Post '93 versions a top used buy.

**VTL MINIMAL/50W MONOBLOCK** 1985 £1,300  
Rugged, professional build and finish allied to a lively and punchy sound (albeit with limited power) make them an excellent used buy.

**MUSICAL FIDELITY A1** 1985 £350  
Beguiling Class A integrated with exquisite styling. Questionable reliability.

**MISSION CYRUS 2** 1984 £299  
Classic 1980s minimalism combines arresting styling with clean, open, lively sound. Further upgradeable with PSX power supply.



**NAIM NAIT** 1984 £350  
Superb rhythms and dynamics make it truly musical, but tonally monochromatic. Fine phono stage, very low power.

**CREEK CAS4040** 1983 £150  
More musical than any budget amp before it; CAS4140 loses tone controls, gains grip

**MYST TMA3** 1983 £300  
Madcap eighties minimalism, but a strong and tight performer all the same.

**ROTEL RA-820BX** 1983 £139  
Lively and clean budget integrated that arguably started the move to minimalism.

**NAD 3020** 1979 £69  
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 A75II and A100 versions offered improved sonics and were seriously sweet.

**A&R 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 a plethora of facilities and filters. A sweet and endearing performer but lacking in power and poor load driving ability.

**SUGDEN A21** 1969 £ N/A  
Class A transistor integrated with an eminently likeable smoothness and musicality. Limited inputs via DIN sockets.

**ROGERS CADET III** 1965 £34  
Sweet sounding valve integrated, uses ECL86 output valves, even has a half useable phono stage, sweet, warm a good introduction to valves

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

## POWER AMPLIFIERS

**ELECTROCOMPANET NEMO** 2009 £4,995 (EACH)

Norwegian power station as cool as a glacier tonally, 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 £6,000 PER PAIR

Quad's best ever power amplifier. Dramatic performer with silky but dark tonality, blistering dynamics, serious power and compellingly musical sound.



**QUAD 909** 2001 £900  
Current-dumper has a smooth and expansive character with enough wallop to drive most loads. Not the most musical, but superb value all the same.

**NAIM 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** 1997 £8000  
Authentic reproduction monoblocks still more than cut the sonic mustard. Highly expensive and highly sought after.

**MICHELL ALECTO** 1997 £1989  
Crisp, clean and beautifully controlled with gorgeous styling. Partnered with the £1650 Orca this sounds delicious!



**MUSICAL FIDELITY XA200** 1996 £1000  
200W of sweet smooth transistor stomp in a grooved tube! Under-rated oddity.

**PIONEER M-73** 1988 £1,200  
Monster stomp from this seminal Japanese power amplifier, complete with switchable Class A and Class B operation. Clean, open and assured sounding, albeit a tad behind the pace on high speed dance music. Rosewood side cheeks and black brushed aluminium completes the experience.

**KRELL KMA100 II** 1987 £5,750  
Monoblock version of the giant KSA-100 is one of the seminal 80s transistor power amplifiers. Massive wallop allied to clean and open Class A sound makes this one of the best amplifiers of its type.

**RADFORD STA25 RENAISSANCE** 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 dumpers is a capable design with smooth, effortless power and a decently musical sound. 606 and 707 continue the theme with greater detail and incision.

**HH ELECTRONICS TPA-50D AMPLIFIERS** 1973 £110  
Simple design with easily available components, solid build quality and fine sound make for a surprisingly overlooked bargain

**LECSON AP1** 1973 £ N/A  
Madcap cylindrical styling alluded to its 'tower of power' pretensions, but it wasn't. Poor build, but decently clean sounding when working.

**QUAD 303** 1968 £55  
Bullet proof build, but woolly sound. Off the pace, but endearing nonetheless. Some pipe smoking slipper wearers swear by them!

**LEAK STEREO 20** 1958 £31  
Excellent workaday classic valve amplifier with decent power and drive. Surprisingly modern sounding if rebuilt sympathetically. Irrepressibly musical and fluid.



**LEAK STEREO 60** 1958 £N/A  
Leak's biggest valve power amp offers 35 Watts per channel and more low end welly than the smaller Stereo 20. Despite concerns over reliability rarity 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 hopelessly 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 rigeur before use, using original parts if possible. Surprisingly crisp and musical. Deeply impressive in fine fettle.

## PRE AMPLIFIERS

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



**CROFT MICRO** 1986 £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 worthwhile nonetheless.

**AUDIO RESEARCH SP-8** 1982 £1,400  
Beautifully designed and built high end tube pre-amplifier with deliciously sweet and smooth sound. Not the last word in incision or grip.

**LINN LK-1** 1986 £499  
A brave attempt to bring remote controlled user-friendliness to hair-shirt audiophile 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 incisive sound that's a joy with vinyl but a tad forward for digital.

**LECSON AC-1** 1973 £ N/A  
Amazing styling courtesy of Allan Boothroyd 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-fi!

**QUAO 22** 1958 £25  
The partner to the much vaunted Quad II mono-blocks - cloudy and vague sound means it's for audiophiles only.

**LOUDSPEAKERS**

**WHARFEOALE OIAMONO 10.3** 2010 £290  
Great small standmounters for audiophiles on a budget; dry punchy sound with impressive sound-staging at the price.



**YAMAHA SOAVO 1.1** 2009 £3,000  
Musical, transparent with impressive dynamics and cohesion. Excellent build and finish.

**USHER BE-10** 2009 £10,500  
Clever high end moving coil design with immense speed and dizzying clarity allied to epic punch. Needs the best ancillaries to fly, though...



**SPENOOR A5** 2009 £1,695  
Multi-talented floorstanders with generous scale and punch and Spendor's classic mid-range detail. Deliver a sound that thoroughly engages whatever you care to play.

**MONITOR AUDIO PL100** 2008 £2,300  
The flagship 'Platinum' series standmounter has a lovely warm and delicate sound with superlative treble.



