

# HI-FI WORLD

APRIL 2018

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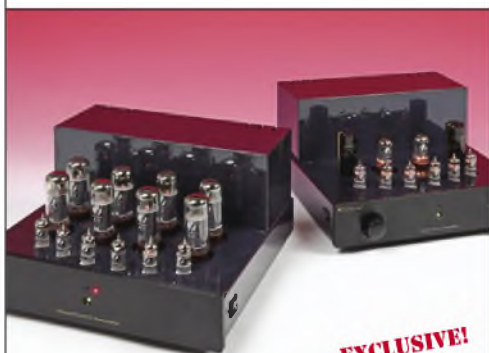
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Paul Rigby, Jon Myles, Martin Pipe,  
David Tull



Complexity meets simplicity in this issue – and what a stark contrast there is between them. Yet at the same time I heard similarities. Electrocompaniet's ECI 6DX that Jon Myles reviews on p26 has a very well developed amplifier with a surprisingly easy going sound considering its wide bandwidth – and I think we all took to it as a sophisticated modern Streamer that avoids the 'Class D fed by

switch-mode power supply' solution. Instead, its use of conventional but well honed modern circuitry reminded me more of Naim's successful approach to amplifier design, which is perhaps why reviewer Jon Myles – a Naim fan – liked it so much.

In similar fashion I heard a sound familiar to me from PrimaLuna's Premium DiaLogue Preamplifier and Premium DiaLogue HP power amplifier – and loved it. There's nothing quite like a tuned up valve amplifier, sporting audiophile components that transistor amplifiers are denied in real life. Why? My experience is that inserting ultra-high quality special audio components into a transistor amplifier affects the sound less than doing the same in a valve amplifier. Manufacturers of transistor amplifiers would rather not bust their design budget for parts that make little difference.

An amplifier like PrimaLuna is radically different to the Electrocompaniet ECI 6DX, yet at the same time I heard similarity – a drive toward deep insight, free of the unnatural harshness that springs from so much hi-fi these days. So whilst you may think the lovely PrimaLunas on p14 are old-school against Electrocompaniet's new school, I heard in both of them a drive for sound that is truthful yet enjoyable at the same time.

DSD digital seems to be gathering strength and momentum in our collective consciousness. Ever more readers write in asking about it, or proclaiming their love for it (not heard a bad comment yet!). I once thought DSD was a geeky side issue never to go main stream – but happily I am wrong. Good sound beguiles and captures us all. Don't miss our fascinating Letters on p30 where DSD is gaining an ever greater presence.

**Noel Keywood**  
Editor



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

To ensure the 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.

## hi-fi world

Audio Web Publishing  
Studio 204,  
Buspace Studio,  
Conlan Street,  
London W10 5AP  
[www.hi-fiworld.co.uk](http://www.hi-fiworld.co.uk)

## 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.

Distributed by Select Publisher Services Ltd. P.O. Box 6337, Bournemouth, BH1 9EH UK Tel +44 (0) 1202 586848

Printed by Precision Colour Printing Halesfield 1, Stirchley, Telford TF7 4QQ, United Kingdom Tel: +44 (0) 1952 585585

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Loudspeakers (UK) Ltd



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# news



## MAGICO A3 LAUNCH

US manufacturer Magico has unveiled a new loudspeaker aimed at bringing its signature design into a new price bracket.

The Magico A3 was launched at central London's KJ West One dealership where company founder Alon West joined with distributor Absolute Sounds to showcase the new model.

UK price is £11,998 per pair and orders for them will be taking for delivery in the next few months. Yet despite that the A3s still feature Magico's founding principles – a fully braced and anodized aluminum enclosure aimed at allowing the drivers to work without any stored energy or cabinet resonance.

For the new loudspeaker Magico has incorporated a beryllium tweeter, carbon Nanographene cones, neodymium based motor systems and an elliptical crossover.

Hi-Fi World met up with Alon at the launch event where he told us that the project had been a long-standing goal of the company but involved a complicated process to ensure manufacture, quality control and sound quality could be achieved at the price.

During an extended listening session the A3s did, indeed, sound rather special. They were free of any colouration with the drivers working seamlessly together.

And while the front-end was a high-end dCS system Alon was keen to point out the A3s are designed to work with electronics at all price points. We hope to bring you a full review of these new loudspeakers very soon.

For more information log-on to Magico's exclusive UK

distributor Absolute Sounds at [www.absolutesounds.com](http://www.absolutesounds.com).



## MEET KEF'S ALL BLACKS

KEF's small but potent LS50 standmount loudspeakers continue to sell well – and the company has now introduced an all-black special edition model.

It features the KEF's well-regarded Uni-Q driver finished all in black with a matching cabinet coated with a metallic powder. Each pair of the special edition comes with a diamond cut deco plaque with a laser-etched unique number on the back of the speaker. Price is around £800 per pair and more details can be found at [www.kef.com](http://www.kef.com).



## A DOG'S LIFE

It's the Chinese Year of the Dog – and if you need reminding try these Bluetooth loudspeakers from French company Jarre Technologies (brainchild of, you guessed it, musician Jean-Michel Jarre).

It's a gold-plated version of the firm's dog-shaped AeroBull HD1 'speaker with aptX Bluetooth and a 3.5mm input. The drive units (in case you're wondering) are hidden behind the dog's sunglasses while a subwoofer lurks inside. Price is £3900 but there's a smaller version available for £2000. They are on sale now at Harrods.

## QUAD SOLUS

Quad has expanded its Artera range of components with the new Solus – a one-box system featuring CD player, DAC, pre-amp and power amplifier plus Bluetooth connectivity in a single chassis.

Selling for £1499.95 the Solus features an ES9018 Sabre32 Reference DAC for digital replay allowing file sizes of up to 32bit/384kHz PCM as well as DSD 64/128 and 256. A slot-loading CD drive is fitted while rated output of the amplifier is 75 Watts per channel into 8 Ohms.

A premium edition featuring app-controlled music streaming is also due later in the year.

For more information visit [www.quad-hifi.co.uk](http://www.quad-hifi.co.uk).



## LEEMA SPECIAL EDITION

Welsh-based Leema Acoustics has released a special edition of its Hydra II power amplifier to mark 10 years since its debut.

The Hydra II Anniversary Edition features a number of upgrades by Leema co-founder Lee Taylor, including new printed circuit boards with twice the amount of copper to further reduce the resistance of PCB traces and improve power delivery. All relevant capacitors have been upgraded to Nichicon's high-quality audio-grade Muse Series and the PCB-to-speaker-terminal wiring is Leema's Reference 2 cable which features 16 woven cores plus multi-strand high-purity copper with individual strand silver-plate.

In addition the Anniversary Edition also benefits from a number of aesthetic enhancements to include a new front panel with a machined and chrome-plated solid billet Leema Delta logo. Price is £4795 and more information is available at [www.leema-acoustics.com](http://www.leema-acoustics.com)



## HELLO ZOLO

It may look like training equipment from the local gym – but it's really a loudspeaker. The Model Zero from Zolo – part of the Anker group – is a portable home loudspeaker with Google Assistant built in.

The company says its unusual shape is designed to extract maximum sound quality from its drivers and, they add, it "was envisioned by artists, sculpted by designers and crafted by engineers". So, should be good when it arrives on these shores later this year – prices and full specifications to be announced.



## LINN LP12 UPGRADE

Owners of the classic Linn LP12 turntable may well be interested in a series of upgrades from specialist manufacturer WTP Audio. The company has engineered a new top plate, base board, sub-chassis, arm board, cross-brace and plinth all designed to eliminate vibrations travelling between components.

Dubbed the Serene Project, prices start at £264 for the cross-brace, arm board and base board kit with the full package of all six upgrades rising to between £1200 and £1224. The company also offers a 60 day money back guarantee and free shipping within the UK.

For further details go to [www.wtpaudio.co.uk](http://www.wtpaudio.co.uk)



## APPLE MUSIC

Apple Music is set to overtake Spotify in paid subscribers this year, according to The Wall Street Journal.

Although Spotify is still the dominant force in music streaming large numbers of users only access the free, ad-sponsored service while Apple is said to be growing its subscription service at the rate of five per cent per month – meaning it now has some 36 million customers and is on course to overtake Spotify by the summer.

## CYRUS 'SPEAKERS

Cyrus has unveiled a new loudspeaker to partner its £700 Cyrus One integrated amplifier.

The OneLinear 'speaker is a bookshelf model featuring a 125mm Kevlar cone and a 25mm soft dome tweeter in a compact 305mm x 200mm x 295mm (H/W/D) cabinet. Price is expected to be around £350. For further details log-on to [www.cyrusaudio.com](http://www.cyrusaudio.com).



## NEW ATOLL

French manufacturer Atoll has announced a facelift to its well-regarded dual mono IN200 Signature integrated amplifier. The new unit can now be specified with an on-board DAC including a Bluetooth receiver, two coaxial and two optical inputs plus USB-B. The new digital section can process files up to 32bits/384kHz as well as DSD 64 and 128. Watch out for a review in Hi-Fi World in the coming months.

For further details go to [www.atoll-electronique.com](http://www.atoll-electronique.com)





## MCINTOSH POWER

Legendary American manufacturer McIntosh continues to roll out new products – and the latest is the MC611 monoblock power amplifier.

It's a direct replacement for the MC601 with a rated 600 Watts of output. Design changes include a new front panel with LED backlighting while on the top of the amplifier the power transformers are contained in glass-topped enclosures so can be seen in all their glory. Price is expected to be around £20,000 when they arrive in the UK.



## DEVIALET IN THE HALL

French brand Devialet continues to find new ways to showcase its innovative products. Shortly after installing an array of its Phantom wireless loudspeakers inside Paris's famous Palais Garnier opera house the company has now announced a similar tie-up with London's Royal Albert Hall.

Multiple Phantoms will be set-up at the Hall's door 6 entrance. Exact details of the installation are still to be announced but if it matches the sound Hi-Fi World heard in the Palais Garnier during a recent trip to Devialet then prepare to be impressed.

## INTRODUCING A NEW SYMPHONY

Derby-based cable specialist Black Rhodium has announced the first cable in its new Intro range – the Symphony 18 interconnect.

The company says the new range is designed to offer outstanding sound quality at value for money prices.

The Symphony 18 features a braided cable to protect the inner cores from RFI/EMI interference, as well as high-quality gold-plated RCA connectors. Balanced XLR termination is also available as well as tonearm and sub-woofer cables. Price start from £160 and more information can be found at [www.blackrhodium.co.uk](http://www.blackrhodium.co.uk)



## EXPOSURE XM

Exposure has enlarged its range of half-width hi-fi components with the addition of the XM HP headphone amplifier.

The unit is a variation of the XM7 pre-amplifier – but honed for quality headphone listening. It includes a built-in moving magnet phono stage and DAC, allowing both vinyl and digital use. The phono stage sports two line level inputs and the DAC five digital inputs while a pair of 6.35mm jacks allow two sets of headphones to be used at once. The price is £1300 and more information is available at [www.exposurehifi.com](http://www.exposurehifi.com).

## GAMUT JOINS DANTAX

Danish high-end hi-fi manufacturer has joined the country's Dantax group of companies – which also includes Scansonic and Raicho.

Gamut's CEO and chief designer Benno Baun Meldgaard said, "This is excellent news for Gamut. To be an integral part of a wider family of companies, all of which are wholeheartedly committed to high-end audio, gives Gamut a strong and stable foundation from which to move forward and build on our success to date".

Dantax has been involved in the design, development and manufacturing of audio products for almost 50 years.



# Awesome Aurums



**Quadral's new Aurum Rodan 9 floorstanders are one of the German company's finest yet, says Jon Myles.**

I'll make no bones about the fact that I'm a fan of Quadral loudspeakers. A number of the German company's models have passed through the Hi-Fi World listening room over the past few years and each one has been well-built and well-engineered with a natural sound free of artificiality.

So I was more than keen to get my hands on the latest product from their range – the £4999 Rodan 9 floostander. It's part of Quadral's upmarket Aurum range but sits below the biggest models such as the Titan and Vulkan. Compared to those two it's positively compact – measuring a slim 22cm wide and standing just over three feet tall. Those dimensions though, mean it will fit easily into the confines of the average British living room.

The cabinet itself is built to Quadral's usual exacting standard with chamfered edges at the front to help sound dispersion and sturdy gold-plated twin binding posts at the rear – connected

nasty metal plates favoured by other manufacturers for those opting to go single-wired (which I do).

It's a true three-way design with a pair of 155mm bass drivers situated above the front-firing reflex port backed by a sealed cabinet. Above sits a similarly-sized midrange unit and an in-house designed isodynamic ribbon tweeter. The three mid/bass units are all constructed from Quadral's Altima composite – a combination of aluminium, titanium and magnesium that the company says is both light and strong to produce ideal 'oscillation behaviour' without any intrinsic colouring.

One other feature worth noting is the use of a toggle switch at the back of the cabinet to increase or decrease treble (it can also be set to neutral): it had a subtle but nonetheless noticeable effect on the sound.

## SOUND QUALITY

An immediate plus point with the Rodans is they are not overly fussy about positioning. Whether pointed straight down the room or angled in towards the listening seat their basic character remained the same - so in the end I opted for the former.

Hooked up to Longdog Audio's new muscular P6 monoblock power amplifiers (see review elsewhere this issue) I'm quickly struck as to just how much detail these loudspeakers

"The Quadral Aurum Rodan 9s are exactly what a good loudspeaker should be - accurate, detailed and free of colouration"

can unearth on even the most familiar of recordings.

The background chatter at the start of The Clash's 'Jimmy Jazz' from 'London Calling' sounded as clear and distinct as I've ever heard it - sounding just as if I was sitting in the middle of a smoky club.

It was the same with the thundering sound of The Arctic Monkeys' 'I Bet You Look Good On The Dancefloor' where vocals were so explicit I could make out every word, while the guitar lines had space around them so it was possible to delineate each instrument.

There's no doubt those Altima

***Twin binding posts are at the rear of the Quadrals, connected by high-quality wire jumpers for those who prefer a single-wired set-up.***

cones and ribbon tweeter are almost forensically detailed with real bite to them. But it's not a sound that is edgy or harsh - just very, very clean and precise. So on Nigel Kennedy's 'Polish Spirit' I could close my eyes and picture the bow sliding across the strings.

On everything I played – from the grunge of Nirvana to the soothing tones of Arvo Part's 'Tabula Rasa' - the leading edge of notes had presence and attack while the decay seemed to last just a millisecond longer. Put together that translates into making music sound extremely lifelike.

With the Neil Cowley Trio's 'The Face Of Mount Molehill' (24bit/96kHz) the echo around the gentle piano figure was totally atmospheric and haunting. But it's not all about detail as when the next track 'Rooster Was A Witness' kicks in with its up-tempo beat the Quadrals display a superb sense of timing, latching on to the rhythm and punching the track along.

Moving on to King Tubby's 'Dub Fever' and the Rodans can't match bigger loudspeakers for sheer low-end power. Those two 155mm drivers just aren't big enough to truly shake the walls. However, the bass is still clean and punchy and won't leave you wanting for more unless you crave having it punch you in the stomach. On Bruce Springsteen's 'Badlands', for example, with the volume turned up Gary Tallent's bass guitar was rich and full, superbly underpinning Clarence Clemons' soaring saxophone solo.

It's on tracks like these where there's a lot going on that the Rodans really come into their own, letting me hear deep into the mix to follow each instrument.

What they don't do is impose any of their own character on the music - no artificial highs or pumped-up bass to give a seemingly 'exciting' but ultimately coloured sound.

It does mean those who like their loudspeakers to have a warm presentation might want to look elsewhere. That said moving the rear toggle switch to its minus position to reduce treble output did soften the sound a little - but without sacrificing that crisp, clean

***The Quadrals feature a mid-range driver allied to an in-house designed ribbon tweeter.***



"...you have managed to surpass them [Silver Diamonds] in a truly grand way."



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sonic signature from the isodynamic tweeter. Setting it the + position brought some extra brightness but again not so much as to make the music sound harsh or edgy. On the whole, though, I preferred the switch set to neutral where the Rodans operated at their best to my ears.

Switching out the Longdogs for the new Prima Luna Dialogue Premium HP power amplifier in triode mode showed these Quadral's are ideally suited to valve amplifi-



**On the rear panel is a toggle switch to alter high-frequency response. It can be set to +/- or neutral.**

cation. There was a slightly richer quality to the reproduction with a more supple bass but they still went plenty loud enough despite the reduction in power.

Slotting Lady Gaga's 'Bad Romance' into our Oppo UDP-205 universal disc player the vocals

were propelled high into the room while the electronic bass raced along with no overhang to slow the track. Similarly, with Filur's 'You And I (Trentmoller Remix)' the opening effects ricocheted left and right in a commendably wide soundstage while Pernille Rosendahl's vocals were deliciously sweet and haunting. So good was the presentation I just had to skip back to hear it again.

But that's what these Quadral Aurum Rodan 9s do to you. They are so well-balanced, detailed and simply right-sounding that they make you want to play music long into the night.

**CONCLUSION**

The Quadral Aurum Rodan 9s are exactly what a good loudspeaker should be – accurate, detailed and free of colouration. They'll make you see even the most familiar recordings in a new light with a clarity and innate musicality few at the price can match. As such they come highly recommended. I'd urge you to give them a listen.

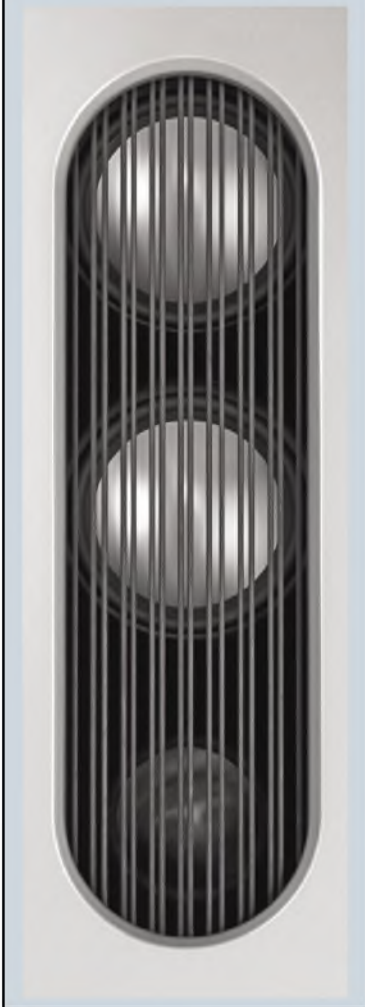
**PRESSURE CHAMBER**

The Rodan 9, like most Quadral loudspeakers, has matched metal cone mid-range and bass units, both made from their Altima metal composition cones comprising titanium, magnesium and aluminium. The idea behind this is to give a consistent sonic signature and thus a coherent nature.

At top sits a Quadral aluminium ribbon tweeter with wide dispersion for consistency of sound on and off-axis; the sound doesn't change according to placement of the speaker, or as you move around.

In all then, the Rodan 9 is designed to sound smooth and consistent.

The twin bass units sit in a forward pressure chamber Quadral say – a shallow recess – and are back loaded by a reflex chamber with forward firing port sited below the bass cones.



**MEASURED PERFORMANCE**

Our third-octave pink-noise frequency response analysis of Quadral's Rodan 9 floor stander reveals an impressively flat response across the audio band. The lack of peaks and dips, caused by local resonances, tells of a clean, colour free and tonally even sound. The ribbon tweeter was smooth and in balance with the rest of the audio band both on-axis and off-axis, making positioning non-critical: it can be listened to pointing straight down a room or directly at listeners, and it will not change character when a listener moves. This is not a loudspeaker peaked up to sound bright when the rear balance switch is set to its middle position, but a neutral one. Integration between the ribbon tweeter and midrange unit is not a problem either.

Setting the rear toggle switch to + lifts treble by +2dB – a small but useful lift that'll add a little extra brightness. Set to - it applies plateau treble reduction by a similarly small but useful amount that will give an easy and amenable delivery, not overtly dull or warm.

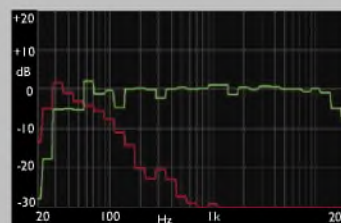
Bass is well damped, extending flat down to 50Hz, dropping quickly below 30Hz. There will be no boom and there's no emphasis either; the Rodan will not have obvious bass but it does go low, helped out by the front port that peaks at 30Hz.

Sensitivity was good at 88dB, if not up to the 90dB or so of rivals. The Rodan 9 has a low impedance of 5 Ohms overall so it draws current and needs a sturdy drive amplifier. Our impedance plot shows a largely resistive characteristic with crossover into the ribbon tweeter at 4kHz. The bass unit has a 4 Ohm voice coil.

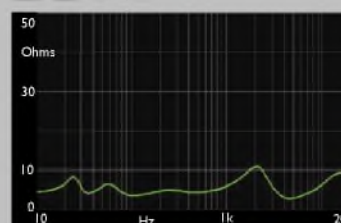
Measurement shows the Rodan is a supremely smooth and evenly balanced loudspeaker with no emphases at all. It will not be characterful but it will convey music truthfully. **NK**

**FREQUENCY RESPONSE**

**Green - driver output**  
**Red - port output**



**IMPEDANCE**



**QUADRAL AURUM RODAN 9 £4999**



**OUTSTANDING - amongst the best**

**VALUE - keenly priced**

**VERDICT**  
Accurate, detailed and hugely enjoyable. These Quadral's are exceptional value for money.

**FOR**  
- detail  
- clean sound  
- free of colouration  
- wide soundstage

**AGAINST**  
- lacks subsonics

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# Stellar Lunas

PrimaLuna's new Dialogue Premium HP power amplifier and Preamplifier make a stunning all-valve combination, finds Noel Keywood.

**H**ere's an amplifier with the classic valve sound: vividly dynamic, spacious and relaxing – all at once! One of the reasons is there's muscle behind it: no less than 84 Watts of power for massive volume and great slam. Yet like most valve amplifiers the PrimaLuna DiaLogue Premium HP power amplifier (£3498) and DiaLogue Premium Preamplifier (£2998) together have an innate delicacy to their sound as well; this is an amplifier of contrasts.

It's also one I took to, being a purist design using many of the tried-and-tested techniques in the standard amplifier designer's playbook, combined with acknowledgement of demand by potential customers for high power, reliability and low running costs: I know it all well as this magazine once designed and sold a similar monoblock EL34 power amplifier, the KEL80 (Nov 1999 DIY Supplement). What PrimaLuna offer in the package reviewed here is a true audiophile build that will – and

does – sound quite different to amplifiers as we generally know them.

The DiaLogue Premium Preamplifier has five Line inputs via unbalanced RCA phono sockets, lacking a phono stage or digital input of any sort. There are no balanced XLR socket connections either which is a bit disappointing because double-triodes can be configured to offer this easily enough. There is a Tape output (fixed volume) and two main outputs (variable volume), plus a Home Theatre input. There's a useful amount of gain (x3) that is just sufficient for low gain (x100) external phono stages but volume will have to be wound up high. PrimaLuna surprisingly don't have an external all-tube phono stage so Icon Audio are a go-to here, since it's best with valves to stay in-idiom – and that means not using a silicon-chip phono stage (that most are).

Volume can be changed by a remote control that actuates an Alps motor-driven potentiometer, so you see the volume control magically rotate as if a ghost had decided to

intervene. The remote unit is solidly hewn and slim, having volume up/down and mute functions but not input select.

PrimaLuna use a dual mono configuration in the DiaLogue Premium Preamplifier comprising of three 12AU7 double-triode preamplifier valves per channel plus one 5AR4 (GZ34) double-diode full wave rectifier, the large tubes you can see in our pictures sitting behind the smaller 12AU7s. Valve rectifiers do, as PrimaLuna claim, give a smoother, darker sound and are preferable to smaller solid-state rectifiers but their heaters consume power, demanding a larger mains transformer – one reason why this preamplifier weighs a meaty 24kgs and is a challenging lift. There are eight valves in all then and they give quite a display, especially when the protective cover is removed; it can be lifted off, there are no fixing screws. Dimensions are 386mm (15.2in) wide, 404mm (15.9in) deep and 203mm (8in) high.

The DiaLogue Premium HP stereo power amplifier came with





**The stereo power amplifier has 4, 8 and 16 Ohm loudspeaker outputs, via sturdy gold plated terminals that accept 4mm banana plugs, spades or bare wires.**

EL34 power valves in push-pull pairs, four per channel – eight in all. I mention this because valve replacement cost is an issue for some, as it can be if you're looking at 300Bs, for example, that cost up to £300 apiece. EL34s are plentiful and can be had at £60 or thereabouts for matched quads (i.e. 4), so a complete re-valve after 2000 hours or so – many years of use – is around £120.

Bias adjustment is unnecessary: auto-bias is used, in this case PrimaLuna's own "adaptive auto-bias" that uses sensors to sense conditions. It's possible to use alternative KT88s that give a harder and faster sound, or KT120s (clanky) or, surprisingly, KT150s (classy) that need higher heater current; a small rocker switch just has to be moved to apply different bias.

The power amplifier lacks valve rectifiers, using solid-state bridge rectifiers able to handle the current draw of push-pull pairs. It has its own slim remote control unit that switches between Ultra-linear and Triode operation but that's all it does; there is no input volume control. I tried the DiaLogue Premium HP connected direct to our Oppo UDP-205 Blu-ray player (with volume control) and the combination worked well but preferred the sound with the Oppo volume control set to bypass and the preamplifier in place: it was bigger bodied and more spacious – down to the influence of the preamplifier.

Ultra-linear gives more power than Triode operation (see Measured Performance) and in theory less distortion – but measurement showed little difference between the two in this design and sound quality did not vary significantly; Triode has a slightly easier presentation

but pentodes strapped as triodes generally do half the job; I was happy to use Ultra-linear. The DiaLogue Premium HP with EL34s has an easy sound in any case. A red LED lights on the front panel with Ultra-linear and a green one for Triode.

The rear panel carries 4, 8 and 16 Ohm loudspeaker outputs, via heavy gold plated terminals that accept bare wire, spade terminals or 4mm banana plugs. The weight of this unit is 30kgs (66.3lbs) and it's 386mm (15.2in) wide, 404mm (15.9in) deep and 203mm (8in) high.

Valve amplifiers are large and heavy. Broadly speaking, the bigger the transformers the better the sound and with both PrimaLuna units I took a deep breath and practiced my best lift technique to get them into place. They are well built, with fully welded chassis (rather than bent and unwelded), and are nicely finished too. There are no LED uplighters to add artificial glow and they're hardly needed; the rectifier heaters in particular glow fairly bright orange.

**SOUND QUALITY**

I paired the PrimaLunas with Quadral's new Rodan 9 floorstanding loudspeakers reviewed in this issue, as well as our in-house Martin Logan



**A side-mounted rocker switch changes bias to suit EL34s, KT88s and even KT150s PrimaLuna say.**

ESL-X hybrid electrostatics; both worked well.

As with our Icon Audio Stereo 30SE valve amplifier which I use mostly, the big Premium power amplifier drove both of them with aplomb. The Quadrals are well damped in the bass (reasonably dry and not bass heavy) so the low damping factor of the amplifier wasn't an issue as it can be when such amplifiers meet 'looser' speakers, I know from our own World Audio Design valve amplifiers of yore, with switchable feedback. It's not an issue for me because low feedback has aural advantage but some people get sniffy about such things. What you have to bear in mind with these units is that they are purist – and you can hear it. But loudspeakers need to be chosen with care, most but not all being suited.

As a source I used our Oppo UDP-205 Blu-ray universal player to spin CD, as well as process hi-res digital from an Astell&Kern AK-120 portable connected optically. Loudspeaker leads were Chord Signature and as always I used an Isotek Evo 3 Mosaic regenerated power unit (and cables) to eliminate distortion (3%) and noise from our industrial mains supply.

PrimaLuna are right on the mark, with no exaggeration, when they say the sound of these units is "dark". That's the first thing that struck me when spinning the slow tempo, sparsely instrumented 'Pink Panther' theme (CD) where a laconic saxophone emerged from the dark, and decays fell back into it.

With a powerful and lush presence to the instrument and others around it, the PrimaLunas signalled strongly they were a) valve and b) very good. By that I mean well honed, with the use of quality audio resistors (Takman) and capacitors (Mundorf) that combine to give a gently pure rendition that's rarely heard in commercial amplifiers based on ordinary, everyday parts. PrimaLuna claim an "a.c. offset killer" which sounds like d.c. blocking to me,



**The power amplifier remote control switches between Ultra-linear and Triode operation.**



**For high power, the output stage uses parallel push-pull pairs of EL34 power valves on each channel, seen at rear.**

BY ENGINEERS AND PURISTS,  
BY PURIST ENGINEERS.







**The DiaLogue Premium Preamplifier has two valve rectifiers, seen at rear.**

contributes here.

The sound was different from the norm – big, lustrous and powerful. I know valve amplifiers in all their various glories but this pairing was massively impressive. The sound was so dark I ensured with measurement that there was no trickery or subtle technical cause. Bandwidth was wide at all volume settings under measurement and treble extended and powerful in listening but there wasn't a trace of glare or zing to cymbals or steel guitar strings in Neil Loffgren's 'Keith Don't Go' (CD). Instead instruments had a rich texture and were differently hued, one from another, the amplifier better conveying timbral qualities than most else.

Their full-bodied sound was underpinned by clean

yet forceful bass, obvious with Jan Akerman's 'Am I Losing You' (CD), where the bass line had great presence, stepping along with muscular imposition against that dark background. It was nice to be reminded just how good a well-honed audiophile valve amplifier can sound – smooth, powerful and dynamically engaging. I sat in front of the PrimaLunas for hours of totally involved listening pleasure, rather than a critical exercise.

Nigel Kennedy's Stradivarius had a lovely breadth of character, from resonant body to the rich, dense sound of the strings; this amplifier makes most others sound bleached in comparison. Nigel seemed to fiddle in space, as it were, as a lovely sense of atmosphere pervaded the performance supplied by ambience



**Line inputs through gold plated RCA phono sockets adorn the rear panel of the preamplifier and there are twin outputs.**

from the microphone.

Similarly, the Minnesota Orchestra playing 'Dance of the Tumblers' from Rimsky-Korsakov's 'The Snow Maiden' (24/96) occupied a large hall in front of me, again the surrounding acoustic captured by the microphones being conveyed down to the lowest level of detail.

**CONCLUSION**

Here's a preamplifier/power amplifier combination with a very different sound from most else. The PrimaLunas are classic valve amplifiers sound-wise, taken to a high plane through purist design techniques. At the same time they have big measured power and even bigger sonic strength, obviously beyond that of transistor amplifiers. Add in a deep, deep soundstage and the laconic delivery of it all and you end up with a pretty amazing product. Visually, they may not be the most arresting, but sonically they were superb I felt – a lovely combination well worth hearing if you wonder why valve amplifiers still reign supreme.



**The preamplifier remote control alters volume.**

**MEASURED PERFORMANCE**

Power output of the Premium HP power amplifier fitted with EL34 output valves measured 84 Watts in Ultra-Linear mode. In Triode mode this fell to 45 Watts. It maintained this figure right across the audio band, including bass frequencies, measurement at 40Hz showed. Damping factor was 0.8.

In both Triode and Ultra-Linear mode distortion comprised second and third harmonic components that, as usual with low feedback, stayed in reasonably steady relation to the fundamental with changing signal level. At 1kHz, 1 Watt distortion measured 0.05% in both modes. It increased steadily with signal level, measuring 0.4% just below (-1dB) full output. There was a little more distortion a high frequencies, but at 0.15% (1W, 10kHz as shown) the amount was small. As valve amplifiers go these are good results.

Frequency response was flat and wide in Ultra-Linear mode, reaching a very high 62kHz. Triode mode, with less

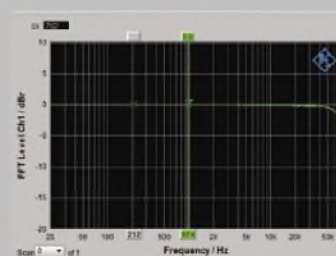
feedback, gave a slightly more curtailed response that reached 43kHz. Output was flat from these frequencies down to 7Hz (-1dB).

Input sensitivity was a normal 1V for full output and noise low at -112dB (IEC A weighted). Hum components (50,100, 150Hz) were also low at 0.8mV (1mV being the upper limit).

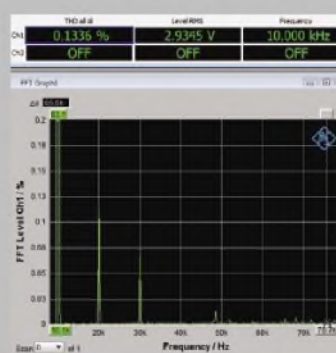
The Premium HP has good output transformers with wide bandwidth and low bass distortion. It measures well in both Ultra-Linear and Triode mode, although differences between them were not great with EL34 pentodes, except power output. **NK**

<b>Power (8 Ohms)</b>	<b>84W</b>
<b>Frequency response (-1dB)</b>	<b>7Hz-62kHz</b>
<b>Distortion (10k, 1W, 8 Ohms)</b>	<b>0.15%</b>
<b>Sensitivity</b>	<b>1V</b>
<b>Noise</b>	<b>-112dB</b>
<b>Damping factor</b>	<b>0.8</b>

**FREQUENCY RESPONSE**



**DISTORTION**



**PRIMALUNA DIALOGUE PREMIUM PREAMPLIFIER £2,998**



**PRIMALUNA DIALOGUE PREMIUM HP STEREO/MONO POWER AMPLIFIER £3,498**



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**FOR**

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# Back in black

Martin Pipe supercharges his computer audio with the inexpensive iFi nano iDSD Black Label

It first came across iFi – an offshoot of the curiously-named high-end manufacturer Abbingdon Music Research – at the Tonbridge Audiojumble a few years ago. Then, it was all about phono stages, headphone amps and a wonderfully-retro low-power valve amplifier with digital inputs. Of late, though, iFi has been carving out a name for itself with its miniature DACs. The original nano iDSD pocketable USB DAC/headphone amplifier, launched in 2014, was widely-praised and sold well. Capable of transforming the listening experience when partnered with an iPhone or Android device compatible with USB OnTheGo (OTG), the tiny unit combined hi-res audio (PCM, DXD or DSD) compatibility with a respectable headphone amplifier. And all for less than two hundred quid!

Now we have its similarly-priced successor, the nano iDSD Black Label. As befits the new tag – apparently, it's part of a range – the unit is finished in black, rather than silver.

It's still hi-res capable, but the new version is also MQA-certified (which means your playback software must be too). Gone is the 2014 model's coaxial digital output, to be replaced by a 3.5mm analogue line output that enables the Black Label to be connected to your home hi-fi system. The phono sockets of the nano iDSD, which did the same job, are alas gone.

However, you now get two 3.5mm headphone sockets – behind which lurks an amplifier (285mW per channel) claimed to be “ten times” more powerful than the average smartphone's. But they're not provided for shared listening (shades of the original Sony Walkman?) as the signals they present to the outside world differ. The 'iEMatch' one is optimised for sensitive headphones; for regular (less sensitive?) headphones, higher output is available on the other ('Direct') output socket. Despite all that power, iFi warn you not to use both sockets simultaneously. Should you plug in two pairs of 'phones,

only the 'Direct' ones are active.

As with the original design, a tiny knob adjusts volume in the analogue domain courtesy of a potentiometer; the control is combined with a power switch. Another similarity between old and new is that the digital filter has two settings. Now they're labelled – perhaps a little controversially – 'measure' and 'listen'. The former is, according to iFi, optimised for frequency response; when the latter mode is selected, transient response takes priority. If you're playing a DXD or MQA source, the filter is 'fixed' and the switch has no effect.

Source connections are made via USB – a conventional digital S/PDIF input is absent – and a small collection of cables and adaptors is supplied. With these, you can connect the Black Label to a personal computer (drivers for Windows Vista and above can be downloaded from the iFi website; Macs and Linux don't need them). Note that smartphone USB cables – OTG for Android,





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**Two sockets are provided for headphones of different sensitivity – the ‘direct’ one ‘goes louder’! Next to this is the LED, which confirms the state of internal battery charge and what type of signal is being applied. The volume control is combined with an on/off switch**

Connection Kit for Apple – aren’t included, although you get a couple of rubber bands to hold your two pieces of gear together. Dimensions are 64mm (W) x 25.5mm (H) x 96mm (D) and weight light at 139gms.

The USB port is also needed to charge the unit when turned off – its front panel LED glows blue to indicate that charging is in progress. A single charge should, according to iFi, be good for up to ten hours of playback. In use, the colour of the LED changes according to the signal being decoded – green for PCM up to 96kHz, yellow for PCM at 176.4/192kHz, cyan for DSD64/128, blue for DSD256, white for DXD and magenta for MQA. This can aid troubleshooting, and confirms that your playback software is correctly configured.

Inside the unit, much is crammed in but one cannot fault the standard of construction. The lithium-ion battery pack is wired to

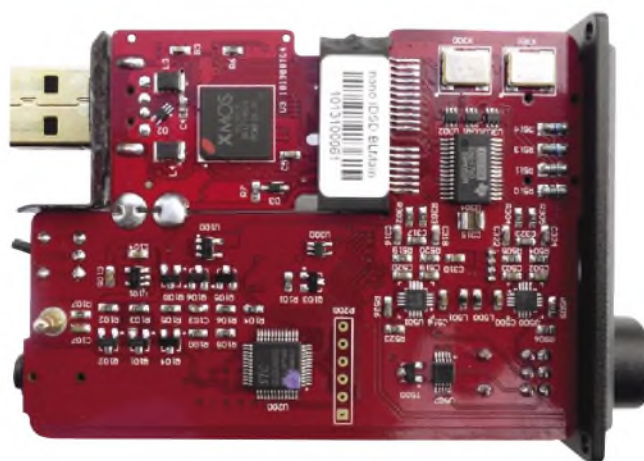
the ‘motherboard’ using an internal plug-and-socket arrangement, rather than a directly-soldered connection, for ease of (eventual!) replacement. A peek around the chippery reveals that iFi has chosen the capable Burr-Brown DSD1793 DAC, which – as its name suggests – handles DSD streams natively. The Black Label can cope with 24-bit PCM, the maximum sampling-rate the chip can handle (according to the Burr-Brown datasheet) is

200kHz, so 192kHz sample rate is no problem.

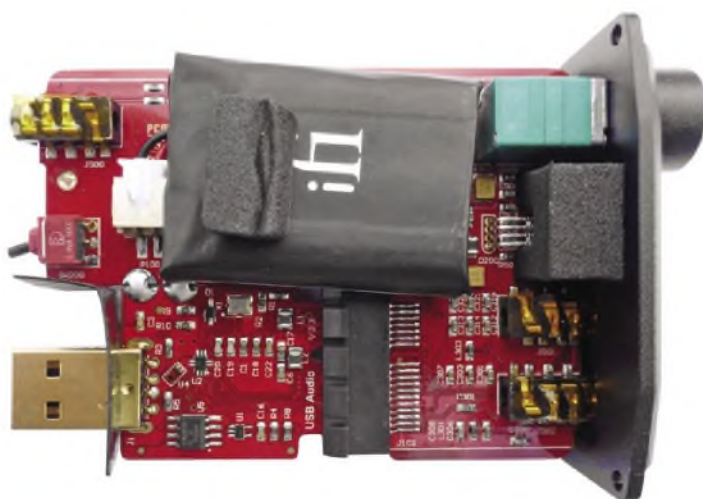
Adjacent to the DAC chip are high-precision crystal oscillators, which provide system timing; their stability is critical, to minimise jitter. I note that the USB interface, built around an XMOS chip of the sort you’ll find in much more expensive mains-powered converters, is built onto a daughter board that’s secured with solder! iFi presumably uses the same ‘motherboard’ in products with different digital-input modules. The analogue headphone amplifiers appear to be surface-mounted chips.