**MARTIN LOGAN SOURCE** 2008 £1,600  
Brilliant entry level electrostatics, giving a taste of loudspeaker esoterica for the price of most moving coil boxes. Tremendous clarity, evenness and delicacy, although not the world's most powerful sound.

**PMC OB11** 2008 £2,950  
Cleverly updated floorstanders give scale and solidity in slim and well finished package.

**ISOPHON GALILEO** 2007 £2,100  
Big standmounters that really grip the music and offer quite startling dynamics and grip.

**ONE THING AUDIO ESL57** 2007 £1,450  
One Thing Audio's modifications keep the good old ESL57 at the very top of the game.

**MOWGAN AUDIO MABON** 2007 £3,995  
Massively capable loudspeakers that offer dynamics, scale and clarity in an elegantly simple package. Wide range of finishes, too.

**B&O BEOLAB 9** 2007 £5,000  
Technically impressive and visually striking loudspeakers with sound quality that more than matches their looks.



**ISOPHON CASSIANO** 2007 £12,900  
Drive units featuring exotic materials allied to superlative build quality result in an immensely capable loudspeaker. Not an easy load to drive, however.

**B&W 686** 2007 £299  
Baby standmounters offer a sophisticated and mature performance that belies both their dimensions and price tag.

**QUAO ESL-2905** 2006 £5,995  
The old 989 with all the bugs taken out, this gives a brilliantly neutral and open sound like only a top electrostatic can; still not a natural rock loudspeaker, though.

**B&W 801D** 2006 £10,500  
In many respects, the ultimate studio monitor; dazzling clarity and speed with commanding scale and dynamics.



**REVOLVER CYGNIS** 2006 £5,999  
Revolver pull out all the stops and show what they can do with this magnificent flagship loudspeaker. A superb monitor that is like a mini B&W 801D in many ways.

**USHER BE-718** 2007 £1,600  
Beryllium tweeters work superbly, allied to a fast and punchy bass driver. The result is subtle, smooth and emotive.

**USHER S-520** 2006 £350  
Astonishingly capable budget standmounters that offer detail and dynamics well beyond their price and dimensions.

**ACOUSTIC ENERGY AE1 CLASSIC** 2006 £845  
Brilliantly successful remake of an iconic design; not flawless, but surely one of the most musical loudspeakers ever made.



**MISSION X-SPACE** 1999 £499  
The first mass production sub and sat system using NXT panels is a sure-fire future classic - not flawless, but a tantalisingly unboxy sound nevertheless!

**MISSION 752** 1995 £495  
Cracking Henry Azima-designed floorstanders combined HDA drive units and metal dome tweeters with surprisingly warm results. Benign load characteristics makes them great for valves.

**TANNOY 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 unit set the blueprint for nineteen eighties loudspeakers. Very open and clean sounding, albeit course at high frequencies and limp in the bass. Speakers would never be the same again...

**HEYBROOK HB1** 1982 £130  
Peter Comeau-designed standmounters with an amazingly lyrical yet decently refined sound. Good enough to partner with very high end ancillaries, yet great with budget kit too. A classic



**QUAO ESL63** 1980 £1200  
An update of the ESL57, with stiffer cabinets. Until the 989, the best of the Quad electrostatics.

**MISSION 770** 1980 £375  
Back in its day, it was an innovative product and one of the first of the polypropylene designs. Warm, smooth, clean and powerful sound,

**ACOUSTIC RESEARCH AR18S** 1978 £125  
Yank designed, British built loudspeaker became a budget staple for many rock fans, thanks to the great speed from the paper drivers, although finesse was most definitely not their forte...

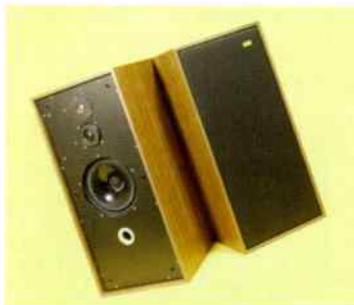
**YAMAHA NS1000** 1977 £532  
High tech Beryllium midband and tweeter domes and brutish 12" woofers in massive sealed mirror image cabs equals stunning transients, speed and wallop allied to superb transparency and ultra low distortion. Partner carefully!



**JR 149** 1977 £120  
Cylindrical speaker was ignored for decades but now back in fashion! Based on classic KEF T27/B110 combo as seen in the BBC LS3/5a. Doesn't play loud, needs a powerful transistor amplifier, but has clarity and imaging,

**KEF R105** 1977 £785  
Three way Bextrene-based floorstander gave a truly wideband listen and massive (500W) power handling. A very neutral, spacious and polite sounding design, but rhythmically well off the pace.

**SPENDOR 8C1** 1976 £240  
 Celestion HF1300 tweeter meets bespoke Spendor Bextrene 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 wideband sound but rhythms not a forte.

**HH ELECTRONICS TPA-50D AMPLIFIERS** 1973 £110  
 Simple design with easily available components, solid build quality and fine sound 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 guises from various manufacturers building it under licence.

**LEAK SANDWICH** 1961 £39 EACH  
 Warm sounding infinite baffle that, with a reasonably powerful amplifier can sound quite satisfying.

**QUAD ESL57** 1956 £45 EACH  
 Wonderfully open and neutral sound puts box loudspeakers to shame. Properly serviced they give superb midband performance, although frequency extremes less impressive. Ideally, use in stacked pairs or with subwoofers and supertweeters.

## SYSTEMS

**MERIDIAN SOOLOOS 2.1** 2010 £6,990  
 Crisp styling, bright, colourful touchscreen, plus excellent search facilities. This is one hard disk music system with a difference. Best partnered to Meridian active loudspeakers.



**NAIM UNITIQUITE** 2010 £995  
 Great little half width one-box system with truly impressive sound allied to a wealth of source options.