### SOUND QUALITY

Regrettably, my Android phone (a Samsung Galaxy S4 Mini) doesn’t



**Here we see the iDSD Black Label in all its internal glory. Note that the XMOS USB interface daughterboard is held in position by solder! Also clearly visible are the Burr-Brown DSD1793 DAC chip, the crystal oscillator modules, headphone amplifier components and microcontroller.**



**In this view of the nano iDSD Black Label, we see the lithium-ion battery pack that iFi claims will deliver ten hours of listening from a single charge. You can also see the filter selector, headphone/line-output sockets and – to the top right of the photo – the volume control/on-off switch.**

support USB OTG and, as a consequence, is incompatible with this DAC. I have an iPad Mini, but alas not the appropriate connecting cable. No arrangement of leads and adaptors worked, the Black Label’s LED merely flashing green to indicate the absence of a valid USB connection. I’m aware this product represents excellent value, but that’s not going to stop me knocking a gift-horse in the mouth and demanding that the appropriate cables be supplied. After all, they cost pennies in the quantities iFi would require – and this unit is, after all, promoted as a mobile DAC...

So, my testing was relegated to PCs. My plan was to switch between my Android phone and a PC-based arrangement, both playing the same music, to assess the kind of improvement one can expect from

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Pre Box DS2 Digital pre-amplifier shown with Amp Box DS2 stereo power amplifier.

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**The 3.5mm line output allows the Label to serve as a DAC for your hi-fi system. Great if you want to turn your smartphone or PC into a viable source. There's also a switch for toggling between two digital-filter settings – I found this made little significant difference to the sound quality!**

this outboard DAC. My first attempt to install the drivers on a computer was unsuccessful, a Windows 7 laptop refusing to install them outright with a “you do not have the required privileges to install in the given folder” error message. And this was despite running the installer in administrator mode.

Oddly enough, the drivers installed without a hitch on a desktop Windows 7 machine. I then configured Foobar 2000 for DSD-over-PCM playback. The LED turned cyan when playing a DSD64 file, proving I had been successful. It's a pity there's no documentation to help you configure software. In all fairness, an iFi 'techie' advised going to its website, and opening a tech support 'ticket' or visiting its “FAQ or Computer Audio Tutorial section”. I couldn't find the latter information and, despite a request for them, no links reached me before the editorial deadline.

My Windows 7 PC could access a variety of music held, in various lossless forms, on a Synology RT1900ac network router with in-built NAS function. I tried a variety of headphones including Oppo PM3s, Sennheiser HD650s and Focal Clears. The line output, meanwhile, was tried with an Arcam A49 integrated amplifier driving Quadral Aurum Wotan V 'speakers.

I kicked off my listening with the Blue Coast release of Keith Greeninger and Dayan Kai's 'Looking For A Home', a simple yet beautiful recording comprised of acoustic guitars and vocals. This DSD64 file, sourced from the high-speed analogue tape used to capture the original session, was clean, tonally-neutral and detailed with a breathtakingly-natural presence. It sounded better than a £200 device has any right to!

Switching to David Bowie's final album Blackstar (24/96), the soundstage and complex musical detail managed to shine through. The percussive mix of electronics and drumkit bounced along nicely, while saxes were conveyed with appropriate edge and bite. The overall effect was one of engagement. At higher listening levels, though, I did however note congestion and instrumental elements blurring into each other, regardless of the headphone output (or for that matter headphones) used. These observations no longer applied after switching to the amp and speakers – in other words, the DAC section possibly has the edge over the headphone amp in subjective terms.

That's not to say the latter is bad – far from it! I was perhaps expecting a little too much from something so inexpensive. The comparison between smartphone and Black Label revealed just how much damage ordinary punters are prepared to inflict on their music. A CD-derived FLAC of Stravinski's The Firebird (Birmingham Symphony Orchestra/Simon Rattle, EMI) crackled with vitality when heard via the iFi, drawing me into the performance. Using the same 'phones to listen to the piece with the Samsung, and it was a different story. The stereo image was compressed, lower frequencies were overblown and the ability to communicate detail was lost.

**CONCLUSION**

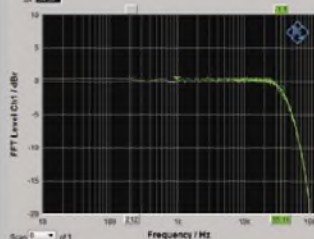
So what we have here is a fine performer that is flexible as it is affordable. Use the Black Label – compatibility and cables pending! – to bring the musical performance of your smart device close to dedicated personal music-player standards. When you get home, it can then be used to transform the sound quality of your desktop PC, whether you're listening through headphones or hi-fi system. The improvement relative to a computer's on-board audio is even more marked than it was with the smartphone...

**MEASURED PERFORMANCE**

From both the front headphone sockets and the rear Line output, frequency response of the iFi Nano reached 35kHz (-1dB) before rolling off to the upper

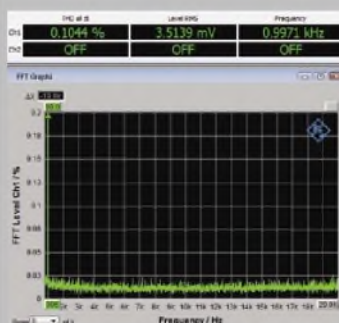
theoretical limit of 96kHz, our analysis shows, with a 24/192 digital input. Selecting Measure or Listen made no difference at all from these outputs. All the same, it is a good result, ensuring natural tonal balance and an open sound.

**FREQUENCY RESPONSE**



Distortion was low-ish at 0.1% (-60dB, 24bit), our analysis showing a some noise contributing to this figure. This also degraded the EIAJ dynamic range value to a mediocre 106dB, little better than CD (102dB). Rivals commonly manage 110dB-114dB.

**DISTORTION**



Output measured a high 3.5V (variable) from the front headphone socket – enough to drive all headphones – and 2V (fixed) from the rear Line socket, the same as a CD player.

The Nano produced a reasonably good set of results but was mediocre in terms of noise and dynamic range. **NK**

Frequency response	4Hz- 35kHz
Distortion (24bit, -60dB)	0.1%
Separation	91dB
Dynamic range	106dB
Noise	-104dB
Output (H'phone/Line)	3.5V / 2V

**IFI NANO IDSD BLACK LABEL, £199**



**EXCELLENT - extremely capable**

**VALUE - keenly priced**

**VERDICT**

Makes mobile music marvellous – and has domestic potential too!

**FOR**

- On the whole, very flexible
- Communicative and engaging
- Compact (and lightweight)

**AGAINST**

- Driver problems
- Headphone amp can sound hard
- greater selection of USB cables not provided

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McIntosh Specialists

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# True Blue

Scandinavian style is allied to a rich, smooth sound in this new amplifier/streamer/DAC from Norway's Electrocompaniet. Jon Myles listens in.

**E**lectrocompaniet once had a strong presence in the UK - but has fallen off the radar in recent years due to a number of factors. However, the Norwegian company is now making a concerted effort to correct that with a range of new components both in the lifestyle and higher-end markets.

In the latter sector comes the ECI 6DX on review here - a combined amplifier, streamer and DAC in a single box that aims to take on the likes of Naim's Uniti range, as well as similar offerings from NovaFidelity, Leema and Cyrus.

It's a hefty unit measuring 128mm x 465mm 405mm (H/W/D) and

weighing in at 20kgs (44lbs). But that's a consequence of all the technology packed into it. You get an amplifier rated at 125 Watts into 8 Ohms (see Measured Performance for full specifications), both wired and wireless operation for accessing digital files stored on a home network, as well as the ability to tune into internet radio and stream files from Spotify Connect, Tidal and Quboz.

The in-built DAC section can handle file sizes up to 24bit/192kHz via the S/PDIF and USB inputs on the rear with 24bit/96kHz available via optical digital input. A supplied remote control enables access to most functions but, as is the case nowadays, anyone looking to take

full advantage of the unit's features is best heading towards Electrocompaniet's own app for iOS and Android devices.

Analogue inputs include XLR balanced and three unbalanced RCA phono sockets, and there's both balanced and unbalanced pre-amp outputs provided should you want to add a power amplifier at any stage in the future.

It also possesses a pleasing Scandinavian minimalist style - with a tasteful glass-fronted fascia, a slim blue screen for displaying input and track information and



just four gold buttons for accessing various sections on the right-hand side. Suffice to say, it looks cool.

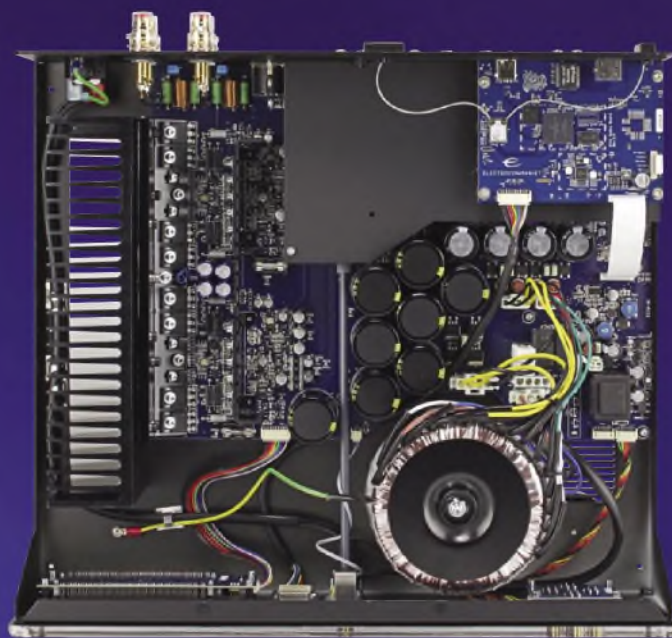
### SET-UP

The Electrocompaniet can be used either wired or wireless for connecting to a home network. I tried both methods and they worked equally well with no drop-outs even with high-resolution files on the latter.

The instruction guide is admirably detailed and from unboxing to playing music took some 15 minutes in total. Once installed the ECI remained stable throughout the entire review, pulling in files from computers, a NAS drive and streaming services without a glitch.

### SOUND QUALITY

I used the Electrocompaniet with a variety of loudspeakers ranging from Acoustic Energy's AE109 budget floorstanders to Sonus faber's Olympica 1 standmounts, as well as Quadral's new Aurum Rodan 9s - which are extremely good at revealing the character of an amplifier due to their uncoloured and detailed presentation.



*A large toroidal mains transformer provides power and internal wiring is neat and tidy. The big heatsink at left helps cooling for 125 Watts per channel output power.*

Connected to the latter via Tellurium Q's Black II loudspeaker cable and streaming Led Zeppelin's 'Kashmir' from 'Physical Graffiti' (24bit/92kHz) the ECI 6DX had a powerful presence with a punchy

sound that erred on the side of warm but not so much as to stray into the laid-back category.

This track has an orchestral manner about it with Jimmy Page using a violin bow on his guitar and



*icon Audio*



# ST 30se Single Ended KT150 Amplifier

HI-FI WORLD said:



**OUTSTANDING** - amongst the best.

**VERDICT**

Combines all the benefits of single-ended valve operation with a healthy dose of power for a superb listening experience

**FOR**

- power
- clean, open sound
- detail
- easy operation

**AGAINST**

- nothing at the price

Read the full review Nov '16

Awarded 5 gobses in:



Frequency response was wide, the upper limit being 50kHz (-1dB) at all volume control positions. The low frequency response extends down to 6Hz before falling away rapidly, the small hump being due to feedback time constants. The ST30se will not sound dull or warm: it is flat across the audio band and even beyond.

The ST30se produces high power as pure SEs go. It has unusually wide bandwidth too, so will not have a warm sound balance. A clean and pure, but relatively fast sound is likely. **IK**

Power	28W
Frequency response	6Hz-50kHz
Separation	83dB
Noise	98dB
Distortion	0.2%
Damping factor	6
Sensitivity (IL/H)	800 / 400mV



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*designed by David Shaw*

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Remote Control  
Tung Sol KT150

## A Versatile Affordable SE Solution!

For those not familiar with the term, "Single Ended" (SE) is the original design of valve amplifiers in its simplest form using only one power valve per channel. used long before two valve "Push-Pull" designs were developed. Single Ended enables the production of a very simple amplifier with 100% "Class A" performance. When SE is refined using modern design and audiophile components the audio presentation has no equal in terms of smoothness, listening quality and is very easy to listen to, without the "listening fatigue" so prevalent amongst solid state designs. But as reviewers have found to their delight the ST30se is no slouch at speed or lacking in bass weight. True "high end"!

Historically the Achilles heel of affordable SE designs has been its very low power, which is usually inadequate for modern speakers when existing popular valves are used. Big transmitter valves may be used, along with big price tags to match. Hence higher power SE amplifiers have not previously been practical for many hi fi enthusiasts.

The recent introduction of the new Tung Sol KT150 valve (a larger relative of the popular KT88) has enabled the design of a simple SE amplifier of twice the power previously possible in this class. The Icon Audio ST30se is breaking new grounds in terms of power and quality. Designed especially with orchestral, jazz and acoustical fans in mind. 28 watts is ample power for any moderately efficient speakers, providing a very good volume in all but the largest rooms.

Optimised for both Triode as well as UL operation, you effectively get two amplifiers in one, 18 Watts Triode being ample for most situations when higher volumes are not required. Good sensitivity from the built in "passive" pre amplifier ensures good results from virtually any type of input. The ST30se offers absolute listening quality through simplicity of design and pure "Class A" operation. This is achieved by using careful design, high quality construction and our unique transformers designed and manufactured "in house". The all-important high definition drive circuit for the KT150 output valve is achieved by using the venerable 6SN7 valves.

The "easy bias" meter enables simple checking that the KT150 is at optimum performance, the meter also gives an approximate indication of the output power so you can keep an eye on how hard the amplifier is working. Remote control is also included for the precise control of the volume level from your armchair.

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the Electrocompaniet gave it scale and depth. Drums were tight, taught and fast, bass accurate with vocals coming across intelligibly.

The DAC section has obviously been implemented well - making the best of high-resolution tracks stored on digital sources. Tommy Smith's saxophone on 'Dialogue Of The Insects' (again 24/96) and the subtle interplay of the rest of the instruments were highlighted well - there's detail on offer here whereby each member of the band occupies a definitive space.

Playing the same track via an Astell&Kern DAP instead of streaming from a NAS drive revealed little difference. However, listening to it on CD with an Oppo UDP-205 disc player showed the high-resolution material via the Electrocompaniet clearly had the edge with better definition, a more natural timbre and realism to the instruments and a much improved flow to the track. This is just how it should be but not every all-in-one component manages to bring out the difference.

Moving on to some complex jazz with John Coltrane's 'Ascension' - featuring six horns and a monolithic rhythm section composed of pianist McCoy Tyner, double bassists Jimmy Garrison and Art Davis and drummer Elvin Jones - the Electrocompaniet cut through the dense instrumentation to reveal all the individual instruments.

That rhythm was especially powerful, underpinning all the various saxophone instrumentation going on above to really draw out the skill of the players. It's a non-stop 40 minutes of free jazz but simply flew by while I was listening.

In fact, the longer I listened to the Electrocompaniet the more impressive it became, offering a comprehensive range of inputs alongside a sound that never failed to please. Even with Spotify Connect (which I've always found a little wanting in terms of absolute sound quality) there was a rich quality to Teenage Fanclub's 'Bandwagonesque' that had my feet tapping. No, I wasn't getting the last scintilla of detail but it was melodic and driven along with pace.

Streaming Neil Young's 'Harvest' via Tidal revealed the better resolution of this platform. Young's vocals has that distinctive, plaintiff quality while the guitar work had a gentle quality to it. Most impressive was Linda Ronstadt's vocal contri-



bution which was sweet and haunting.

All in all, this quality within streaming via the Electrocompaniet made a powerful case for itself - those with a Tidal subscription would do well to give it a listen.

This streaming ability made me warm to the Electrocompaniet. You get a comprehensive range of inputs to cater for all sources while the amplifier section enables you to get the most out of them without undue hassle. And that makes it an extremely tempting proposition.

Internet radio was good too. The BBC's Radio 6 Music - despite its lowish bit rate - gave a good rendition on REM's 'Shiny Happy People'. There were ringing guitars

and a decent sense of propulsion evident. Not as good as CD or high resolution but eminently listenable all the same.

### CONCLUSION

The Electrocompaniet ECI 6DX is a fully-featured unit that offers flexibility, great sound and ease-of-use in a good-looking package. It will stream music from a NAS drive or the internet (Spotify, Tidal etc) and also allow access to the thousands of internet radio stations out there.

Sonically there's a slight warmth to the sound but still enough detail to make all genres of music vibrant and entertaining. It comes highly recommended.

**A fully-featured rear panel has both balanced XLR and unbalanced RCA inputs plus a wired LAN connection, as well as digital inputs. Pre-amp out options are also available for anyone wanting to add a more powerful amplifier.**

## MEASURED PERFORMANCE

Power output of the ECI 6DX amplifier measured 120 Watts into 8 Ohms and 225 Watts into 4 Ohms - big power figures. It has fast protection circuits so these are figures obtained using a 0.5sec. sine wave burst - less stressful than continuous measurement and more complimentary, but a 100 Watt rating would be conservative.

As always with Electrocompaniet,

distortion levels were very low, just 0.006% in the mid-band and 0.03% at 10kHz (both 1W). At high power the figures did not change - very good results, suggesting a clean and pure sound.

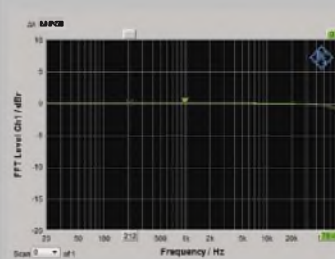
Frequency response, via analogue CD (XLR socket) and AUX inputs measured flat to a high 80kHz. The low end limit was below 3Hz, so this unit passes sub-sonics unhindered.

Sensitivity of CD and Aux was very low at 1.2V for full output. A common low value is 400mV and Naim for example offer 100mV to accommodate low output phono stages.

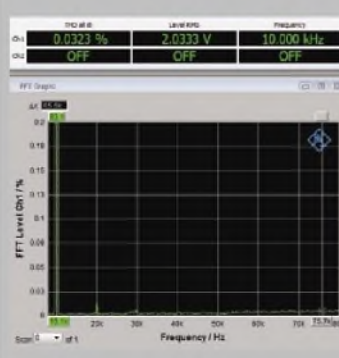
On the digital side, distortion was low at 0.07% (24bit) but 0.03% or so is possible. Dynamic range measured 109dB - seemingly low but since this is through the power amplifier section the result is good. The optical input accepted 96kHz sample rate maximum, where 192kHz is common nowadays.

The ECI 6DX measured well and has no weaknesses, other than its optical input limitation. **NK**

### FREQUENCY RESPONSE



### DISTORTION



<b>Power (8 Ohms)</b>	<b>125W</b>
<b>Frequency response (-1dB)</b>	<b>3Hz-80kHz</b>
<b>Distortion (10k, 1W, 4 Ohms)</b>	<b>0.03%</b>
<b>Sensitivity</b>	<b>1.2V</b>
<b>Noise</b>	<b>-95dB</b>
<b>Damping factor</b>	<b>60</b>

## ELECTROCOMPANIET ECI 6DX £5200



**OUTSTANDING - amongst the best**

### VERDICT

A powerful amplifier, DAC and streamer that has rich, smooth sound allied to excellent detail.

### FOR

- range of inputs
- smooth sound
- power
- build

### AGAINST

- nothing significant

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Answers by: **NK** - Noel Keywood; **JM** - Jon Myles; **PR** - Paul Rigby; **MP** - Martin Pipe, **DT** - Dave Tutt.