**ARCAM SOLO MINI** 2008 £650  
 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/DAB/FM/AM unit, designed in conjunction with Ferrari. Ignore nay-sayers who sneer that it isn't a 'proper' hi-fi product. Just listen.

**SHANLING MC-30** 2007 £650  
 Quite possibly the cutest all-in-one around with fine performance from the CD player, tuner and MP3 player input. 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-7S1 disc player, SC-7S2 preamp and MA-9S2 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 IOECCO** £1,000  
 Excellent sounding iPod dock, impressive DAC and fine amplifier section make this an excellent one box style system.



## TUNERS

**ARCAM FMJ T32** 2009 £600  
 Excellent hybrid FM/DAB+ tuner with a smooth, engaging sound. Factor in its fine build and it's a super value package.



**MAGNUM DYNALAB MD-100T** 2006 £1,895  
 One of the best ways to hear FM that we know; superbly open and musical sound in a quirky but characterful package.

**MYRYAD MXT4000** 2005 £1,000  
 Sumptuous sound and top-notch build quality make for a tempting AM/FM package. Warm and richly detailed on good-quality music broadcasts.

**NAIM NAT03** 1993 £595  
 The warm, atmospheric sound is further proof of Naim's proficiency with tuners.

**CREEK CAS3140** 1985 £199  
 Excellent detail, separation and dynamics - brilliantly musical at the price. T40 continued the theme...

**QUAD FM4** 1983 £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.



**NAD 4040** 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 explicit, detailed sound.

**SONY ST-5950** 1977 £222  
 One of the first Dolby FM-equipped tuners, a format that came to nought. Still, it was Sony's most expensive tuner to date, and boasted good sound quality with brilliant ergonomics.



**ROGERS T75** 1977 £125  
 Superb mid-price British audiophile design, complete with understated black fascia. Smooth and sweet with fine dimensionality.

**SANSUI TU-9900** 1976 £300  
 A flagship Japanese tuner. It boasts superlative RF performance and an extremely smooth and lucid sound.



**TECHNICS ST-8080** 1976 £180  
 Superb FM stage makes for a clean and smooth listen.

**REVOX B760** 1975 £520  
 The Revox offers superlative measured performance although the sound isn't quite as staggering as the numbers. Fine nonetheless, and surely the most durable tuner here?

**SEQUERRA MODEL 1** 1973 £1300  
 Possibly the ultimate FM tuner. Massive in terms of technology, size and features dedicated to extracting every ounce of performance from radio, including impressive multi-purpose oscilloscope display.

**LEAK TROUGHLINE** 1956 £25  
 Series I an interesting ornament but limited to 88-100MHz only. II and III are arguably the best-sounding tuners ever. Adaptation for stereo easy via phono multiplex socket. Deliciously lucid 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 £350  
Open and explicitly detailed sound plus serious bass wallop. A great partner for most mid-to-high end headphones.

**CD PLAYER/RECORDERS**

**MUSICAL FIDELITY TRIVISTA** 2002 £4000  
When playing SACDs, the sweetest, most lucid and lyrical digital disc spinner we've heard. Old school stereo, pure DSD design. CD sound is up in the £1000 class, too! Future classic.

**MARANTZ SA-1** 2000 £5,000  
The greatest argument for SACD. This sublime Ken Ishiwata design is utterly musically convincing with both CD and SACD, beating most audiophile CD spinners hands down.



**SONY MDS-JE555ES** 2000 £900  
The best sounding MD deck ever, thanks to awesome build and heroic ATRAC-DSP Type R coding.

**PIONEER PDR-555RW** 1999 £480  
For a moment, this was the CD recorder to have. Clean and detailed.

**MARANTZ DR-17** 1999 £1100  
Probably the best sounding CD recorder made; built like a brick with a true audiophile sound and HDCD compatibility.



**CAMBRIDGE AUDIO CD4SE** 1998 £200  
A touch soft in the treble and tonally light, but outstanding in every other respect.

**SONY TCD-8 DATMAN** 1996 £599  
Super clean sound makes this an amazing portable, but fragile.

**LINN KARIK III** 1995 £1775  
The final Karik was a gem. Superb transport gives a brilliantly tight, grippy dynamic sound, albeit tonally dry.

**NAIM CDS** 1990 £ N/A  
Classic Philips 16x4 chipset with serious attention to power supplies equals grin-inducing sonics.

**MARANTZ CD73** 1983 £700  
A riot of gold brushed aluminium and LEDs, this distinctive machine squeezed every last ounce from its 14x4 DAC -super musical



**MERIDIAN 207** 1988 £995  
Beautifully-built two-box with pre-amp stage. Very musical although not as refined as modern Bitstream gear. No digital output.

**SONY CDP-R1/DAS-R1** 1987 £3,000  
Sony's first two boxer was right first time. Tonally lean, but probably the most detailed and architectural sounding machine of the eighties.

**CAMBRIDGE AUDIO CD1** 1986 £1500  
Inspired Stan Curtis redesign of Philips CD104, complete with switchable digital filter. Lean but tight and musical performer.



**MERIDIAN MCD** 1984 £600  
The first British 'audiophile' machine was a sweeter, more detailed Philips CD100. 14x4 never sounded so good, until the MCD Pro arrived a year later.

**SONY CDP-701ES** 1984 £890  
Sony's first bespoke audiophile machine used a 16x2 DAC to provide a clinically incisive sound; supreme build quality allied to the pure unadulterated luxury of a paperback-sized remote control.

**YAMAHA CD-X1** 1983 £340  
Nicely built 16x2 machine with a very sharp and detailed sound; sometimes too much so. Excellent ergonomics, unlike almost every other rival of the time.

**SONY CDP-101** 1982 £800  
The first Japanese CD spinner was powerful and involving. Brilliant transport more than compensated for 16x2 DAC, and you even got remote control!



**ANALOGUE RECORDERS**

**AIWA XD-009** 1989 £600  
Aiwa's Nak beater didn't, but it wasn't half bad nonetheless. Massive spec even included a 16x4 DAC!

**NAKAMICHI CR-7E** 1987 £800  
The very best sounding Nakamichi ever - but lacks the visual drama of a Dragon.



**SONY WM-D6C** 1985 £290  
Single capstan transport on a par with a Swiss watch, single rec/replay head better than most Naks. Result: sublime.

**PIONEER CTF-950** 1978 £400  
Not up to modern standards sonically, but a great symbol of the cassette deck art nonetheless.

**YAMAHA TC-800GL** 1977 £179  
Early classic with ski-slope styling. Middling sonics by modern standards, but cool nonetheless!

**SONY TC-377** 1972 £N/A  
A competitor to the Akai 4000D open reel machine, the Sony offered better sound quality and is still no slouch by modern standards

**REVOX A77** 1968 £145  
The first domestic open reel that the pros used at home. Superbly made, but sonically off the pace these days.

**COMPACT DISC TRANSPORTS**

**ESOTERIC P0** 1997 £8,000  
The best CD drive bar none. Brilliantly incisive, ridiculously over engineered.

**TEAC VRDS-T1** 1994 £600  
Warm and expansive sound made this a mid price hit. Well built, with a slick mech.

**KENWOOD 9010** 1986 £600  
The first discrete Jap transport was beautifully done and responds well to re-clocking.

**DACs**

**DCS ELGAR** 1997 £8500  
Extremely open and natural performer, albeit extremely pricey - superb.

**DPA LITTLE BIT 3** 1996 £299  
Rich, clean, rhythmic and punchy sound transforms budget CD players.

**CAMBRIDGE AUDIO DAC MAGIC** 1995 £99  
Good value upgrade for budget CD players with extensive facilities and detailed sonics.

**PINK TRIANGLE DACAPO** 1993 £ N/A  
Exquisite; the warmest and most lyrical 16bit digital audio we have ever heard.

**QED DIGIT** 1991 £90  
Budget bitstream performer with tweaks aplenty. Positron PSU upgrade makes it smooth, but now past it.

**CABLES**

**MISSING LINK CRYO REFERENCE 2008** £495/0.5M  
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.

**VDH 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/M  
Excellent mid-price design with a very neutral, silky and self-effacing sound. Superb value for money.

**TCI CONSTRICTOR 13A-6 BLOCK** 2003 £120  
Top quality 'affordable' mains outlet block, with fine build and good sonics. Well worth the extra over standard high street specials, which sound coarse and two-dimensional by comparison.

# vinyl section

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[www.hi-fiworld.co.uk](http://www.hi-fiworld.co.uk)

**PRO-JECT VTE-R TURNTABLE 87**  
Jon Myles gets to grips with Pro-Ject's new vertical turntable.

**ACID ARCHIVES 91**  
Paul Rigby delves into a book charting the history of psychedelic music on vinyl.

**SOUNDBITES 93**  
A puck and platter from SDS Sounddeck could improve your vinyl set-up, says Paul Rigby.

## MOV ROCK

From ex-Sepultura singer/guitarist Max Cavalera and ex-Fudge Tunnel singer/guitarist Alex Newport Nailbomb's 'Point Blank' (1994) is low on melody and high on thrash metal grinding riffs.

Apocalyptica's 'Inquisition Symphony' (1998) sees the classically-trained, cello-playing Finnish quartet covering metal originals and effective covers from the likes of Pantera.

'Souls of Black' (1990) offers more melodic thrash from the San Francisco quintet of Testament. Doom-laden, downbeat and very heavy.

From Cinderella, 1988's 'Long Cold Winter' includes pop-metal, blues rock and lots of hooks. The band's most commercially successful outing. Also look out for The Stray Cats' self-titled neo-rockabilly 1981 debut and Soft Machine's jazz fusion 'Fourth' from 1971.

From L.A. punk/hardcore group TSOL's 'Change Today?' was a departure for the group which flipped more towards trad rock.

The blues/punk combo The Von Bondies' 'Pawn Shoppe Heart' (2000) was a transitional piece as the group adjusted to major label life with Sire. Finally Peter Green's successful 1979 comeback in the Skies' featured Snowy White, Pete Bardens and was solid and strong despite not breaking any new ground.

## news

### MOBILE FIDELITY

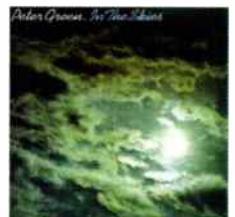
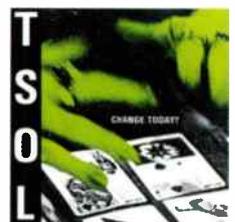
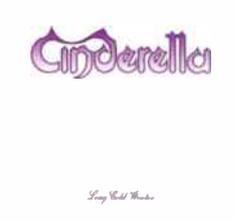
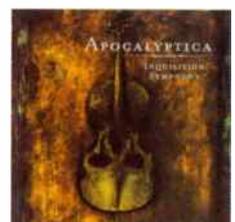
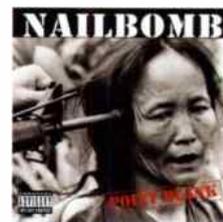
Two numbered, limited edition albums from the US-based audiophile company ([www.mofi.com](http://www.mofi.com)), Mobile Fidelity include Bob Dylan's 'Nashville Skyline' (1969) and The Alan Parsons Project's 'I Robot'. Both pressed via RTI. The Parsons release has definitely been remastered from the original tapes.

It appears that the Dylan release has too but there is no confirmation on that.



### CHEAP TRICK

...have a new album out on Big Machine ([bigmachinerecords.com](http://bigmachinerecords.com)), would you believe and the first for seven years. 'Bang, Zoom, Crazy... Hello'. It doesn't compare to their classic early year outings, there is some loss of their pop-like aspirations but this LP still rocks and still retains much of the band's humour.