## LETTER OF THE MONTH PRIZE



**Tannoy Mercury 7.2 loudspeakers**

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

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 Tannoy Mercury 7.2 loudspeakers are on their way to ANTHONY PARKIN, Letter of the Month winner in our March 2018 issue.**

## Letter of the Month

### DSD OR PCM?

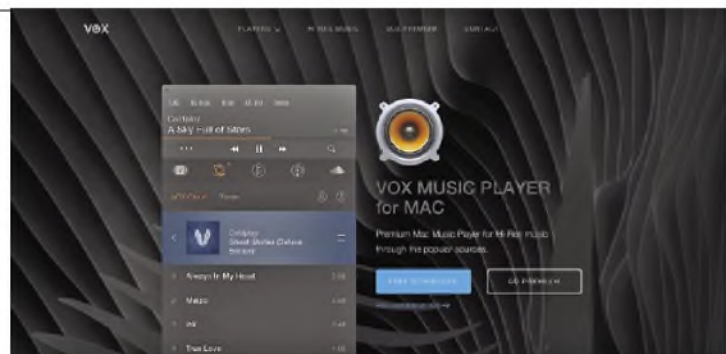
I have just received your February edition and read with interest your feature "Playing DSD". It prompted me to revisit this question by playing some files from my 2010 iMac through its built in speakers and audio system, and also through the connected Quad Vena and Linn Tuskans. The Quad is connected through USB using its own built-in DAC to convert the music files.

I don't actually own any DSD files but have used the excellent <http://www.2l.no/hi-res/page> of 2L who have a repertoire of music in various digital bit rates and formats including MQA and DSD at 256, 128, and 64. I attach a screen grab of their page for your reference.

I have found that using a software music player called Vox I can play all the formats of interest through the Mac's built in speakers, including DSD 256 and MQA. Here is a screen grab of the player playing a lovely track from Arnesens Magnificat.

In the Vox Audio Settings page I can get playback from the internal system or the Quad Vena in DSD256. Here is the settings page.

What I find confusing is that you state computers are designed for PCM and don't spend money on a software



**The free VOX player for Mac. It turns DSD files to PCM, since Macs can only process PCM internally. USB Audio is PCM only unless sender and receiver can process DoP.**

DSD player expecting to hear DSD until you have sorted out how it will be turned to analogue.

That's my question really I suppose – how is my old iMac converting the DSD file into analogue? Is VCX doing it for me in software? Also how is the .dsf file getting to my Vena over USB? I wouldn't have thought that my old iMac had the DoP feature that you mention.

And lastly, I guess that somehow the whole thing could be downsampled/changed somewhere in the VCX software

to enable it to play as a PCM stream from the internal speakers and from the Vena via its own DAC.

I am left, as you may have guessed, perhaps a little more confused than I was before! But thank you for at least tackling this in a non technical way (which I know is a challenge in any speciality!).

All the best

**David Osborne**

**Parish Priest**

**Cranleigh and Bramley Catholic Parish**



**Blue Coast Records, California, specialise in first-generation DSD recordings (no PCM) and are supported by Sony.**

Hi David. Yes, it is all confusing – and that is how a lot of dubious claims are being made and go unchallenged, including Sony's claim that their PS HX-500 turntable delivers DSD. Perhaps it does with a PC updated to use a Steinberg USB driver, but it certainly does not send DSD to a Mac. Internally, Macs use PCM for core audio and cannot be updated to handle DSD.

Your Vox driver is a player: it is playing the file and as with Sony's free player, converting DSD to PCM so the computer can subsequently process the signal, including change volume – which you cannot do in DSD; if you can change volume the music is PCM.

It will also be sending PCM to your Vena, since DSD cannot be sent over USB except as DoP – which the Mac and the Vena cannot process.

Having heard native DSD played through a very high quality playback system I understand why fans of the code insist on sonic purity. DSD has a wide open spacious sound that makes PCM sound flat and constrained, but since all digital sounds like this ('cos it's all PCM) nothing seems wrong until you hear pure DSD; we don't know what we are missing.

Oh – and if you can, get some files from Blue Coast Records (California) because they specialise in audiophile sound even in the

studio, are backed by Sony and use Sony DSD ADCs. I've spoken to them at length and they are in another league. **NK**

### THE VALUE OF FM

Further to my letters about the convenience of an FM tuner, readers just might be interested in a recent experience I had with a certain Mr Branson's company.

Someone reversed their car into the nearby Virgin Media cabinet which our road uses to gain access to the internet etc. Me and several other people lost the internet. An engineer came and rectified the problem, and most people came back online. However, the engineer had overlooked a broken cable connector in the cabinet, which was the supply to our house. The earliest I



**When the internet goes down – literally for Mike Bickley when a car hit it – you can always turn to a good, old fashioned VHF/FM tuner like the wonderful Leak Troughline pictured here.**

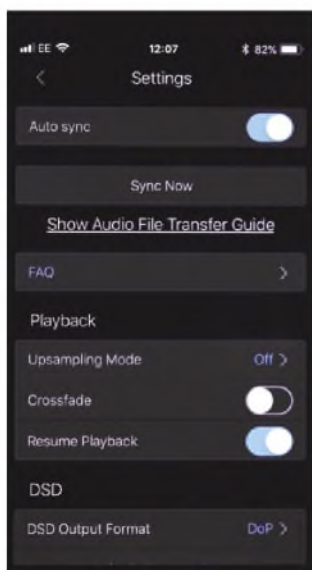
could get an engineer to call was ten days later, who replaced the connector, and we came back online. If I had solely relied on listening to radio online I would have been without quality radio for ten days; I had my FM tuner of course! I hope your contributor Martin Pipe still has his FM tuner.

The moral of this story; don't put all your electronics in one basket. This should be borne in mind by the powers that be when contemplating switching off FM!

Regards

**Mike Bickley.**

Hi Mike. Yes, where there are wires there are problems. Ironic isn't it that Marconi straddled the Atlantic in a great leap forward – wireless – and now we have regressed back to wires. Forget Star Trek: future travellers will be forced to cycle to Mars if we go on like this. **NK**



**The DoP selector of Onkyo's HF Player that will run on an iPhone. It sends DoP out through the Lightning socket, to external DoP enabled DSD DACs.**



**Oppo UDP205 Blu-ray universal player does it all, include play SACD. It also acts as a DAC and would suit Roger Playle.**

### DARK ARTS

Having followed the mag and your recommendations for many years I now find I am in need of a little guidance in the dark arts of computer hi-fi as you guys seem to have a good insight into the subject.

I have ripped a good deal of my CD collection in FLAC to a Synology DS214 NAS using dbPoweramp and playing back via USB into an Arcam irDac and Creek Destiny 2 amp (with Russ Andrews upgrade – highly recommended!), all via a hard wired network.

My problem is twofold. Firstly, the DS Audio app fails to play anything most of the time now; it will perhaps play one track or even a whole album but will then scroll through the next album then just stop and all other sorts of nonsense I won't bore you with. Suffice to say I've had enough of it and the Synology help desk whose default position seems to be "DAC compatibility" issues. Who knew? Certainly not me and I'll wager many more like me out there who just want to listen to good music, and prefer not to retrain as a computer engineer.

Secondly, even when this does actually work and produce music it is

definitely inferior compared to direct CD playback from my Ayre CX 7 CD player (speakers are Tannoy DC8T). Plus I have no idea of the file quality I am actually listening to – I have a few hi-res downloads on there but they certainly don't sound it. I'm fairly sure the rips are up to scratch but have serious doubts about the complexities of the DS app and it's settings/options.

Also the DAC could be dragging down the quality perhaps. So, having decided to give up on the app as a playback option I assume the other way of getting at those rips and files is to access them via the network possibly using a streamer of some sort. Having read Noel's glowing review of the Oppo 205 it sounds that this could be an almost too good to be true solution. SACD playback would be handy for my never before heard SACDs, possibly even improved (?) reproduction of CDs with the highly rated built in DAC, 4k video thrown in and hopefully a networking capability to play those NAS files at optimum resolution, plus I could trade in my CD player, DAC and Blu-ray player. Win win win!

Or is there a yes, well, maybe? And would the 205 allow me to see



**A Creek Evolution 50A (shown here) or 100A amplifier would work well with Oppo's player, as it offers smooth analogue quality.**

and select and play my music files and display bit rates etc from the NAS? The minimum requirement must be that the playback quality of the ripped CD files are at least as good, if not better, than the Ayre CD player, otherwise there seems no point. Suggestions are very welcome but ultimately a home audition would be the final arbiter naturally. Your thoughts?

Regards

**Roger Playle,  
Lincoln.**

Hi Roger. I don't know the DS Audio app too well but I'm familiar with the Synology and I've never heard of it having "DAC compatibility" errors. You could try deleting the app and reinstalling it (this often works). However you are right in suggesting the Arcam irDAC could be the reason you are not getting the sound quality you desire via streaming compared to CD. It's a good little unit but the Creek Destiny 2 amplifier deserves better to fully realise the potential of your files.

The Oppo would be an excellent choice, giving you SACD – yes it is better than CD! – the networking capability you want and rather excellent sound. As an all-rounder it's hard to beat. One other advantage is it can play MQA files. It's also Room-Ready, which if you aren't aware, is probably the best way to handle the streaming of your music and will give you all the information you need (see our feature in the March issue for more information).

One other alternative for you, if you like the sound of the Creek, is to upgrade it to the Evolution 50A or 100A with their Ruby 2 DAC board installed which would allow you to plug your Synology straight in. Whichever way you go I think you'll hear a big improvement. **JM**

### PAUL RIGBY'S CHILDHOOD

May I applaud Paul Rigby in making people aware of the riches in film scores. Just like Paul, my listening stems from my childhood. When my dad took me to the special presentation shows of the big blockbusters of the likes of Ben-Hur and El Cid, I was desperate to get my hands on recordings of the scores to these films. The going rate for an LP then was 37 shillings and sixpence – definitely out of my paper round income.

These now-classic scores by the likes of Erich Wolfgang Korngold, Max Steiner, and Dimitri Tiomkin to name a few have been recognized for the quality music they produced and now the scores stand



on their own merits, divorced of the film images.

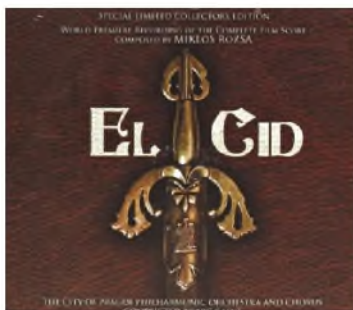
Every now and then a score is re-recorded. You can imagine that the sonics have to be top notch – and they usually are. A case in point is James Fitzpatrick of Tadlow Records. Like myself and Paul he was smitten at an early age by this film music and is now pouring thousands of pounds of his own money into producing new recordings of these scores: with a massive orchestra and fitting hi-fi quality to boot. The Organ and symphony orchestra at full swell on his new recording of Miklos Rozsas El Cid is something to wallow in, the sonics are superb.

As I write he has managed to scrape together the £80,000 needed to record the Rosza Score for King of Kings. James Fitzpatrick's story is surely worthy of an article in Hi-Fi World.

Finally, the re-issues of the original soundtracks usually unearth more worthwhile music. For instance, most of the Bond scores by John Barry have been remastered from the original session tapes.

Regards

**Stephen Flower**



**The music of El Cid, composed by Miklos Rozsa – a great film score says Stephen Flower.**

Thanks for your enthusiastic thoughts, Stephen. Of course, such was his stature, part of Rosza's music for El Cid (the 'Love Theme' was it?) was nominated for an Academy Award. I loved the way the music managed to blend the typical Hollywood epic structures with a big nod to ancient Spain – pleasing everyone, all of the time, as it were. I heard that the original film masters were lost for this one, which was a tragedy.

Interesting to hear about the King of Kings project. I'll keep an eye out for that.

Incidentally, I recently saw old interview footage from El Cid star Charlton Heston who declared how much he liked and enjoyed making the film and declared that El Cid

was the one film that he would really like to re-make, wishing to get much deeper into the character of Don Rodrigo Daz de Vivar – El Cid himself. I'll bet Rosza would have enjoyed getting his teeth into that one! **PR**

### TRADE DOWN

My system is: Linn Majik LP12 with Pro-Ject arm (purchased 2011) fitted with Hercules power supply (same as Valhalla but twin speed) & Dynavector 10X5 (the power supply and cart both purchased 2015 and LP12 set up by Peter Swain at Cymbiosis in Leicester). Heed Questar MM phono amp (purchased 2011) Boss BR900CD digital recorder (purchased 2007) M audio BX8a studio active monitors (purchased 2007) Marantz SA7001 cd player (purchased 2007) Furman mains conditioner (purchased 2012 and cost 950 from Chris Brooks audio) Linn interconnects and high quality speaker cables LP12 wall mounted (Audiotech shelf) as are the studio monitors on separate walls.

I've been offered £1400 for my LP12. Problem is that in the future the LP12 is going to be too expensive to maintain and the nearest competent LP12 dealer to us is 140 miles away. Also the speakers are too big for our room. So I thought with the £1500 from sale of LP12 and speakers downgrade the LP12 to something still of good standard e.g. Rega 3 with new 10X5 cartridge and get better but smaller active speakers e.g. KEF. Bear in mind I've a set of drums with microphones recording myself to vinyl and CDs on the BR900CD so the speakers need to be able to cope with that signal as well as accurate hi fi sound from the hi-fi.

Please can you assist further as I'm not sure? As good as the LP12 is, it's just too much hassle with the few remaining Linn dealers.

Thank you.

Best regards,

**Michael Moore**

Hi Michael. The Rega would be a good choice since it has a superb arm, if less than amazing plinth and belt drive system. But since you have a dedicated wall shelf this may not matter. An even less expensive alternative would be an Audio Technica AT-LP5 that offers Direct Drive. It all depends on how far down you want to go. For me the Rega arm clinches it, but the AT LP5 has rock solid timing beyond that of belt drives. Transfer your Dynavector 10X5 over too, or consider an Ortofon 2M Black or Audio Technica VM740ML, since both

have superior styli.

If you want to reproduce drums with any power you will need big-cone loudspeakers (Tannoy), or perhaps a Devialet Gold Phantom. Smaller powered loudspeakers can go low but small cones cannot move enough air to go very loud.

**NK**



**The Rega RB330 arm of the Planar 3 turntable offers high end results, from MM or MC cartridges and would suit Michael Moore.**

### VINYL SLEEVE

I have been steadily increasing buying new vinyl lately, some new items and some replacements for long ago loaned LPs that never came back! Generally I am impressed with the quality of the new pressings.

It is obvious that the cost of vinyl has increased quite considerably, probably due to the reduced number of pressing plants available, but I have also noted that although the album's cost has increased I am still getting some them with the inner sleeve being cardboard (usually with a picture on it).

Now I would expect that at the cost of these albums they could all come with a protective inner sleeve (I admit some do but a lot do not).

When purchasers are buying vinyl at this price, surely the suppliers could supply the albums with an inner sleeve that would not, in the long term, have a potentially damaging effect on the vinyl?

Let's not forget, when CD came along one of its advertised benefits was its increased tolerance to damage compared to vinyl. So if we are going to purchase new vinyl could we not learn from previous errors and supply the vinyl with as much protection as can be supplied? That way all purchasers would be happy and would probably buy more. Cheers

**Andrew Burtchaell**

Hi Andrew. I'm glad you are happy with quality. I find most of the new LPs I buy are quiet and superb in sound against all my old stuff – but others disagree! Nice to know I am

not deluded.

It is a bit sad to not include a decent sleeve. Can I suggest you get a box of Nagaoka sleeves ASAP; they are always available at shows. **NK**

### TOP MM

*My system consists of the following components: Technics SL1210 MKII fitted with an Alphason HR100S tonearm, Nagaoka MP50 Super and Michelle clamp. Tom Evans 'Groovebox' head amplifier. B&O BEOGRAM CD 50 B&O BEOCORD 5500, Exposure XV integrated amplifier fitted with Nakamichi 4mm speaker sockets and plugs. I also have an Oracle Paris fitted with an Alphason Xenon arm and Goldring 1042 Pickup. I use this to transcribe vinyl to FLAC files for use on my smart phone...Yeh, I know it's sacrilege, but I can't carry a hi-fi system around with now me can I.*

*My wife and I are very happy with this set up as it stands; however I was wondering if you could advise me on changing the pickup cartridge for something better?...is there anything out there better than the MP50 Super?? Your comments would be most appreciated. Many thanks in anticipation.*

**John Hartwell**



**Nagaoka's anti-static record sleeves come in a handy LP size carton.**

Hi John. There are a few MMs out there better than the (very good) Nagaoka MP50. Nagaoka updated it with the MP500 of course, with a more compliant cantilever hinge and lower loss core: you could just get a new MP500 stylus or as Nagaoka suggest a whole new cartridge to gain the benefits of the improved core.

A good alternative is one of the new Audio Technica AT700 range I reviewed in our December 2017 issue – perhaps the 750SH with Shibata stylus. Then there is the



**Audio Technica's new VM-700 range of top quality MM cartridges offer fine sound from LP.**

Ortofon 2M Black also with Shibata stylus. These are all as good as MM gets; if you want more, consider a move up to moving coil. **NK**

### LOOK FOR BALANCE

*I own a Opus 21 CD player and am in a quandary as to whether to sell it and part exchange it against the new Oppo Blu Ray UDP-205. Although I'm using good quality Atlas interconnects, I was wondering if the DIN output connection might improve the dynamic range as at the moment, the sound has lost its bite, and is a bit too polite. Having read so many reviews of the Oppo, this seems to be the way to go unless my player can be improved upon. Your help in this matter would be appreciated.*

*Kind Regards,*

**David Roberts.**

Hi David. As I understand it the DIN output option is there to interface with DNM preamps – and not much else. You will get a better sound from the balanced XLR outputs, especially if you use a decent screened cable.

The Oppo UDP-205 is a whole world ahead, with its ESS Sabre32 series DAC and linear power supply. It has vast ability and also has balanced outputs. Just be aware that it doesn't have the 'bite' of older players, rather a rich and deep sound with layers of detail. Also, it will act as a top quality DAC able to accept 24/192 digital from an external player such as a portable, so you can move up to playing hi-res files. **NK**

### REVIVE THE DEAD

*I don't know if you can help me. I have an Audiolab 8000q preamp and the mains transformer has gone short circuit. Audiolab have quoted an unbelievable*

*quote; I'm trying to find out the spec and see if I could one from Radiospares. thanks,*

**Keith Cerroni.**

Most preamps run with no more than 15 volt split rail supplies and a transformer of suitable dimensions to fit the box would be from the 80VA range. If it is a single rail then it is more likely to be closer to a single 20 volt transformer and a 28-32 volt d.c. supply which, with transistor only amplification, is perfectly acceptable.

I can't find the schematic for this preamp but assuming it has 15 volt regulators then a 15 Volt a.c. transformer will give around 21v d.c. into a smoothing capacitor before the regulators, which is about the right amount for reliable regulation. If you care to drop me an internal picture I can at least make a better guess rather than you buying something that isn't suitable.

Here's another thought. If there is one decent sized smoothing cap. it probably has one supply rail. Two caps. means split rail. Op-amps usually mean split rail too. Transistors can be both but usually economies of scale mean single rail again. The 8000c is single rail, all-transistor but I haven't had a 8000q in bits.

NOTE - I never like swapping transformers without first establishing if anything else looks damaged!

**Dave Tutt, Tutt Technology, Chatham, Kent. E-mail dave\_london@hotmail.com or 'phone 07759 105932.**

Hi Keith. Radiospares? You are showing your age Sir! They were re-branded RS Components long, long

ago and were recently acquired by Farnell. Anyway, as Dave notes, if the unit is stuffed with silicon chips then you are probably looking at +/-15V rails. I would visually inspect the power supply since the circuit board may well be marked with voltages, making the power lines obvious. The Application Notes for the voltage regulator chips will give input voltage range and it is also likely the transformer will be labelled with a.c. output voltages. The transformer's a.c. rms output needs to be around 0.7 x required d.c. line volts feeding the regulator, since the smoothing caps charge to peak value. The regulator will need a differential across it of 3v-5V – see manufacturers Application Notes. So a 15V d.c. output regulator would typically need around 18V d.c. in. I'd hook up a variable external supply here. If you have doubts, best to leave alone and let an expert do it.