## VINYL180

A host of intriguing vinyl from this UK-based audiophile outfit ([www.vinyl180.com](http://www.vinyl180.com)) includes 'The Hit Parade' (1992) a singles, covers compilation from The Wedding Present. Each disc comes in a newly designed artwork inner bag.

A limited Record Store Day (RSD) 10" box edition separates the singles into individual discs again.

Also via RSD is That Petrol Emotion's 'In the Beginning' 10" EP that brings together the first two singles from 1985 - their debut 'Keen' originally released on The Pink Label and the follow up 'V2' on Noiseanise.



## ROUND 2

A reissue label (round2.no) founded by Big Dipper, a record shop in Norway, and Jansen Plateproduction, an independent label. Most of the releases are older fare but Kare & the Cavemen is a more recent find from 1997. Lead by Kmut Schreiner (Euroboy in Turbonegro), this band offer post-grunge, surf and sophisticated lounge instrumentals. Includes a bonus track.



## THE NINTH GATE

A new soundtrack from Silva Screen ([www.silvascreen.com](http://www.silvascreen.com)). First time on vinyl this is Wojciech Kilar's soundtrack to Roman Polanski's disturbing film from 1999.



## AL DI MEOLA

From German-based Speakers Corner ([www.speakerscornerrecords.com](http://www.speakerscornerrecords.com)) and a two-LP set from jazz guitarist Al Di Meola, known for his complex guitar style that surrounded fusion, Latin and acoustic variations.

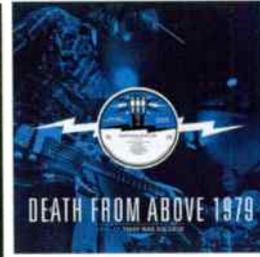


## THIRD MAN TRIO

A White Stripes Record Store Day rarity, 'The Complete John Peel Sessions' is presented on two vinyl discs: one red, the other white (but of course) covering two live sessions with BBC Radio 1 DJ John Peel. The songs have been heavily bootlegged since their initial broadcast in 2001 which makes this double album the first authorised release in celebration of the duo's 15 year anniversary. A standard black vinyl version of this release will be available later this year.

Next, Margo Price's 'Midwest Farmer's Daughter' that harks back to the past in terms of her singing style, taking a leaf from the likes of Loretta Lynne and early Emmylou Harris.

Also look out for Death From Above 1979's 'Live at Third Man Records' direct to disc recording. This live cut spans 11 tracks.



## ...AND FINALLY

The third album from rock outfit Albany Down ([www.albanydown.com](http://www.albanydown.com)) but the first from the group on vinyl. 'The Outer Reach' is an old-fashioned, retro style, hard-rock album (these are all compliments, incidentally). Rock relief for jaded genre fans.

A new album from Iceland's Samaris 'Black Lights' (One Little Indian; [indian.co.uk](http://indian.co.uk)) was in danger of falling into the cliched 'fragile female vocal' bucket but there is almost a Ninja Tune-esque balance between the vocals

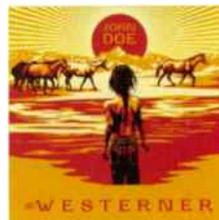


and beats instrumentation that tweaks the formula nicely.

From the same label is Olga Bell's 'Tempo' that allies itself with a clutch of slickly produced arrangements that reminds me a little of Moby in terms of its shiny, tight perfection.

Guest-starring both Debbie Harry and Chan Marshall, John Doe's 'The Westerner' (Thirty Tigers; [www.thirtytigers.com](http://www.thirtytigers.com)) is possibly his best yet: fine songs, top-notch lyrics, great melodies and all from the American West.

A debut release from Aussie psych-pop group Methyl Ethel on 'Oh Inhuman Spectacle' ([www.4ad.com](http://www.4ad.com)) the music is quite derivative. Not in a necessarily bad way but it's just...familiar. Oh, and the name? It's an industrial solvent.





# Vertical take-off!

Pro-Ject introduces its first vertical turntable – an unusual design but a solid performer, says Jon Myles.

**T**urntables come in many shapes and sizes but not many are quite as unusual as Pro-Ject's VTE-r. Just one look tells you why. It stands vertically and, as an addition, can be wall-mounted if desired.

Basically, this is a turntable as a lifestyle product - one that is bound to catch the attention of anybody walking into your listening room purely by its looks.

It also takes a few cues from Pro-Ject's plug-and-play Elemental

turntable as it comes fully fitted with tonearm, factory-installed Ortofon OM5E moving magnet cartridge and the tracking force and anti-skate already set. In other words, Pro-Ject have done all the work for you - simply unpack and place on a shelf or



use the mounting kit to attach to a wall.

The 8.6" tonearm is made of aluminium and has been modified with a special spring mechanism which allows it to track a vertical record with the correct force. It's a clever mechanism which works well in practice.

The plinth and platter are made from acoustically neutral medium-density fibreboard and there's a supplied record clamp to attach the LP securely. Gold-plated RCA interconnects are built-in for attachment to your phono stage or amplifier while power comes from a wall wart adapter. There's also an earth lead to help prevent hum if needed. One peculiar added feature for would-be buyers - the turntable can be ordered in right or left-hand versions depending on your preference.

Our review copy came in a matt red finish but black and white varieties are also available and the whole package costs £229 - which, when you consider the Ortofon cartridge alone retails for more than £50, seems pretty good value.

However only if the sound quality matches which is where things become interesting...