As Dave notes though, you need to check that all else is OK. Why did the mains transformer fail? Using an Ohm meter between a supply rail and ground will reveal whether there's a short circuit here or not; be aware that the needle/display will swing to zero Ohms then fall back as any line caps charge; wait 'till the conditions stabilise.

I run up projects on a Variac, with Volt and Ammeters connected, just in case gremlins lurk. This avoids a flash and a bang – not good for the heart.

A quick and dirty alternative is hook up four PP9 batteries, two per line, and see what happens. They'll last long enough, providing you don't dawdle.

Or bypass the mains PSU and run the preamp from big lead-acid rechargeable batteries (Yuasa etc)! Have fun. **NK**

## GARRARD 301

Many years ago...middle eighties, when all things were belt driven and came from Scotland, I read a letter from a gent who had retired and spent some of his pension money on one of these turntables. After a few weeks he took it back, went up into the loft and came back down with his Garrard 301. Put it back into his system and declared he would never change it. I can't remember what magazine it was, but although they printed the letter, their answer was rather dismissal!

And that letter got me thinking, was the bloke on the point of losing it... or did he know something that a lot of us at the time didn't? So I started asking questions about the Garrard 301



**How do you fix the power supply of a blown Audiolab 8000q pre-amp. asks Keith Cerroni. Dave Tutt and Noel Keywood have suggestions.**

and got told I was daft because they rumbled! So I decided I would have to find out by listening to one.

Well it took six months before I even found someone who had a 301 and another couple of weeks before I heard it, and when I did I was pretty impressed! He had it in a very solid table ... bolted in a good two inches of hardwood table top, with SME 3009 arm and Shure V15 II cartridge, connected to a Marantz PM4 amplifier and a pair of Mordant Short Signifiers (if I'm not mistaken) – and it was very good – very good indeed.

So I went out and bought one...and never looked back! I now have a Thorens TD124 to go with it. The Thorens has an Origin Live OLI arm and the Garrard has a Hadcock unipivot. The Garrard's bass and the unipivot's mid and top go to make a very impressive sound...sheer grunt and delicacy, not bad for a deck in its fifties,

I know these two classics are not cheap, but if you tried to buy engineering of this caliber new you would be paying thousands nowadays. So it's relatively affordable engineering now and some careful thought with

refurbishment and tonearm choice pays high dividends!

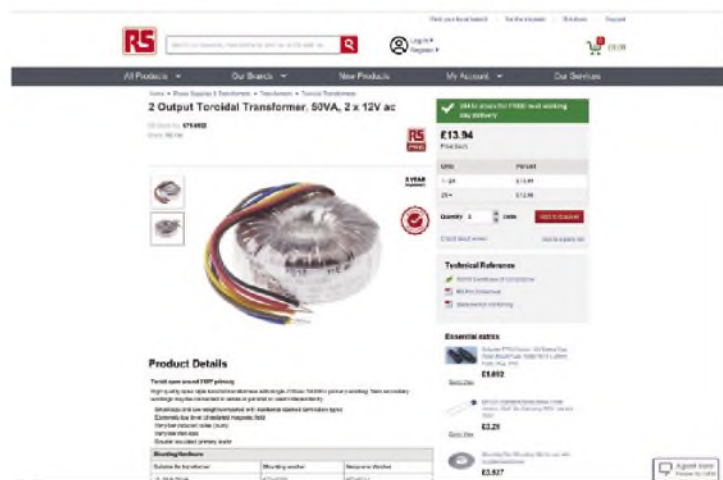
Thing is, there are a lot of people that go on about pace, rhythm and timing. Well, either of these two classics or a modded Lenco have that nailed. Big time. After 40 years of messing with hi-fi I have heard some great decks, truly top end stuff, Oracle Delphi, SME 20, Michell Orb etc – and it's the idlers that attract me most of all. It's part of the system that pleases my ears the most... and isn't that what it's all about?

Regards

**Steven Moss**

Yes, the Garrard 301 and 401 are now the stuff of legend and expensive to buy. Peak HI-Fi have refurbished and renovated 301s for sale, for those interested.

It was the late eighties when I learnt these turntables were being shipped to Japan in container loads. That was well before the UK hi-fi press knew anything other than belt drives existed – and of course at the time too CD had seemingly rendered such devices archaic. How things have changed. **NK**



**Radiospares are now known as RS Components and have a vast array of products, including tools, electrical parts, components, test equipment and much else, most of it unavailable on the High Street.**

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**Information**

Developer	audio web publishing ltd
Category	Entertainment
Updated	7 Dec. 2014
Version	1.0
Size	9 MB
Rating	Rated 4+
Family Sharing	Yes
Compatibility	Requires iOS 5.0 or later. Compatible with iPhone, iPad, and iPod touch.
Languages	English

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# Let's Get Networking

**The new SMS-200ultra network player is designed to add streaming capability to your present system. Jon Myles plugs it in and takes a listen.**

**W**ith more and more people storing music tracks on computers and USB drives the question arises of exactly how to get best sound quality from them. Computers are notoriously noisy devices and not best used via their internal soundcard.

A much better option is to output to a dedicated streamer purposed for audio - which is exactly what the new SMS-200ultra from South Korean manufacturer SoTM (Soul of The Music) is intended to do.

Like the excellent Auralic Aries I reviewed recently (Hi-Fi World, June 2017 issue) the 200ultra takes your stored files from computers, USB stores and DLNA compliant devices such as NAS drives for output to a USB-equipped DAC or suitably-equipped integrated amplifier in your system.

The ultra is an upgraded version of the original SMS-200 - with the addition of a sCLK-EX2425 board for its internal reference clock. It's a slim, aluminium-cased unit measuring 48mm X 106mm X 227mm (W/D/H) and weighing in at 1.5kg. That weight

plus rubber feet on the bottom means it sits firmly on a hi-fi rack without sliding around.

Two LEDs on the front signal network activity and power while a larger green indicator bar also acts as the on/off switch. On the rear are two USB inputs, alongside what SoTM describes as an audio-grade USB output, a reset button, a microSD card slot for the Linux operating system plus the RJ45 socket for connecting to the network (there's no wireless built-in but an optional unit to add this is believed to be in the offing), plus a socket for





the wall-wart style power supply.

Inside, the unit utilises an ARM processor board and a dual-core AMD chip alongside the low jitter reference clock and active noise cancellation. In theory it should feed an interference-free clean digital signal to the DAC of your choice.

PCM file sizes up to 32bit/768kHz are supported (if, by any chance, you happen to have any) as well as DSD up to 512.

**SET-UP**

Once connected and powered up, set-up is via SoTM's own web-based Eunhasu Music Player interface accessed via PC, Mac or tablet device (both iOS and Android supported). It's Roon ready so this is how I used it but other alternatives include SqueezeLite, the DNLA/UPnP server on your own network, HQPlayer and Shairport.

Eunhasu (it means River of Silver Stars in Korean, apparently) is fairly intuitive for those used to this sort of software, but if you are not there's a comprehensive instruction manual available, although admittedly it does include some rather clunky English translations.

**SOUND QUALITY**

I connected the 200ultra to the in-built DAC of a Devialet Expert Pro 220 integrated amplifier as well as a Chord 2Qute digital-to-analogue converter running into a Naim amp and used music stored on both a MacBook Air and NAS drive.

As the 200ultra is simply a streamer it should, ideally, have no sonic signature of its own. However it's an electronic device that can add unwanted nasties to the sound and the Devialet and 2Qute are ruthlessly



*The Eunhasu software allows for various options for connecting the network player to your digital files. Once installed it is easy to operate.*

"There was no hint of glaze or edge to the trumpet, simply a glorious, soaring rendition"

revealing and would soon tell me if anything was amiss.

Luckily, there wasn't. What I heard was a crisp, clean and highly detailed sound from both set-ups. With Brian Eno and David Byrne's 'My Life In The Bush Of Ghosts' the cuts between the myriad samples were clean and quick while the throbbing electronic bass line on some tracks was rich and deep.

Through the Chord/Naim combination I heard a slightly darker but more propulsive sound compared

to the Devialet's pristine quality. Which is exactly as it should be as these two amplifiers have different characteristics.

Listening to Miles Davis's 'Porgy and Bess' his distinctive phrasing was perfectly in time with the backing musicians - and there was no hint of glaze or edge to the trumpet, simply a glorious, soaring rendition.

Thinking back to the Auralic Aries (which does very much the same job as the SoTM) I'd put the sound very close, although I didn't have the former unit for a direct comparison.

At £1495 the Aries is dearer than the £1200 price of the 200ultra. However the Auralic boasts wi-fi capabilities as well as a wider range of digital outputs. I'd recommend listening to both if you are thinking of going down this road to add music streaming to your system.

**CONCLUSION**

The SoTM sMS-200ultra does exactly what it says on the tin (well, box) - send a pure, clean signal to the DAC of your choice. The better the digital-to-analogue converter the better it will sound. It's a smart way to add music streaming capability to an existing system.



*The sMS-200ultra's rear panel has connections for two USB drives, an RJ45 socket for connecting to a network and a USB out (bottom left) for attaching to a DAC.*

**SoTM sMS-200 Ultra £1200**



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 GIFT PACK CASE

**H**ere's your chance to win the superb Chord Electronics Mojo portable DAC and Poly streaming add-on unit. Read the review excerpt below and answer the questions.

"Here's a hi-fi DAC that undermines all others it seems. Chord Electronics claim a massive 125dB dynamic range for Mojo – more than most other DACs on the market, irrespective of price.

Chord Electronics use a bullet proof machined alloy case. It has a sombre dark brown/grey finish, not

the more eye catching bare alloy finish of 2Qute and Hugo. I sense future boutique versions!

Our scales registered 173gms with Mojo on board, making it as heavy as some portable digital audio players. But then it houses a mass of electronics, plus a Li-polymer battery with a life of 8-10 hours playing time, and a 4 hour charge time.

The one thing Mojo lacks is any form of streaming capability.

Not any more, though. Chord's dedicated Poly module brings DLNA, Airplay and Bluetooth streaming to Mojo, as well as containing a microSD card slot so music can be loaded into

it as well.

Poly is designed to work exclusively with Mojo, slotting into its digital connections to form one complete unit which is not much larger than the palm of your hand.

After connection Mojo works as usual – complete with the colour-coded buttons to signal incoming sample rate (red for 44.1kHz, blue for 192kHz etc). The Poly itself contains just two small indicator lights to denote Mojo pairing, battery life and set-up status."

For a chance to win this great prize, just answer the four easy questions at right. Send your entries on a postcard only, by 10th April 2018 to:

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### QUESTIONS

**[1] What is Mojo's claimed dynamic range?**

- [a] 96dB
- [b] 103dB
- [c] 125dB
- [d] 22dB

**[2] The case is made from –**

- [a] alloy
- [b] plastic
- [c] wood
- [d] chewing gum

**[3] What is its playing time?**

- [a] 4 hours
- [b] 30 days
- [c] infinite
- [d] 8-10 hours

**[4] Poly brings –**

- [a] feathers
- [b] Bluetooth
- [c] need for seed
- [d] awkward behaviour

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

**JANUARY 2018 WINNER: ACOUSTIC ENERGY AE100S  
 Mr. John Irvine of Shetland**

# WORLD STANDARDS

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

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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 Radical 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 R3303 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 DNYX** £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-OC3 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 finished Swiss moving coil that plays music with rifle-tolt 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** £2,500  
All valve MM phono stage with MC transformer option, graced by big, spacious and relaxed sound.



**LUXMAN EQ-500 PHONOSTAGE** £4,495  
A fully-equipped phonostage from Japanese manufacturer Luxman that offers comprehensive cartridge matching allied to superb sound.



**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** £1,400  
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 101D** £495  
Entry-level integrated from Exposure has excellent upper mid-performance with an almost valve-like sound.



**ICON AUDIO STEREO 60 MKIII** £2,800  
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** £7,600  
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 MB81PP** £15,000  
Big Russian transmitter valves deliver 200W from these massive monoblock amplifiers. Frightening in every sense.

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



**QUAD ELITE 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-8B** £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.

**ELECTROCOMPANIET 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**

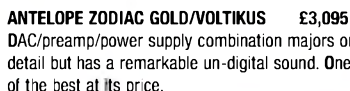
**AUDIOLAB M-DAC £600**

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.



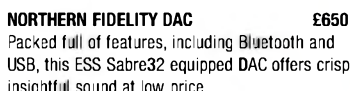
**CHORD 2QUOTE HD £990**

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 entrancing 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.



**CONVERT TECHNOLOGIES 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 flair. 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.

**QUAD PLATINUM DMP** £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 GOLD** £1,500  
Reference quality sound; it's like carrying your hi-fi in your pocket. Equivalently large too, but stunning headphone quality.



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

**NAIM UNITILITE** £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 SOUNDBOOK** £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.



**CHORD 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**

**AUDEZE LCD-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.



**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 HD700** £599  
Tremendously fast with a strong, focussed, lower-frequency range and a firm bass punch.



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



*"Making love with his eagle."*

*Something not sounding right?  
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**Jamo's small stereo Bluetooth loudspeakers could make an ideal second system, says Jon Myles.**

# Mini Marvels

**N**ew Bluetooth loudspeakers come thick and fast at the moment. Some are mini and portable, others aim for a more hi-fi aesthetic with larger cabinets and better drive units.

All of them, however, aim for convenience – the ability to stream music wirelessly from a smartphone, computer or tablet immediately without an amplifier or anything else in the way.

Walk into your flat, kitchen, bedroom or wherever and they'll be invisibly connected to Bluetooth devices and play music from them.

They won't replicate the full sound of a dedicated hi-fi system but have the advantage of seamless integration between amp and 'speaker.

Jamo's DS4 wireless speakers aim to bridge the gap between mini portable Bluetooth loudspeakers and true hi-fi - aiming to be either a second system or an all-in-one solution for small spaces.

Housed in a 178mm x 114mm x 190mm (H/W/D) reflex-ported enclosure finished in black or white leatherette they have an 18 Watts per channel amplifier inside with a tweeter and mid/bass driver on each loudspeaker.

As well as Bluetooth there are also RCA input jacks on the rear for attaching external sources such as CD players, as well as a USB socket for charging smart devices. There is no S/PDIF or USB digital input.

Unfortunately, wireless doesn't quite mean wire-less as wires are still involved. You need to plug the right hand speaker into a power socket and then connect it to its partner with the supplied lead, in the usual master/slave arrangement, the slave being passive (no internal amplifier).

That said, after this it's merely a case of pairing the 'speakers with your Bluetooth device using the rear

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LINKS

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**Description**

Hi-Fi World brings you the best in hi-fi...from around the world!

- We listen and measure products in depth, at our London offices.
- Expert opinion from a team of renowned writers, musicians and engineers.
- International standard measurements using Rohde & Schwarz test equipment...

**Information**

Developer	audio web publishing ltd
Category	Entertainment
Updated	7 Dec. 2014
Version	1.0
Size	9 MB
Rating	Rated 4+
Family Sharing	Yes
Compatibility	Requires iOS 5.0 or later. Compatible with iPhone, iPad, and iPod touch.
Languages	English

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**A mid/bass driver and tweeter are used while controls are situated on the top of the main master unit.**

button – or plugging in an alternative analogue source via

the RCAs.

A remote control allows switching between inputs and controlling volume but there are also buttons on the top of the right-hand master 'speaker' to do this as well.

It's a small package but well-finished and easy to set-up with a reassuringly solid feel – especially as the cost per pair is just £200.

**SOUND QUALITY**

Setting up the Jamos, I'll admit I wasn't expecting anything exceptional about these diminutive loudspeakers. I was soon proved wrong.

They are actually rather potent and can punch out a sound much larger than their cabinets suggest. Using the Bluetooth connection from an iPhone X to play Bruce Springsteen's 'Born To Run' they handled the opening drum beats well while also having a degree of subtlety and space on the guitars.

OK, it was not overwhelming in terms of power but nevertheless tuneful and having a decent amount of detail – managing to keep

everything in synch without a feeling anything was missing.

Switching through a variety of tracks on the 'phone one thing consistently came over - these loudspeakers are honest with very little lift in bass or treble response.

But as they are rear-ported and small the Jamos do respond well to being used close to a back wall. Situated this way their low-end gains more presence without compromising the treble.

So, with John Coltrane's 'Live At The Village Vanguard' I was hearing more of the bass without losing the essential live atmosphere. Impressive - but even greater so when Coltrane's saxophone came in which, while not quite soaring, had a natural timbre around it.

They also have good stereo imaging with rather impressive spatial effects on Pink Floyd's 'Dark Side Of The Moon' where the panning between the right and left hand 'speakers' worked remarkably well.

Turning the volume up they did start to sound enclosed but that's only to be expected considering



**The rear of the master unit (left) contains the amplifier section, analogue input and is connected to the left-hand 'speaker' via a supplied lead.**

their size.

Used in the right environment, though, they are sweet and enjoyable. For £200 you could add these to a room, come home and stream music from a smart device with a quality that would be impossible just a few years ago.

**CONCLUSION**

An enjoyable Bluetooth loudspeaker that offers big sound from a small enclosure.

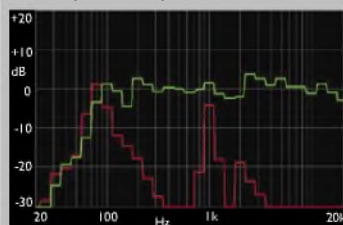
**MEASURED PERFORMANCE**

Frequency response of the DS4 was impressively flat across the audio spectrum our analysis shows, except for a small 2dB phase reversal around

2kHz, possibly due to an internal cabinet reflection. Jamo have obviously sought accuracy and have got close – impressive at the price.

**FREQUENCY RESPONSE**

**Green - driver output**  
**Red - port output**



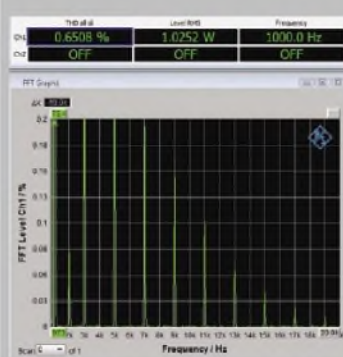
Bass rolls off below 90Hz, the port adding a little energy around 70Hz (red trace). Light but fast bass; no deep bass.

Power output of the amplifier measured 16 Watts (8 Ohms) – enough to go loud, but not very loud. Inevitably at the price this is a cheap Class D amplifier with high distortion – 0.65% at 1 Watt with a wide array of harmonics – there'll be coarseness in the sound.

The Line input needs 0.5V for full output so most sources will match (portable 'phone, DAP etc).

Jamo's DS4s had a well balanced measured performance, the loudspeaker's acoustic response kept in check for a sound that does not emphasise Class D distortion. A good package technically. **NK**

**DISTORTION**



Power (8 Ohms)	16W
Frequency response (-1dB)	50Hz-18kHz
Distortion (10k, 1W, 4 Ohms)	0.65%
Sensitivity	0.5V
Noise	-92dB



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**JAMO DS4 WIRELESS £200**



**OUTSTANDING - amongst the best**

**VALUE - keenly priced**

**VERDICT**

Small but potent – would make an ideal system for a second room or anyone wanting to simply connect via Bluetooth.

**FOR**

- compact Bluetooth stereo loudspeakers
- excellent looks
- natural sound

**AGAINST**

- still need to be coupled via a wire link

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# Big and Beautiful

**Longdog Audio's new P6 monoblocks have power aplenty and a sound that is truly seductive. Jon Myles explains all.**

**L**ongdog Audio may not be a household name in hi-fi circles but it's fair to say company founder Nick Gorham knows a good deal about building quality

audio equipment.

Based in the Yorkshire town of Halifax (or rural Halifax as their website has it), Longdog has designed and manufactured a wide range of products over the

years – from high-end single-ended valve amplifiers to power supplies for Naim streamers and also a Reference phonostage for Music First.

Now Nick has turned his





monoblock amplifiers and, as ever, come up with something a little different in the shape of the LDA P6.

Why different? Well, instead of using multiple output devices to get the claimed 200 Watts per channel Nick has employed a single pair of Mosfets originally developed for the power transmission industry and available in complementary pairs.