*Inside the package is everything you need for wall or stand mounting as well as a record clamp - essential for keeping an LP in place on a vertical turntable.*

"Pro-Ject may look rather unusual it is certainly not merely a gimmick"



*The Pro-Ject comes factory-fitted with an Ortofon OM5E moving magnet cartridge.*

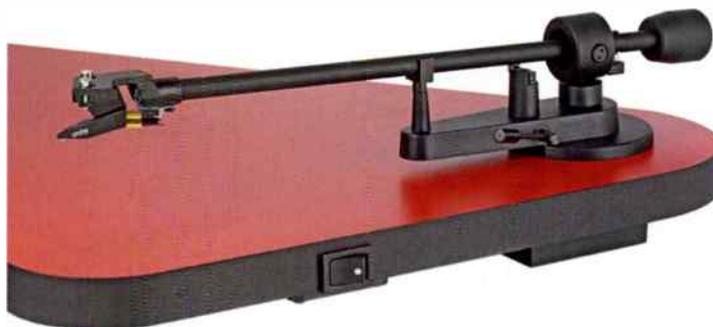
## SOUND QUALITY

Set-up is indeed as easy as Pro-Ject say. Out of the box the only things needing to be done are attaching the belt and plugging in the power supply. Like the Elemental on which it is based there is no electronic speed control. Changing from 33rpm to 45rpm is a manual job and involves moving the drive belt from the smaller step on to the larger one. Luckily it's not too difficult to make the change and most turntables at this price-point use a similar arrangement.

Once all that's done and the record secured by the supplied screw-on clamp, an on/off switch at the side sets the platter in motion and, refreshingly, it spins up in a matter of seconds.

Placing the needle on the groove reveals that while the Pro-Ject may look rather unusual it is certainly not merely a gimmick. In fact it has a tidy presentation with a fair amount of punch to it.

Hooked up to our resident Icon Audio PS3 MkII valve phono stage with Quad QMP monoblocks driving Wharfedale's new Reva-2 standmount



*A single on/off switch on the side sets the platter in motion while every setting on the tonearm has been adjusted at the factory to make the Pro-Ject a true plug-and-play device.*



*A special spring assembly has been fitted to the aluminium tonearm to ensure it tracks a record in the vertical position with the correct force.*



*The stabiliser at the back is needed for using the Pro-Ject on a flat surface. It's easily removed for wall mounting. Captive gold-plated RCA phono leads are also fitted.*

loudspeakers (see elsewhere in this issue for a review) there was a good sense of body and detail to Kate Bush's 'Aerial'. Vocals here were especially well-presented, anchored firmly between the 'speakers.

Switching to Mark Knopfler's superbly produced 'Kill To Get Crimson' the Pro-Ject did a good job of pulling out the leading edges of the guitar notes. Ideally there could have been just a little more definition - the sort you will get from a well-engineered Direct Drive deck - but at £229 for the entire package there was nothing you could particularly criticise.

If there's anything that can be a bit fiddly it is actually cueing up the vinyl with a record in the vertical position - especially as the finger

guide seems a little small for larger digits.

That problem aside, however, the Pro-Ject turns in a good performance. Playing Bob Marley's classic 'Live!' album there was a pleasing agility to the bassline, while vocals stood out well from the backing instruments.

Soundstaging was also impressive, enabling the atmosphere of the venue to come through with good air and ambience. It's the sort of thing vinyl does so well compared to CD and the Pro-Ject allows you to hear it in its full glory.

## CONCLUSION

As plug-and-play turntables go the Pro-Ject is a solid performer with an undeniably interesting twist. That vertical orientation is a definite feature which gives a new experience to spinning an LP but the most important point is that the VTE-r performs extremely well for what is essentially a budget deck.

Some may buy it for its looks but its sonic performance also means it comes highly recommended for the price.

## MEASURED PERFORMANCE

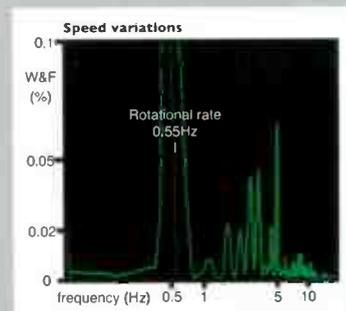
The Pro-Ject VTE-r ran at almost correct speed; error was negligible at -0.2%.

Wow (speed variation below 10Hz) measured 0.25% (DIN peak) and this is about as hoped for a budget belt drive. There was a bit more flutter than usual, our analysis shows in the array of small peaks. Consequently, measured flutter was a little on the high side at 0.1%.

Altogether though, when DIN weighted, the aggregate Wow&Flutter value was 0.15%, which is quite respectable. So the VTE-r pays no penalty for being upright, except a tad more flutter than usual. It is reasonably speed stable and any variation will be heard more as slightly vague pitch rather than obvious warbling or pitch slur. NK

Speed	-0.2%
Wow	0.25%
Flutter	0.1%
Total	0.15%

## WOW & FLUTTER



**PRO-JECT VTE-R**  
£229



**OUTSTANDING** - amongst the best

**VALUE** - keenly priced

### VERDICT

A distinctive-looking turntable that also offers great sound for the price.

### FOR

- plug-and-play
- distinctive design
- engaging sound

### AGAINST:

- looks may divide opinion

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— Craig Mattice

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In fact, the Axiom Audio EP500 works so well that my wife and I both stood mouths open (not kidding! as it shook the rafters and window glass in our house. Amazing! Love that palpable, tight bass....Thank you again for the awesome prize!

— Jeff Merth



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# Archive Treasure

**Paul Rigby has his brain expanded by a book which looks at the history of psychedelic music.**

**Acid Archives (Second edition)**

**Author: Patrick Lundborg**

**Price: £30**

**A**s you might have guessed from the title, this book focuses on 'underground' or 'psychedelic' music. In this case, largely from the US market while the sources tend towards super rare (and, in their original form, now super expensive) private pressings.

There are a few commonly-known commercial groups covered if you are familiar with the likes of The Thirteenth Floor Elevators and The Chocolate Watchband.

But that is as popular as you are going to get here. So this is a real 'nooks and crannies' publication but as such it is all the better for it. It's the sort of publication that allows you to discover music you never knew existed.