There's one catch, though; they're very hard to drive. So the P6 employs a smaller power amplifier to achieve this. In effect each one of the pair of output devices in each monoblock is itself driven by a smaller push-pull amplifier constructed by using a single pair of smaller output devices.

Each half of the output stage is itself driven by a push-pull amplifier. So it's Push (driven by push-pull) and Pull (driven by push-pull) - the six Ps giving the amplifier its name.

That output needs a big power supply so Nick has fitted a big mains transformer into each case. It measures a substantial 180mm x 460mm x 410mm (HxVxD) and each weighs in at a hefty 20kgs.

There's substantial heatsinking on each side because the Longdogs are biased into Class A for their first 20 Watts of output. On the rear there's a single RCA input alongside a pair of 'speaker binding posts and the IEC power input. Apart from the on/off switch on the front that's it - the Longdogs are big, fuss-free and definitely purposeful-looking.

However, the size and weight meant they wouldn't fit onto a standard hi-fi rack meaning floor placement was necessary with longer-than-average interconnects needed. No big problem but worth bearing in mind.

## SOUND QUALITY

With a Music First Audio Classic V2 pressed into service for pre-amplifier duties the Longdogs instantly came across as fast and nimble.

Powerful they may be, but that



**The Longdog monoblocks employ a large toroidal transformer to power the output section of the amplifier, as well as the smaller push-pull sections.**

Class A bias gives them an open, spacious sound. There's no sense of time smear or grain in the music - simply a broad, detailed soundstage which projects well into the room.

Through a pair of Quadral Aurum Rodan 9s (see review this issue) the cymbal on The Dave Brubeck Quartet's 'Take Five' sounded vibrantly realistic.

“Unlike some powerful monoblock amplifiers which tend to throw the music at you the Longdogs have a more relaxed nature that puts me in mind of valves”

Moreover the whole band was laid out before me - each instrument occupying an exact space in the overall sonic picture.

The Longdogs also sound positively rhythmic with excellent timing. New Order's 'Bizarre Love Triangle' through a pair of Sonus faber Olympica Is had thundering bass with real low-end power but devoid of overhang so the track zipped by. The sound of Gillian

Gilbert's electronics was also pristine. I could hear every note, every studio trick and the full range of the instruments.

Moving on to Messiaen's 'Quartet For The End Of Time' (24/96) there was strong midband clarity; clarinet had a superb, natural tonality whilst piano notes were strikingly rich and resonant.

Unlike some powerful monoblock amplifiers which tend to throw the music at you the Longdogs have a more relaxed nature that puts me in mind of valves. On the gloriously flowing 'Somewhere Down The Crazy River' by Robbie Robertson there was no transistor edge apparent - just a truly enthralling presentation that brought out Robbie's gruff vocals while allowing the gentle

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**Loudspeaker binding posts, a single RCA input plus an IEC mains input take up the back of the LDA P6. Simple - but effective. There is no balanced XLR input.**

**NOEL SAYS -**

Money, people and power. They go together – even in audio. A true audiophile amplifier is (should be) built upon audiophile components: resistors, capacitors, low leakage mains transformers and what have you. They cost money, often big money: £20 for a Jensen paper-in-oil that I like to use, instead of 20p for a bulk-purchased everyday part for example. Part cost is multiplied by successive mark-ups, typically by a factor of five. So a £20 capacitor adds £100 to retail price (on which £20 of VAT is added by the Government).

Now the 'people' part. Designer Nick Gorham is a true hard-core audiophile, as well as a skilled engineer. I speak to him regularly at Shows; he even looks the part, with long silver hair and beard! He uses quality parts and audiophile techniques, in addition to brewing up sophisticated circuits: the P6 produced so little distortion it was a shock.

And then there's 'power'. Not Class D but good old dependable Class A that doesn't syringe the ears – and plenty of it in the P6.

The P6 then is both a specialised and purist design, explaining its size, cost and complexity. Also its relaxed but thunderous sound. **NK**

instrumentation behind to slide along. I wouldn't say they sound as rich as valves but they certainly sound organic in the same way.

The Longdogs will also go shatteringly loud without a sweat. With Massive Attack's 'Unfinished Sympathy' bass and vocals stayed firm and steady no matter how high I turned up volume – the only limit seems to be what the 'speakers (or ears!) can tolerate.

In fact, the longer I listened to these monoblocks the more impressed I became. They work

with all sorts of music: heavy rock, chamber, opera, orchestral and all genres in-between, with a total ease of delivery.

Admittedly, £7500 for a pair of large monoblocks won't suit everyone's budget but I'd prefer to look at it a different way. They are so sweet sounding and well-built that you might never have to consider another upgrade in

the amplification department and instead simply build your ancillaries around them - improving source, loudspeakers and pre-amp as time goes by.

**CONCLUSION**

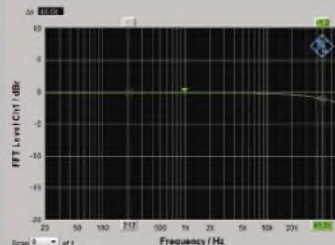
The Longdog Audio LDA SP6s are a class act. Powerful yet refined and beguiling to listen to. Plug them in, sit back and enjoy.

**MEASURED PERFORMANCE**

Power output of a Longdog P6 measured 130 Watts into 8 Ohms and 250 Watts into 4 Ohms (0.1% distortion limit), so it is both powerful and able to double its power when load is halved, something few amplifiers can manage due to power supply current limitation. This ability suggests it will have powerful bass, as bass current is not curtailed by power supply droop.

Into 4 Ohms frequency response extended flat to 46kHz and into 8 Ohms a little higher, likely due to an output stability (Zobel) network that most amplifiers have. At the other end of the spectrum output measured flat down to 3Hz. So the P6 covers the audio band smoothly and will sound tonally balanced.

**FREQUENCY RESPONSE**

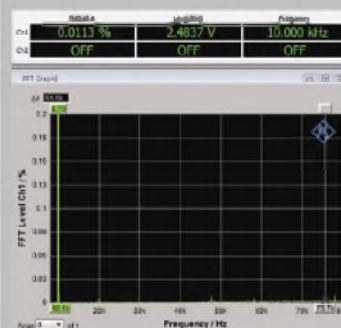


Distortion levels were low, with no rise at high frequencies – important and impressive. At 1 Watt output the figure was 0.01% at 1kHz and 10kHz – the same at full output too. This is both a very low distortion design and one without changing high frequency harmonic patterns that the ear detects.

Input sensitivity was a conventional 1V and noise low at -115dB.

The Longdog Audio P6 is powerful, unusually well regulated and of supremely low distortion at all output levels and frequencies. It has an excellent measured performance. **NK**

**DISTORTION**



Power (8 Ohms)	130W
Frequency response (-1dB)	3Hz-46kHz
Distortion (10k, 1W, 4 Ohms)	0.01%
Sensitivity	1.3V
Noise	-115dB
Damping factor	35

**LONGDOG AUDIO P6 £7500**



**OUTSTANDING - amongst the best**

**VERDICT**

Refined, detailed and powerful. The Longdog P6s are a joy to listen to and set a new benchmark at the price.

**FOR**

- power
- biased into Class A
- massive soundstage
- deep bass
- open and revealing

**AGAINST**

- not small

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# Superior Sound

The new Element Superior interconnects from Atlas Cables get Jon Myles's feet tapping.

**T**alk to anyone at Atlas Cables and you'll quickly discover they are pretty passionate about their trade. The Scotland-based company is one of the few that actually demonstrated how they build their cables at hi-fi shows around the world - emphasising the importance of correct termination.

Managing director Kevin Kelly can wax lyrical about the merits of ensuring signal integrity throughout a cable. Which is why the company has introduced its new Element Superior interconnect which eschews soldering the plugs in favour of cold-weld crimping. Atlas says it's the first of its range to feature 100% calibrated compression fittings for both the signal and return conductors.

Kevin said "We were staggered at the difference in performance that this new cold weld technology has over traditional solder terminations. It might seem like a small thing but when you are working to create the most transparent cable at the price the benefits were obvious. Although a budget cable within our range we are delighted with the results".

Atlas developed a new tooling system at its Kilmarnock base to

implement the cold-weld crimping and ensure a secure bond between the signal and return conductors and the plugs.

Other changes include increasing the amount of copper in the conductors by 20% and using a stabilised foamed polyethylene dielectric with the whole encased in a pearl-silver polyethylene sheath. Atlas's own low-mass non-conductive Integra RCA plugs are fitted as standard.

Despite all the improvements this is still a relatively budget interconnect - starting at £60 for a 0.5 metre pair and rising to £122.50 for 3 metres.

## SOUND QUALITY

Swapping out a standard pair of interconnects and inserting the Atlas cables between an Oppo UDP-205 universal disc player and a pair of Longdog Audio LDA P6 monoblock amplifiers saw an immediate improvement.

This interconnect is extremely clear and open, with impressive transient speed. With The Pixies' 'Debaser' Joey Santiago's lead guitar was fast and crystal clear - the strings simply zinging as his fingers crossed the fretboard.

Bass was also well-defined, being tuneful on Led Zeppelin's 'Dazed And Confused' - not simply the thump some cheaper interconnects make it sound like.

Moving back to the original interconnects made this track sound rather leaden - the pace and space between the instruments seemingly closed in.

Back with the Atlas cables the sound of Sinead O'Connor's voice on Peggy Gordon from her Sean-Nós Nua collection of Irish ballads was spine-tinglingly good, the slight echo on the track coming over clearly.

Admittedly, some higher-priced interconnects will bring out a little extra detail and nuance but at the price these Atlas Element Superiors put in an impressive performance and can be recommended as a system upgrade.

## CONCLUSION

There's definitely something in this cold-weld crimping technology - and I know other cable companies are looking at its benefits. These Element Superiors are clean, open and detailed. They also sound extremely pacy, bringing the best from up-tempo tracks.

**ATLAS ELEMENT SUPERIOR £60 0.5 METRE PAIR (OTHER LENGTHS AVAILABLE)**



**OUTSTANDING - amongst the best.**

**VALUE - keenly priced**

### VERDICT

A relatively budget interconnect that belies its price in terms of performance. Fast and open with excellent detail.

### FOR

- pacy  
- open  
- detailed

### AGAINST

- nothing

Atlas Cables  
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www.atlascables.com





STEALERS WHEEL

The A&M Years  
Caroline

**S**tealers Wheel were formed around the core of two people, Gerry Rafferty and Joe Egan. In fact, Rafferty had employed Egan while creating his less than successful first solo LP 'Can I Have My Money Back?' From that point, the pair created Stealers Wheel and formed the band's song-writing and vocal bedrock, along with an initially unstable line-up that settled (for now) on Paul Pilnick (guitar), Tony Williams (bass) and drummer Rod Coombes (who some might recognise from Juicy Lucy or his later group, the Strawbs).

Their excellent self-titled debut (1972) produced the big hit, 'Stuck in the Middle With You' but the unstable nature of the band continued with Rafferty leaving and coming back again, with other band members coming and going. In the end Rafferty and Egan adopted a system where they were the band and they were supported

by backing musicians, as and when. It seemed easier that way. That's how 'Ferguslie Park' (1974) was created – but the pressure for bigger and more frequent hits caused friction between the two. The third and final album, 'Right or Wrong' (1975) 'fell out' into the market as the duo were splitting up.

This clamshell box set features all three albums in mini-LP sleeves with a nicely designed colour booklet detailing record sleeves and band photos.

For the mastering, the label has done a good job in retaining the golden warmth prevalent on many seventies-based productions. There is a happy glow to the arrangements. At times, there is even a slightly airless, claustrophobic atmosphere that gives the songs an intensely personal feel.

Overall, this re-issue sparkles but manages to retain the feel of the original – which is all you can ask for with a CD reissue.

# AUDIOPHILE CD



DON'T GO NEAR THE ESKIMOS

28 Classic U.S. Novelties  
Jasmine

**A** crazy selection of crazy tunes of a novelty nature. Many will be familiar but many more will not. In fact, there's a goodly few rarities amongst this twenty-eight track CD.

The notion of the novelty song stretches back to Vaudeville in the USA and Music Hall in the UK and beyond. It has always provided an easily accessible, highly entertaining and immediately popular source of music for all. The novelty song is also of social interest because it provides a gauge to the sensibilities of society at the time.

To get contemporary airplay for your record you'd need to tone down the offensive lyrics a tad, even if one or two artists failed to judge taste correctly. Here, you can find Screaming Jay Hawkins singing about his girlfriend's own particular 'perfume' called 'Armpit No.6', for example.

Some novelties have actually been technologically forward thinking. Take David Seville's 'Witch Doctor' that introduced the listener to speeded up voices on a record. He'd return with the Chipmunks to irritate the hell out of music listeners for many years.

Most novelty songs trod a careful line and played for laughs. One of the best arrived with The Coasters and Leiber-Stoller's own 'Along Came Jones' which used a humorous background to hold a genuinely admirable musical single.

Some ditties are just odd, though, in their very conception. Witness Jimmy Jones' 'Lone Ranger Gonna Git Married' with its drunken guitar solo.

There's a host of other 'star' items here including Larry Verne's 'Mr Custer', Bert Covey's 'The Gorilla' and Lonnie Russ' 'My Wife Can't Cook' to delight and mystify. A CD you'll want to play out of sheer curiosity.

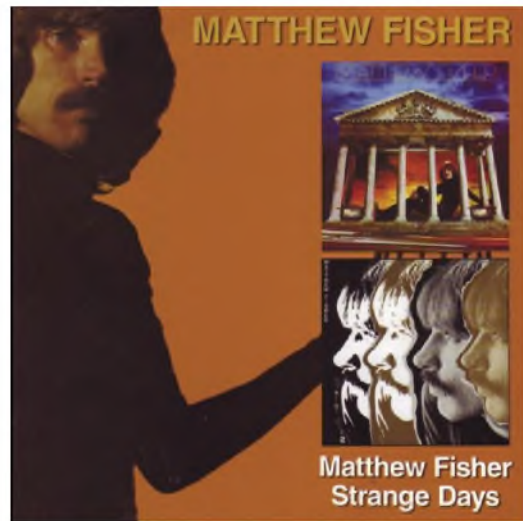
**A** founder member of the legendary Procol Harum, Fisher was the organist for the band, delved into production and arrangements and, after a royalties appeal reached the House of Lords, was proven to be a co-writer for the iconic song, 'A Whiter Shade of Pale'. Fisher is a multi-talented musician, proficient on many instruments. Upon leaving the band, he would work with other artists and was, for a time, a 'Spider'. That is one of the Spiders From Mars, David Bowie's early backing group. He issued his own solo works during the early seventies but his solo albums were never a regular occurrence. Both of the albums presented on this CD appeared after a hiatus during the eighties, as Fisher undertook more and more soundtrack work.

The self-titled album from 1980 is a superb album, full of heartfelt ballads. 'Anna', for example, combines the slightly

folksy singer-songwriter image with big, bold, and slightly epic arrangements that give you the 'small man on a big stage' feel that would, for example, be so successful for the likes of Andrew Gold. In fact, you could draw comparisons between the two here.

Strange Days (1981) offers more power pop sensibilities with a lush production – and lots of double-tracked vocals combined with the more new wave music fashion of the period. A higher energy suite of songs, in fact. This album doesn't quite have the dramatic focus of the earlier album but there is still much to like here with a suite of light and airy songs presented with lots of energy.

In mastering terms, there is a touch of compression residing within the mids but the effect is quite subtle so that the effect is used more to emphasise detail than to intrude upon the whole soundstage.



**MATTHEW FISHER**

**Matthew Fisher/Strange Days**  
Angel Air

AUDIOPHILE CD

**T**here's a sort of tradition in prog rock that keyboard players should be 'out there'.

All teeth and capes, lots of flash, loud, playing portable keyboards between their legs and stabbing them with knives. That kind of thing.

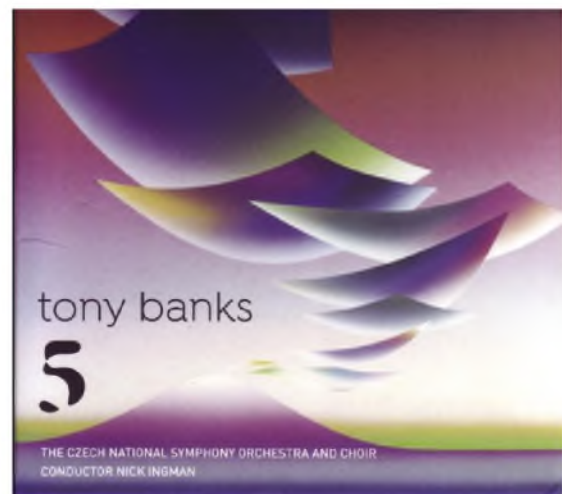
And then there's Tony Banks. A quiet, considered and rather introverted man. That is, if his stage presence is anything to go by. And yet, it is his sound that is the Genesis sound. Tight lipped he might be on the Genesis LPs but Banks lays the foundation for the group's solid signature.

This new album from Banks is his tenth, complete with sleeve art that looks like default PC wallpaper from Microsoft. Its style might be a surprise to some because its an orchestral work, conducted by Nick Ingham and performed by the Czech National Symphony Orchestra and choir

(with Banks at the piano). This is, in fact, Banks' third such orchestral creation. A fan of Sibelius, Mahler and Ralph Vaughan Williams, the name of the album is in the content because it features five pieces of work, recorded over various locations and times.

'Prelude to a Million Years' (a title borrowed from a 1933 'wordless novel' from artist Lynd Ward) is a sweeping, sometimes pastoral piece that builds in drama and form while 'Renaissance' was sparked by a nineties soundtrack experiment.

Overall, despite the odd contemporary twist here and there, this is an album that looks back to classic orchestral forms and wallows in a time gone by. There's almost something nostalgic and even, on occasion, elegiac about the musical constructions. A time lost perhaps? Moments passed? The sounds of a home that resides in a memory.



**TONY BANKS**

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BMG

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# "What we really got with CD was imperfect sound forever. Oh dear!"



Noel Keywood

**W**e are diddled by digital. Recently I visited a manufacturer who, in a demo of an upcoming new amplifier – of impressive complexity and build quality – produced a sound I would not want to live with. But I wasn't listening to the amplifier, so much as the digital recording being played through it. Roxy Music's 'Avalon' might have sounded good decades ago, but not now, as we grow accustomed to hi-res and DSD. No end of great performances have suffered in their transfer to digital, Led Zeppelin's music being another good example.

Today we are slowly trying to move forward – away from digital transcriptions made through yesteryear analogue-to-digital studio converters of dubious ability by modern standards. They're responsible for the coarse, papery quality that marks out digital from analogue. This sound is an historical experience with an on-going overhang, since it colours our view of 'digital'.

Not only does it affect manufacturers who choose to use popular CDs for product demonstration it also affects my choice of review music and the way I review a hi-fi system.

Digital can be so much better than we commonly experience it. I need not cringe at a demo simply because digital is used. It's just that much of what we hear, that shapes our general view, is that in quality terms.

Some time ago we received compilation CDs from Dali of music demo tracks. At the time they joined our collection of such things, most of which 'had merit', but weren't quite convincing for one reason or another. Obviously they sounded good to someone at the time, as my Fisher fidelity standard LP once did

to me back in the 1970s, but played today this LP makes me cringe, and so do most CDs containing demo tracks. Times change, standards and expectations rise.

However, unlike its companions, Dali's demo tracks grew on me and I started hearing them repetitively at shows, especially Hugh Masekela's 'Stimela'.

Intrigued by Dali's obviously popular selection of tracks that, to my ears, definitely sounded unusually good for CD I decided to investigate. It's impossible to measure music for distortion but it is possible to measure its spectral content – strength of bass and treble – and also its dynamic range.

The Dali CDs quite obviously have strong bass and treble. What interested me more was their dynamic range – a very controversial subject in audio. My quick and dirty go-to here for measurement you can use too: it is the free Audacity music editor. Checking Dali's selection of tracks with Audacity showed very clearly they have far greater dynamic range than most 'commercial' music on CD. Stretching out the bar graphs across my computer screen to better see detail, the maximum peak hold lines (blue) were almost reaching 0dB as they are meant to, whilst quiet passages were hovering around the -40dB mark – very low.