As Lundborg himself once explained, when describing the majority of these bands as a collective, "They weren't hip. They didn't know exactly what they were doing, which was an advantage for them in retrospect because what they did was unpredictable and original. They improvised, and that often made for interesting results".

'Acid Archives' focuses primarily on LPs, mainly because psychedelic music was largely collected on the 12" format as opposed to garage rock which was primarily a 7" single market.

Centring on the music from the 1960s and 1970s this tome originally hit the streets in 2006. The second

edition arrived in an expanded form in 2010 with around 100 extra pages which also included a Special Features section where guest experts discussed albums within related underground genres covering exotica, lounge, '70s funk and soul, southern rock, new age, plus the so-called custom labels – and the intriguingly termed 'tax scam records'.

Featuring colour illustrations throughout, the publication spans 400 pages.

Every text entry primarily covers each band and then the albums they released and the known pressings of that album with expected details such as the label, catalogue number, date of release and special insert information.

The entire book is infused with the personality of the author Patrick 'The Lama' Lundborg, an original member of the Lumber Island Acid Crew, a psychedelic artist collective which formed in Stockholm in the mid-1980s.

He sadly passed away two years ago but his lively and irreverent style is appreciated in this book and he is a valued guide through these murky waters.

To be absolutely honest, I didn't expect to be talking about this book here and now because the printed paper version is or, at least, was a rare and very expensive book to buy.

Most popular outlets show their supplies as 'out of stock' with the likes of Amazon offering third-party,



used editions at 'collectable' prices. In Amazon's case, that means around £75 with the likes of Abebooks listing a selection in excess of \$200 each.

I was alerted to the existence of more realistically priced editions of this book via the UK-based music retailer Spin ([www.spincds.com](http://www.spincds.com)) who recently announced that the book would be available for £30.

As far as I am aware, there has been no new printing of this book and Spin seem to be the only outlet offering this edition so I can only infer that this book is part of the so-called 'warehouse find' and that a batch has been made available from storage. Possibly from the Lundborg estate?

Even if you are unlucky and the book is out of stock by the time you reach Spin, be assured that there is also a Kindle version available via Amazon for around £30.

I have yet to see it, so cannot comment on its formatting qualities but, knowing the Kindle, it will provide a useful reference for collectors because of that device's search and find facilities.

Ideally, buy both editions. But try for the print version first. In those terms? Grab one while you can! You will not fail to enjoy.

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### SDS SOUNDECK DPS DAMPING PUCK £90

Machined from stainless steel, and including a strip of sound absorbing polymer within, the 500g DPS puck fits snugly over the top of a turntable's spindle. It is not a clamp and doesn't grasp the spindle, but uses its weight to hold an LP down.

Playing Nat King Cole's up-tempo song 'Shooting High' which is backed by a swinging jazz orchestra, adding this puck to my Wilson

Benesch Circle turntable improved focus to the overall soundstage, in particular to the brass section. That focus also benefitted Cole's vocal delivery which previously tended towards slight forwardness during crescendos.

With the puck in place there was a precision to Cole's performance, a heightened sense of clarity behind him adding to the impact of his singing. Also noticeable was that bass gained in power and had a better sense of rhythm.

Then I played the post-rock release from Pipedream, featuring detailed and expansive slow percussive effects, plus synth soundscapes with lots of potential frequency smearing. The DPS puck tightened up the percussive sounds, giving drums added focus, while also giving cymbal taps a fresh, fragile and ethereal presence.

The synths were focused in their output and potential smearing

kept under control; they became precise in presentation and this in turn created space and air. The synth suite then had a lightness of touch I enjoyed.

Turntable pucks are an aid to audiophiles in expansive system tweaking. Some turntables benefit from them, others benefit more from a replacement mat, others from both.

Some users will love the heavy SDS puck for its meaty bass and sense of control, while others might prefer the lighter Oyaide SBS, which I used as a reference for this review, which has less bass impact but adds midrange air.

I highly recommend trying different variations, if you are able, to find the best combination for you. As it stands, the SDS Sounddeck DPS puck generally corrects aberrations and improves sonics I found. **PR**

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# SOUNDBITES

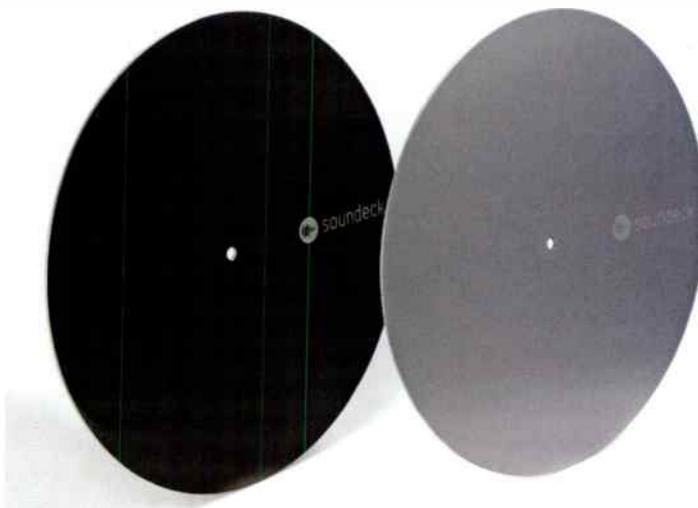
### SDS SOUNDECK PM PLATTER MAT £90

Produced as a development of the SoundDampedSteel isoplatmat, this new variation arrives in two flavours: the standard 295mm diameter model and the 285mm version for those turntables with a lip on the perimeter. They are available in black and silver.

I began sound tests by spinning Nat King Cole's 'Shooting High' backed by a jazz orchestra, using the mat on my Wilson Benesch Circle turntable.

Without a mat, some higher sounds were a little uncontrolled and liable to zoom off in a random direction, I realised after adding this mat. Vocals were brighter without it, the brass section a smidgen confused and bass sounded diffuse. The SDS calmed things down and there was more dynamic reach in the upper midrange.