If I compare this with standard commercial Rock, my benchmark being The Eagles 'Journey Out of Eden' since it is MOR Rock and the instrumental line up is classic guitar, drum, bass, and vocals, tracks like 'Somebody' send Audacity's bar graph meters up to maximum and they stay there with little variation – around 5dB-10dB at most. Yet this is the sound we are all used to and it is what I heard with 'Avalon'. The music has been compressed during editing to sound loud.

This is not now what I choose to use when reviewing because it doesn't stress products. No matter that none of us want to listen to 'Pink Panther' from the Dali CD over and over again – I have to!

The large dynamic variation of these tracks stresses amplifiers and loudspeakers more than most Rock – and it's also impressive to hear. Trouble is I have now become accustomed to these slick sounding review tracks and can't easily go back to everyday CD without cringing a little – sometimes a lot. They don't sound right after you've experienced better.

An interesting gadget that puts a simple figure on dynamic range – Audacity does not – is available from MAAT Digital. It is their DROffline meter, available as a 14 day free trial, after which it costs just \$15. This consistently gave a maximum 14 ranking to the Dali tracks (this is not dB but an arbitrary figure) whilst the Eagles CD tracks all came out at 8. Running other music tracks through the MAAT showed most hit 8, some good ones coming in at 10.

What the MAAT confirms then, in a simple number, is that most of what we hear on CD really isn't very good. Meaning manufacturers shouldn't be demoing with it and reviewers shouldn't ideally be reviewing with it. I'd suggest. Commercial music CDs don't stress products – and they don't sound any good either.

In practice I do have to use 'commercial CDs' but these days I increasingly rely on hi-res via either our Oppo UDP205 Universal player acting as a DAC or an Audiolab M-DAC+. Admittedly not all hi-res is very high, but most is better than everyday CD.

What we really got with CD was imperfect sound forever. Oh dear! We are all diddled – and to some extent it isn't even CD's fault. ●



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"you realise just how many variants of funk there are and just how many journeys"



Paul Rigby

There are many irritating and disconcerting aspects that can be attributed to age but one of the good things, I find, is how age relates to experience and, from that, an evolution in all things including changes and maturation of taste. Especially in music.

In my early twenties, I moved from prog (i.e. Genesis, Yes, Pink Floyd, etc) and bombastic rock (i.e. Queen) and, during the late seventies and eighties, focused on the burgeoning genres of electronica (i.e. Kraftwerk and minimal varieties), post punk and the genre that has been bastardised since, indie. In those days 'indie' meant a specific genre and type of music. Not now, of course. 'Indie' has gone the way of 'R&B'.

As time moved on, so did my tastes. I refound jazz vocal and the Great American Songbook as well as rather more experimental rock and prog and the like.

More recently, I've discovered a new respect for throwaway pop (mainly because of the long-running Top of the Pops series broadcast on BBC 4 that reintroduced me to songs from my youth - I never realised that I enjoyed Fun Boy Three so much). I've also suddenly realised that I like a growing array of genres that I used to positively avoid in my youth.

In fact, this was a weird one. I actually remember sitting at the kitchen table, only fairly recently, I was reading a history book I remember, I think it was WW2 related. A foreign thought then suddenly intruded from outside to stop me dead. I raised my head from the book. Took a sip of coffee and exclaimed aloud, "Oh my god, I like

funk!" I stared into space and silence reigned for a long ten seconds as the thought sunk in. It was a startling realisation and it took me completely by surprise.

Actually, I think I was slowly listening to more and more funk without actually realising it or consciously searching for it and the jigsaw pieces suddenly fit and coalesced over the kitchen table, as it were.

Then I realised that I was hooked and that I had to go search for more of it. So I did, I hit Discogs and bought a few items: Isley Brothers, early Kool & The Gang, Earth Wind & Fire...even Shakatak (jazz funk) and skirting around the edges of funk with the post punk outfit, A Certain Ratio!

I've really arrived at the doorstep of funk comparatively late on. In terms of a full on concentration of the genre, that is. I also realised that I was not really into the early period of funk, the height of James Brown for example, when funk seemed to be more R&B than any form of mature funk that I recognised.

I also realised that my love of prog rock helped me to enjoy funk's modes. As prog is a complex form of rock then funk is a complex form of soul. Funk offers grooves created via guitar and bass but also, via many groups, synths and vocal harmonies. They constantly reform themselves, invert within themselves and fracture to become anew as you might find within jazz. Quality funk can be listened to many, many times and you will discover new elements of the track you missed previously.

Looking for a crash course in funk old and new, common and - very often - rare, I found a

superb series published by BGP ([www.acerecords.co.uk](http://www.acerecords.co.uk)) under the 'SuperFunk' brand (i.e. 'SuperFunk Volume 1', 'Volume 2', etc). They tend to be compilations which are ideal for the funk student to digest an overview of the funk scene - over a wide time span and a series of styles.

Not all of these tracks are my taste. Those early funk outings, for example. That said, they provide a good grounding of the genre and show you where the music came from in the first place.

The same label also offers other variants such as multiple volumes of the so-called 'Super Breaks', plus specific groups such as the classic outfit that merged funk with psychedelic edges, often known as 'P-Funk', Funkadelic. You can buy specific albums or a compilation from the same label that covers work from early to mid-seventies.

As you move through these compilations and beyond, you realise just how many variants of funk there are and just how many journeys the genre allows your mind to take. Place Shakatak's 'Night Bird' next to Funkadelic's 'Free Your Mind and Your Ass Will Follow' and be amazed at the groove links between the two and, simultaneously, the vast expanse in style between them.

But it's that layer of complexity that hits me every time, no matter what flavour of funk I experience. More than that, once more I find that I'm excited by music again. And this is the real crux of this piece. No matter how long I listen to music, no matter how familiar it becomes to me, there is a never ending trail of new discoveries to be had from this beautiful 'thing' called music. God bless it. ●

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# “We should all mourn the passing of a true musical maverick”



Jon Myles

**T**here are some artists whose influence far exceeds their commercial success – those who are truly different but never embraced by the mainstream during their time.

Lou Reed's The Velvet Underground immediately spring to mind. Their first two albums ('The Velvet Underground & Nico' and 'White Light/White Heat') were largely ignored by the critics and didn't do much in terms of sales. Yet the music seeped into the future sounds of the likes of Joy Division, Sonic Youth, Talking Heads, The Jesus And Mary Chain and The Flaming Lips.

Ditto the Alex Chilton-led Big Star who never made it big but are cited by no less than REM, The Replacements and Teenage Fanclub as a seminal influence.

Another example is The Fall – whose frontman Mark E Smith sadly passed away recently at the age of 60. Actually, to call Smith 'frontman' is doing him a disservice as he actually was The Fall to all intents and purposes, managing to go through 66 different band members during a 41-year career that produced 32 studio albums. As he once said "If it's me and yer granny on bongos, it's The Fall".

Irascible, maverick, domineering, moody and opinionated are just some of the adjectives used to describe Mark E Smith in the various obituaries written after his death.

But having met him a good few times, the first one being while writing for a nascent fanzine and taking place in a dingy basement club

in Manchester which I was strictly much too young to be allowed entry to – I'd use the terms funny, polite and passionate about music. But opinionated is right.

He certainly was – as is reflected in The Fall's music and lyrics. His vocal style was distinctly different – a half-singing, half-ranting combination which came across as nothing less than a musical stream of consciousness which did at times make complete sense and at others left me completely baffled.

And, admittedly, some of the reasons for sacking band members could appear totally illogical but somehow they did tend to work overall, as album after album had a different direction and purpose with a completely different line-up – but still with the inimitable sound of The Fall.

Going back to the start, The Fall's debut album 'Live At The Witch Trials' is still a stone-cold classic. It sounds like a cross between Captain Beefheart and post-punk British music – with a good dose of Mancunian humour pumped in. When it emerged there really was nothing like it at the time – it was raw, blisteringly different yet somehow fully-formed and visionary. It seemed to point to just where music could go if anyone was allowed to try, in a time when the likes of Emerson Lake & Palmer, Pink Floyd and Yes held sway in album sales.

All the better was that this was forged by a man who exemplified what punk was all about. He left school at 16 and went to work as a clerk at Salford docks before

forming The Fall. But he continued his education with night classes in literature and numbered George Orwell, HP Lovecraft and Albert Camus among his favourite authors (the band was named after the latter's novel *La Chute*).

Live on stage The Fall could be bewildering – one night utterly astonishing the next completely ramshackle. But, in a way, that only added to the magic around them. You really never knew what you would get

The late, great John Peel frequently cited The Fall as one of his favourite bands and they recorded 24 sessions for his BBC programme – which is some going and shows how much he relished their musical style and desire to be different.

As to breadth of Mark E Smith's vision well, heck, he even wrote the music for a ballet by Michael Clark called *I Am Curious, Orange*.

Happy Mondays, Sonic Youth, LCD Soundsystem, The Pixies and These New Puritans have all acknowledged a debt to The Fall and the band's rather left-field but different take on things.

That's not a bad legacy to leave overall. Especially in an age where achieving music stardom seems to revolve around belting out a number of tried and tested ballads on The X Factor or some other so-called talent show.

So, whether you actually like The Fall's music or not (and I defy anyone not to find a single song from those 32 albums that they don't enjoy) we should all mourn the passing of a true musical maverick and inspiration. ●

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# "A car is a natural environment for quadraphonic sound, using front and rear speakers"



Martin Pipe

"**Q**uadrasonic sound, a waterbed, and now a strobe light. Gentlemen, say hello to the second-base mobile..." That's a line from a vintage Simpsons episode I caught on TV recently. In 'Homerpalooza', our titular anti-hero joins a music festival as a carnival freak after a 'coolness crisis'.

The above quote is part of a 1970s flashback, influenced by 1993 coming-of-age comedy 'Dazed and Confused'. Homer approaches a van that had been customised by groovy freaks, and is cruelly rebuffed to the soundtrack of Edgar Winter's magnificent 1973 instrumental Frankenstein.

The Simpsons writers got it right – there was indeed a quad mix of Frankenstein (and, for that matter, its parent album They Only Come Out at Night). And the van's quadrasonic sound system played eight-track cartridges, examples of which are scattered around the vehicle; if you wanted mobile quad in the '70s, this format's quadrasonic version (QB) was the only option.

Which got me thinking. A car is a natural environment for quadrasonic sound – most are after all equipped with front and rear speakers, and you're sitting in a fixed position. I find myself driving more these days, due to a change in personal circumstances. Would there be some way of giving my car a 'quad makeover', so I can enjoy 'on the move' material I have accumulated in quad form – as well as regular stereo material? Regular readers will be aware of my interest in quadrasonics, which formed the basis of a Olde Worlde series a couple of years back.

So, what are my options? The original analogue QB is a no-no – its sound quality sucked, and tapes would regularly jam!

What about digital media? DVD was designed to accommodate discrete 5.1 multichannel soundtracks from the outset. There was also a hi-res audio-only version, called DVD-Audio – that supported 5.1 too. Leave out the centre and subwoofer channels of a 5.1 rig, and you get 4.0 – quad, in other words.

So, could I buy an in-car DVD player with discrete multichannel audio? That means a surround decoder, capable of feeding at least four amplifiers independently. It must have a radio too, be a replacement fit for my existing single-DIN 'head unit' and ideally provide features like USB playback (with FLAC compatibility) and a line input. eBay lists several contenders, all of which are sourced from no-name Chinese concerns and sell for less than £100.

All could play (multiregion) DVD-Video, but not its audio sibling. Although most of my self-made transfers from vintage quad recordings, field recordings and captures of 2015/6 Proms concerts are in DVD-Audio format, they have a DVD-Video section with Dolby Digital 5.1 soundtrack for compatibility. I could 'rip' and convert the remaining DVD-Audio-only discs into DTS CDs – a clever format that replaced a Red Book stereo PCM stream with a lossy DTS multichannel one of identical bitrate.

None of these units sported logos hinting to the inclusion of Dolby Digital or DTS multichannel decoders, although that might be a deliberate oversight! Modifying domestic equipment for 12V use was hardly practical.

Time, then, to consider second-

hand gear on eBay. In-car DVD players of the sort that met most of my requirements were sold in the 2000s. Some, notably from Pioneer, needed an external surround decoder unit – few of the eBay players came with it!

Then I came across a range of 'EXAD' head units from JVC, which was a key player in quadrasonics back in the 1970s (it invented the CD-4 discrete 4-channel vinyl technology). All are self-contained, with the necessary DTS/Dolby Digital decoders and amplifiers, and even have front-panel displays for menus and video! A radio tuner is provided, as are a line input and outputs for centre-channel (not needed for quad) and subwoofer. The first model, the KD-AVX1, offers DVD playback only. It was replaced by the KD-AVX2, which added DVD-A playback. The final model, the KD-AVX33, throws in USB MP3 playback and Bluetooth.

I acquired a KD-AVX2 and, with a certain amount of difficulty, replaced my existing Sony head unit. My first disc was – of course – Frankenstein! It was quite an experience to be enveloped with sound in this way.

Then came a succession of other discs – Pink Floyd's Dark Side of the Moon, Nektar's Remember The Future, a 2015 Prom featuring Stravinsky's The Rite of Spring, field recordings of a dawn chorus, Joni Mitchell's Hissing of Summer Lawns...

The sound lacks treble 'sparkle' and low-end slam, and I'm now more aware of unwanted 'cabin rattles'. Maybe I should replace the speakers with ones that can do justice to DVD-Audio's potential, and consider adding a subwoofer of some sort to reproduce those deeper basslines. My CDs and radio should of course sound better too... ●

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"we are no longer as practical and hands on as we were"



Dave Tutt

One of my customers arrived in a 1964 American saloon, having spent his recent life living in the USA. He brought with him his hi-fi that he'd owned and used there – and of course it now became time to establish if it could be converted to run in the UK.

Most equipment for the American market has 120V mains input only. In the dim and distant past many companies used a universal transformer with input switching so you could use your equipment anywhere in the world.

Indeed, items like synchronous turntables, with motors locked to mains frequency, were often supplied not only with voltage switching but with a different pulley for you to swap over so speed variation caused by the change to 50Hz from America's 60Hz could be eliminated.

We are no longer as practical and hands on as we were! As we have become more multi-national and international we have seen fit to use compact self-sensing power supplies of the switch-mode type so our laptops – and to a certain extent our hi-fi too – is totally compatible. All the same, some gear is still in need of remedy, because switch-mode power supplies have a bad reputation sonically.

His Teac AG-790 receiver had two transformers, a standby one that is permanently connected to the mains for the use of the remote control system, plus a large one for the rest of the supplies. A search on the spares or repairs collection on eBay brought up an identical British candidate which for £20 including delivery was well worth buying. When it arrived the power amps were dead which I always equate with party damage, but the trannies were fine so they went in. Even if

you could buy new ones I would doubt you would see any change out of £100 so it was a significant saving. FAT certification and audio testing proved it was perfectly happy so his Teac is ready to go.

There was also a Technics SL-3300 Direct Drive turntable. Damage in transit included the loss of the stylus. Cartridge was an ADC QLM36 so the stylus is obtainable from Musonic – an order got one on the way. On this turntable the 120V issue was not much more complicated than the Teac. On test the transformer here is a 24V type in an odd and non standard clamp.

Its power consumption was less than 10VA so a small 20VA type was ideal. Mounting proved an issue however – and it is important to get the orientation right to minimise the likelihood of hum pickup.

Once I got the positioning sorted the only viable fitting solution was to use a whole pack of fast setting epoxy resin and pot the whole thing into the depression in the top plate. Once wired this worked fine too. I may well change the phono leads though as I hate the original flimsy types used by Technics.

The last item was very unusual. It was made by RCA Victor and called the 45-EY-3; a small record player for 7 inch singles with the large centre hole as made for Juke boxes. According to the owner there are lots of bits for these – but none here in the UK from what I could see. So a 120V step down transformer had to be found. Apparently it was running slow even in the USA. Investigation of this issue proved to be telling. The main bearing had failed and sheared out of the pressed steel bed plate. This in turn had ripped out the shaft of the automatic disk delivery system.

A combination of steel and

brass and aluminium all together seemed to have been the demise of this 1951 device. Pins I inserted in the shaft seemed to re-engage the mechanism. Some oil in the right places helped too, including on the seized motor.

Also, I soon identified an open circuit crystal cartridge and the same for the speaker. Then a requirement for some resistor and capacitor replacements on the three-valve amplifier and some fine adjustment of the arm activated mute switching system slowly brought this contraption to life.

How to mount the new transformer in this case was to extend the case. By adding some 3 inches to the bottom of the box a new mains cable and clamp could be added to make it safer. A live chassis of this type is really not the sort of thing that should be used today. The modifications isolated the chassis and a proper fuse and earthing made it a whole lot more user friendly.

Repairs and modifications are almost finished so the whole lot will return to the customer with a suitable bill in the next few days.

It is always interesting to see equipment that needs not only repair but modification – and in the latter case complete renovation.

It is also interesting when having to diagnose the possibilities of repair from blurred low res pictures found on the web. Noel and I have discussed this very thing in the last few weeks. There is almost always a way to make things work, although we do have to consider the value of the equipment both from a resale standpoint and on an emotional level too. Some people are very attached to their life long hi-fi while others treat it more as a disposable, endlessly interchangeable and to some extent worthless commodity – but not me! ●

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# Lyricaly Beautiful

A new Japanese wi-fi 'speaker that not only plays music but shows the lyrics as it does so. Jon Myles looks on in admiration.



**T**o a hi-fi enthusiast a well-made and built loudspeaker can be a thing of beauty. But, let's be honest, there's not that many you'd want to stare at endlessly while listening.

Then there's the Lyric – whose main point is that you should want to do just that. Why? Because – as our pictures show – it actually displays the lyrics of the song while it's playing.

Designer Jin Saino from Japanese firm Cotodama told Hi-Fi World the inspiration behind the creation of the Lyric was to enable to better connect with music and the intentions behind the creation of songs.

He said "I believe music impacts massively on people's mind; music cheers you up when you are sad, when you have broken up with your

partner or gets you in the mood for a party. I think lyrics are one of the biggest elements that enables music to pull at people's heartstrings. If you like the song because of its lyrics, that song would become your lifetime favourite. So, I wish more people can enjoy the power of lyrics and find out new aspects of their favourite songs through the Lyric speaker".

"In Japan, there is a culture of appreciating words themselves as a form of art such as Shodo (calligraphy) and decorating your favourite words with Kakejiku (hanging scroll). Through making Lyric speaker's visuals with the artists and the programmers, we've been trying to put this Japanese aesthetics into our product and contribute to the world's music industry.

Also, I strongly wish we can provide new lifestyle living with fantastic lyrics to make someone's

life better. I believe Lyric speaker will be able to become a bridge between artists and audiences too. Music itself was created as a message from the artist to its listeners and this message is communicated much more effectively with the lyrics displayed as well as the music itself". Now you know!

Unbox the Lyric and it looks unassuming at first. There's a 22-inch translucent screen with two embedded co-axial drivers and a passive bass radiator at the rear with two down-firing 'speakers in the stainless steel casing.

Plug it in and Lyric's appeal becomes obvious. It works via wi-fi (there's no Bluetooth) and once you start streaming songs from your smart device (Android or iOS) the lyrics start magically scrolling across the screen. The Lyric accesses an on-line database to get the information and the font and style actually changes depending on the genre and mood of the song being played.

Currently lyrics to more than 2 million songs are stored and available, with more being added every week. If the song being played is not yet catalogued the 'speaker displays a series of graphics.

The unit itself is hand-built in



*The Lyric has a pair of coaxial midrange/tweeter units on the front.*



**On the rear is the woofer and the rest of the 'speaker units can be seen – although this is not a view anyone would wish to see as it's the front panel that matters!**

Japan with only 15 units a month being built. Construction is up to high-end Japanese standards with no sharp edges or obvious flaws in the casing. It can be ordered on-line from [www.lyric-speaker.com](http://www.lyric-speaker.com) and as the unit is shipped from Belgium there's no import tax to pay.