Cole's vocal delivery was smoothed and brought under better control, while previous bright points during crescendos were removed. The brass section were now all pulling in the same direction it



seemed, while a lowering of noise and increase in air gave the bass room to manoeuvre, adding weight in the process.

As with the puck reviewed above, I would experiment with your own particular turntable in terms of trying different mats to see how they react. Some will shine with the attention of a dense bass-friendly Butyl/Tungsten rubber mat like my reference BR-12 from Oyaide, while others will prefer the lighter, slightly more open and

fresher sound from this steel SDS mat.

If you are able, ask your dealer to loan both to see which is best for your system. In general terms, the SDS corrects sonic issues present on many turntables.

You just need to decide on your tonal preference when comparing the different competing designs. **PR**

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# NEXT MONTH

## OCTOBER 2016 ISSUE

### McINTOSH MT5 TURNTABLE

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To find out about this eye catching three speed, belt drive turntable, the MT5 from McIntosh of the USA, see our next issue, where we will give you a deep view, backed up as always by definitive measurement.



Also, we hope to bring you –  
LUXMAN DA 250 USB/DAC  
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...and much more.

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, such as failure under review, we cannot guarantee that all products listed above will appear.

**PICK UP THE OCTOBER 2016 ISSUE OF HI-FI WORLD ON SALE AUGUST 31ST 2016, OR SUBSCRIBE AND GET IT DELIVERED TO YOUR DOOR: SEE PAGE 40**

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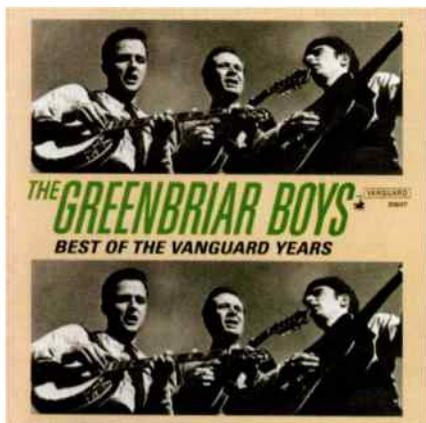
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# THE GREENBRIAR BOYS

## BEST OF THE VANGUARD YEARS

### VANGUARD



"The Greenbriar Boys were the first urban collective to bring music from the Southern hill country to the rest of the world"

"One day, when I was 16, my father took me to Washington Square Park on a Sunday. For a few years before that they would allow folksingers and bluegrass singers to pick in Washington Square Park from noon to six at night. I would go down there and meet a couple of friends from camps where I went in the summer".

"Pete Seeger had come to one camp, Woodland, which is up in Phoenicia. He said "well I don't care if you can't carry a tune with a wheelbarrow, just let loose and you might be singing in a harmony, it doesn't matter". I didn't know much about folk music at the time. I'd heard about it, my father had taken me to different functions at which I'd heard Leadbelly and Woody Guthrie".

"Pete was trying to get us to sing, but finally we did start singing and I heard my voice sort of soaring above everybody else. I had a really high voice and it was like a thrill. And that's where I found out that I just love singing, it was like an epiphany. I didn't know if I was a good or bad singer, I just knew it was fun".

So said founder member of The Greenbriar Boys John Herald, the singer and banjo player for the revivalist bluegrass group. I've quoted Herald extensively here because he, along with his colleagues, were the first urban collective to bring the music from the Southern hill country to, not only the rest of the USA, but also to the rest of the world.

In effect, The Greenbriar Boys = Bluegrass, at least in commercial music industry terms and for the majority of the ears outside of its core, resident areas.

The rest of the band included Bob Yellin plus other, rather more transient members including Eric Weissberg, Ralph Rinser and Frank Wakefield.

All are featured on this CD which combines music from the group's albums 'The Greenbriar Boys' (1962), 'Ragged But Right' (1964) and 'Better Late Than Never' (1966). Yes, this is a cheeky method of squeezing all three albums into this particular Classic Cuts feature: mainly because all are equally classics of their genre.

'The Greenbriar Boys' began the entire bluegrass fashion in the sixties including an

enormous roots-related version of the Civil Rights song 'We Shall Not Be Moved' while the notable stripped instrumental work on songs like 'Rosie's Gone Again' and 'Coot from Tennessee' are impressive, as are the vocal harmonies.

'Ragged But Right' is the superb follow-up LP in which the band seem to pick up where they left off with the likes of Herald belting out 'Sleepy Eyed John', plus the effective solo on the cocaine song 'Take a Whiff on Me'. The moving Yellin vocal on 'Roll on John' also features beautiful harmonies.

'Better Late Than Never' saw Ralph Rinser leave and Frank Wakefield join (Wakefield became the most influential and lyrical mandolin player in bluegrass). The quartet became more traditional with superb renditions including the tender 'I Heard the Bluebirds Sing', the moving 'Little Birdie' and the Cajun vibes from 'Alligator Man' – all completed with some superb solo work.

The three albums appeared in fairly quick time but the nation was seemingly ready for them and accepted them quickly.

The band members' feet hardly touched the ground, as Herald confirmed, remembering how they moved from newbies to stars.

"The second summer, when we were just deciding that we would form a group, Eric Weissberg's mother came up with a name, The Greenbriar Boys, which was quite catchy. A guy came up to us and said he was from Vanguard Records and would give us a call to record. And we said to ourselves, yeah, sure. We recorded on a quarter of a record called New Folks and Joan Baez somehow heard of it. We're talking 1957.

By 1958, Vanguard wanted us to record our own record. We recorded two songs with Joan Baez on her second album and then she wanted us to tour with her. So we went from totally unknown in one year to playing in front of thousands of people. We all loved her. To this day, I love her."

Holding iconic status in bluegrass and associated country fan followings, the band has proved to have been critically influential for a host of later stars and creative forces in American roots music.

All three of these albums thus hold important, some might say reverential, status.

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