"with Daft Punk the Lyric took hold of the pace and I couldn't help but stare in wonder as the lyrics flashed across the screen in perfect sync"

**SOUND QUALITY**

While it's undeniably a visual showcase the Lyric is going to have to sound good to justify its £4320 price. And, actually, it does. Despite the relatively small drivers it pumps out a room-filling sound. Place it near a rear wall to accentuate bass and it has a rich, deep character.

Streaming Nick Cave's 'The Mercy Seat' from an iPhone 7 the layered guitar lines had bite with the growling

vocals pushed well into the room. Bass – while not overly deep – was still strong and accurate.

With Daft Punk's 'Get Lucky' the Lyric took hold of the pace of the track with aplomb, pushing everything along with verve. And I really couldn't help but stare in wonder as the lyrics flashed

across the screen in perfect sync.

Switching to Massive Attack's 'Safe From Harm' the lyrics danced and swirled across the screen changing in font and size to match the rhythm of the song.

On lighter tracks there was also a good sense of delicacy. Barb Jung's smoky voice on 'Man In The Long Black Coat' sounded deliciously breathy, absolutely full of emotion.

Downsides? Well, for the price you could easily assemble a package of separates that will beat the Lyric for absolute sound quality. But they wouldn't be anywhere near as aesthetically appealing or draw you into the music on both a visual and sonic level. Which is exactly what this innovative loudspeaker does.

**CONCLUSION**

It might not be exactly cheap but the Lyric is something really different and fascinating. Put one of these in your living room and visitors will be staring transfixed at its screen while they play their favourite songs from a smartphone.



**Two bass radiators (ABRs) on the base help reinforce low-end sound.**

**MEASURED PERFORMANCE**

Frequency response of the Lyric, shown in our analysis, falls slowly toward high frequencies, giving a reasonably consistent down-tilt that will result in a full bodied sound, a little warm in balance but with quite good detail all the same due to strong output across the upper mid-band (1kHz - 4kHz). The concentric tweeters within each of the bass-mid drive units peak output up around 12kHz, providing some high-end sharpness. This is the on-axis result, meaning directly in front of the panel.

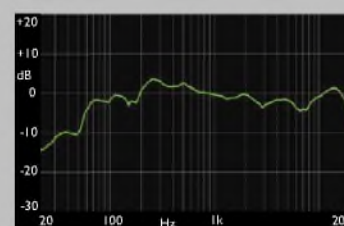
Off-axis, treble from the concentric tweeters fell substantially, enough to give an obviously warm sound balance.

The two bottom firing passive auxiliary bass radiators (ABRs) helped maintain bass down to 70Hz with the unit mounted on a flat surface. Bass output falls steadily below 250Hz but all the same it is little (-3dB) down at 60Hz

(low bass) so the small Lyric manages well enough in this regard. It won't have big bass, but it will have low frequency content – and clearly from the use of ABRs Lyric have put some thought and effort into this.

The Lyric has a well worked out acoustic response, but it is best balanced when listened to from the front; off-axis it will sound warm. Treble will have a slightly divorced and sharp quality from front but this is perhaps to be expected. **NK**

**FREQUENCY RESPONSE**



**COTODAMA LYRIC £4320**



**OUTSTANDING - amongst the best.**

**VERDICT**

A visually stunning loudspeaker that adds to the music by displaying the lyrics as a song plays. It also sounds good into the bargain.

**FOR**

- design
- innovative
- nicely balanced sound

**AGAINST**

- not cheap

Cotodama [www.lyricspeaker.com](http://www.lyricspeaker.com)

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 expensive.

**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 TECNODEC** 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 'Blotracor' 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  
Bortkers 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 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 RD11S** 1972 £94  
Modern evolution of Taorens' 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 £15.65  
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 battered. 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 SF** 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 Supernait 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.

**MUFORCE 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 £3,735  
Effortlessly sweet, strong and powerful with seminal styling to match.

**DELTEC** 1987 £1,900  
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 goodly 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 rigueur 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 sly, 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!

**QUAD 22** 1958 £25  
The partner to the much vaunted Quad II mono-blocks - cloudy and vague sound means it's for anacrophiles only.

**LOUDSPEAKERS**

**WHARFEDALE DIAMOND 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...



**SPENDOR 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.

**QUAD 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  
Smallest 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.



**QUAD 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 BC1** 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 UNITIQUE** 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 IDECCO** £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 DCAPO** 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.

# Black magic

**In the late 1980s, Arcam pioneered the external DAC. Martin Pipe revisits its Delta Black Box 3 from 1991.**



**W**e're used to seeing independent audio DACs reviewed in these pages, but once upon a time they were rare; DAC chips were to be found only in CD players, strictly for CD replay.

Arcam claimed to have launched the first domestic audio DAC – the Black Box, part of its higher-end 'Delta' series – in 1988. Back then the only digital source available to the home listener was CD, then showing tremendous growth. The idea was that if you owned an Arcam Delta 70 CD player with digital output, improved performance could be enjoyed by purchasing Black Box without having to junk your existing purchase.

There were, according to Arcam, numerous advantages to keeping the DAC away from the transport. "The sound quality of a conventional one-box CD player", claimed its literature, "is ultimately limited by the sheer complexity of the transport with its mechanical drives, associated electronics and laser". In its view, the "broadband electromagnetic interference" these create "confuses the player's signal-converting stages, which are of necessity close to and fed by the same power supply." The resultant nasties, according to Arcam, included a "blurred and harsh sound" that masked "the subtleties and inner detail that help to make music

enjoyable."

Another advantage of isolating the conversion process from the transport is that new and improved techniques of converting digital into analogue could be harnessed, with benefits when it came to reproduction. In other words, your expensive CD player was effectively freed from obsolescence!

Interestingly, the original Black Box employed a Philips TDA1541A convertor chip and so did the player that Arcam intended you to partner it with. You could of course use it with any player that had a digital audio output but these were rare back in 1988. Two-box CD players weren't unheard of – one thinks of the Cambridge CD1, circa 1984 – but the interconnections relied on proprietary interfaces. The widespread adoption of S/PDIF (Sony/Philips Digital Interface) paved the way for broad compatibility between transports and DACs. Indeed, for several years it was accepted that the best CD players came in two sections...until the Great Jitter Debate cast doubt on this.

The Black Box stylistically-matched the Delta 70 player – and the rest of the Delta range. It offered only an electrical (coaxial) input, as optical (TOSlink) was not yet in common use. Arcam promised an optical upgrade to increase the versatility of the Black Box. Also on the cards was a modification that

would allow the Black Box to accept 16-bit digital audio signals with a 48kHz sampling rate – notably from the much-hyped DAT (Digital Audio Tape) decks; in its original form, the Black Box only supported CD's 44.1kHz. We must bear in mind that Arcam was working at the forefront of digital audio technology at the time, and was arguably itself setting standards.

There were many interesting features in the Black Box. For a start, Arcam designed a custom ASIC (application-specific integrated circuit) specifically for the unit. Nicknamed the 'Black Chip', it replaced a large number of conventional logic chips that the prototype needed to change the digital audio data into a form that could be 'understood' by the Philips DAC. Arcam was undoubtedly one of the first British hi-fi players to work with ASICs. The Black Box featured two linear regulated power supplies, one for the digital circuitry and the other for analogue. Two stereo analogue audio outputs were provided, one ('direct') working at 2V rms and the other ('line') delivering 800mV rms – Arcam was of the opinion that the latter would better-serve the more sensitive (and in its view sonically-superior) line inputs of many pre-amps and integrated amplifiers.

Unusually, a button on the front panel inverted the absolute phase of the digital input signal; it had been

noted that some CDs had been carelessly-mastered with their phase inverted; correction improved sound quality.

Attention was paid to the analogue side of the equation. Arcam went to great trouble to eliminate op-amps and other ICs from the analogue signal path, opting instead for transistor circuitry operating in Class-A – direct-coupling was used to avoid capacitors. Components were of high quality: metal-film resistors and polypropylene capacitors. The Black Box was evidently a carefully thought-out product, and it received much praise at the time; this was reflected in sales figures.

The following year Arcam launched the Black Box 2, which had an optical input and compatibility with 48kHz as standard. However, the same Philips TDA1541A DAC and digital filter (SAA7220P/A) of the first-generation model were specified. That was to change in 1991 with the introduction of the Black Box 3, as featured here. Philips had just launched its revolutionary 'Bitstream' converters, and the Black Box 3 was one of the first non-Philips audio products to benefit from this new technology. However, Arcam used these chips (SAA7321GP digital filter/DACs) in a configuration developed by its own engineers.

In the 'Three' each stereo channel gets its own chip, the two sections of which 'join forces' in differential mode for lower noise, improved channel separation and increased dynamic range. We take 'dual differential' DAC topology for granted now, but this was cutting-edge stuff back in '91! The Black Box 3 also boasts two analogue outputs (op-amps were now being used in the analogue stages, I note), phase-inverter, dual power supplies, 44.1/48kHz compatibility and coaxial/optical inputs of its predecessor. And another Arcam custom digital chip is employed. A nice touch is the rear-panel switch that sets the 'default' input when the unit is powered up, and a 'monitor' output that contains the selected digital source (useful for home cinema systems with discrete digital multichannel decoders, then six years away from commercial reality!).

The Black Box 3 you see here was bought second-hand from the local branch of Rayleigh Hi-Fi nearly twenty years ago, for initial use as a CD player upgrade along the lines



**Inside the Arcam Delta Black Box 3. Note the presence of two mains transformers, which feed separate supplies for the analogue and digital sections of the unit. The adjacent digital board is 'track-side up', which means the surface-mounted Philips SAA7321GP Bitstream converters – which operate in dual-differential mode – are visible. The quality of construction is to Arcam's usual high standard.**

envisaged by Arcam. Shortly after that, I became interested in computer audio. The soundcard I was using was one of the few at that time to feature a digital output – which was duly routed to the Arcam DAC. It transformed the sound quality of synthesised music, MP3s and WAV files beyond recognition, helping to

aggressively-bright - the innate characteristics of those early Bitstream converters, plus what has been termed the 'Arcam sound', helped tame those properties.

Interestingly, the problem wasn't always down to the DAC. Early CDs could take much of the blame thanks to the primitive state of analogue-to-



**Round the back of the Black Box 3, you can see the two stereo outputs – which work at different levels, enabling the unit to be matched to your amplification.**

prove to me the viability of PCs as musical sources! And to explain why, we need take Arcam's 1988 burst of logic one step further. If a CD player's innards are a source of "broadband noise", then personal computers are much, much worse...

How does Black Box 3 fare in the present era of hi-res and super-DACs like the ESS Sabre32 series and Rob Watt's designs for Chord? Capable of an expansive soundstage, one can perceive a rather warm and laid-back presentation that suits it more to, say, jazz than percussion-driven electronic music and rock. However, you have to put this in the context of the times. 1980s-vintage digital could be upfront, hard and

digital conversion at the time – try listening to some of those releases on modern equipment, and their inadequacies are laid bare to the point of fatigue.

It is quite telling that interest in DACs and CD players equipped with elderly chips like the TDA1541A, has increased of late, because with modern software they can be more musically-involving than later Bitstream designs. For this reason, older Black Boxes tend to attract higher prices on the second-hand market. At the time, I was very fond of that sound – compared to what was then available to someone with my budget – but digital technology, at either end of the chain, has moved forward...

# vinyl section

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APRIL 2018

[www.hi-fiworld.co.uk](http://www.hi-fiworld.co.uk)**ROTH VA4 LOUDSPEAKERS 86**

A budget loudspeaker with a phonostage? That's the Roth VA4s! Noel Keywood checks them out.

**AUDIOPHILE BOOK 91**

Paul Rigby casts his eyes over a new book on 1960s and 70s British progressive music albums.

**TURNTABLE STABILISERS 93**

Can turntable stabilisers improve your system? Paul Rigby says yes.

## news



**SPEAKERS CORNER**

More from the audiophile German outfit ([www.speakerscornerrecords.com](http://www.speakerscornerrecords.com)) beginning with Aretha Franklin's 'Aretha' (1961), her wonderful energy-fuelled debut, accompanied by The Ray Bryant Trio, adding jazz flavourings to the soul base.

Joe Turner's 'Big Joe Rides Again' (1960) represents a continued look back (to the possible chagrin of his rock'n'roll fans) and the next stage in his path to jazz-infused blues while Les McCann & Eddie Harris' 'Sweet Movement', a live recording at Montreux in 1969, infuses its jazz with droplets of soul/funk raining on the music to great effect.

Finally, from Tommy Bolin 'Private Eyes' (1976) was the ex-Deep Purple man's second solo LP. Although it could be accused of lacking an edge or any great vivacity, this album was also more balanced than his first solo outing with a greater maturity in terms of choices in arrangement and presentation.

## ROCK!

'Bad Get Some' from Miss Velvet and The Blue Wolf ([isotopia; isotopiarecords.com](http://isotopia.isotopiarecords.com)) uses indie tonal flavours and heavy metal female rock vocals from Miss Velvet. She can pin you to a door and then blast you right on through it with the power of her delivery. Expect B&Q's profits to rise.

Presented in a gatefold sleeve with a download option including bonus video, Heaven & Earth's 'Hard to Kill' ([Quarto Valley; quartovalleyrecords.com](http://QuartoValley;quartovalleyrecords.com)) offers free-wheeling, classic hard rock in a NWOBHM, honky tonk kinda way.

LEF's 'Hypersomniac' ([www.rarenoiserecords.com](http://www.rarenoiserecords.com)) is part of a multimedia project. This vinyl LP is a dark soundtrack to a dystopian-tinged comic story featuring Bill Laswell plus members of Motorpsycho, and Supersilent. Adventurous rock with experimental rhythms.

Lorenzo Feliciati's Elevator Man ([www.rarenoiserecords.com](http://www.rarenoiserecords.com)) features drummers Chad Wackerman (Frank Zappa) and Pat Mastelotto (King Crimson) et al, mixing ambience with prog and a touch of jazz. Fascinatingly complex.

On orange vinyl, Mary Epworth's 'Elytral' ([Sunday Best; www.sundaybest.net](http://SundayBest;www.sundaybest.net)) combines 'lonely girl' vocals and primitively arranged synth work for a minimal direction.



## MUNSTER RECORDS

Lots of goodies from this Spanish audiophile outfit ([munster-records.com](http://munster-records.com)) includes 'The Sky Is Falling, The Best Of Johnny Farfisa'. Johnny Farfisa's rare and mainly unreleased Farfisa-infused garage-rock, covers 1965-68.

A self-titled album from US-based Euphoria takes a decidedly sunshine pop direction for this 1969 LP. It's happy, smiley, upbeat and allies itself with the 5th Dimension.

Bo Street Runners' 'Exile on Bo Street' includes the British R&B band's recordings from 1964-66. Known for briefly featuring one Mick Fleetwood and Mike Patto of later rock bands Patto and Spooky Tooth.



## DON'T LOOK NOW

Created by Pino Donaggio, the music for Nicolas Roeg's 'Don't Look Now' (1973), produced from a Daphne du Maurier story, including almost hesitantly fractured piano and simple orchestral structures includes 'I Colori Di Dicembre', not heard in the film and only included on the Italian pressing of the soundtrack.



## 4AD

Newly reissued via 4AD ([www.4ad.com](http://www.4ad.com)) are two classic Cocteau Twins LPs: 'Head Over Heels' (1983) and 'Treasure' (1984). Both have been remastered from the original tapes. Hi-res audio files will be available for both.

Also look out for Tune-Yards' 'I Can Feel You Creep Into My Private Life', strangely edgy, angular, right-angled rock. I'd have preferred The Dissonance Darlings, as a band name, myself.

## ...AND FINALLY

From Martin Kohlstedt, 'Strom' (*Edition Kohlstedt*; [www.martinkohlstedt.com](http://www.martinkohlstedt.com)) is a thoughtful, considered piano piece ending on organic grumbling and lifted by often epic, backing crescendos. Like an innocent man caught in a riot.

Barry Adamson + Pan Sonic + Hafler Trio's 'The Hymn of the 7th Illusion' (*Cold Spring*; [www.coldspring.co.uk](http://www.coldspring.co.uk)). Including noises from the Hljomeyki choir, this cinematic-type score's style is direct from your friendly, tension-building, mind twisting horror flick. Play it when the sun's out, for goodness sake.

'The Sun Yard' from Schizo Fun Addict (*Fruits de Mer*; [www.fruitsdemerrecords.com](http://www.fruitsdemerrecords.com)), limited to 100 copies, is a schizo-psych and Lush-like shoegaze outfit. Adopting dynamic contrasts, they're at their best when they throttle back.

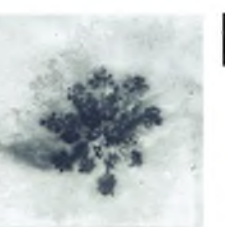
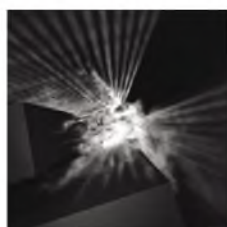
Dijf Sanders' 'Java' (*W.E.R.F.*; [www.dewerfrecords.com](http://www.dewerfrecords.com)) contains downtempo Javanese music with easy beats, twisting folk structures with modern infusions.

All the way from Leeds, Simeon Walker's 'Mono' is a sparse piano suite of rhythms and 'found sound' noises with warehouse ambience.

Elle Mary & The Bad Men's 'Constant Unfailing Night' (*Sideways Saloon*; [www.sidewaysaloon.com](http://www.sidewaysaloon.com)) offers chanteuse rock. An almost tragic voice buoyed by indie rock energy.

## OTIS IS BOXED

Otis Redding's works can now be found in a slip-case box set from Rhino. Subtitled as 'The Definitive Studio Album Collection'. The package includes 'Pain In My Heart' (1964), 'The Great Otis Redding Sings Soul Ballads' (1965), 'Otis Blue'/'Otis Redding Sings Soul' (1965), 'The Soul Album' (1966), 'Complete and Unbelievable...The Otis Redding Dictionary of Soul' (1966), 'King & Queen - Otis Redding & Carla Thomas' (1967) and 'The Dock of the Bay' (1968).





**A loudspeaker with both turntable and digital inputs – and all for £200. Yes that's Roth's new VA4s. Noel Keywood rates them a true bargain.**

# Roth 'n' Roll

**A** loudspeaker with a turntable input? I had to think hard about this one: why would you want to do that? The answer isn't obvious but Roth have done it all the same in the VA4 active loudspeaker reviewed here. Not only is there a line/turntable input but

also an optical digital input. The VA4s make for a comprehensive compact system that takes up little space at a minuscule cost of just £200. Quite a proposition – especially since you also get Bluetooth wireless linking at this price!

The cabinets are both small (170mm deep, 140mm wide and

220mm high) and light so can be sited just about anywhere. I'll talk about where a turntable should go later. One cabinet – the right channel – carries a mains-powered 20 Watt stereo power amplifier and needs a mains connection. It has loudspeaker output sockets for the left channel loudspeaker that is an unpowered

slave. Connection is made through a normal loudspeaker cable terminated with 4mm banana plugs or spades, or just bared wire – a common and sensible arrangement.

The only small drawback here is that if your source items such as CD player, DAC or turntable are on the left side of the room channels will be reversed, at least with digital sources. With analogue sources the RCA phono socket input plugs can be swapped over to correct if wanted. I suspect that most buyers will not worry about this issue much.

The right cabinet was pleasantly simple to connect up and use, I found. One pair of RCA phono sockets accept either Line or Phono (turntable) analogue inputs, determined by a small slide switch. There's a small 3.5mm stereo jack socket for connection to the headphone output of a portable 'phone or player and alongside an optical digital input (S/PDIF).

A small volume control selects between these inputs when it is pressed in, selection being sequential between sources. A ground terminal is provided for turntables and there's even a USB charging output for portables that provides up to 1A at 5V – to keep portables alive whilst playing. Finally, a single RCA phono socket analogue output provides a mono signal for a subwoofer – a

"LP was smoothest and easiest in demeanour, but hi-res digital such as Fleetwood Mac's 'Dreams' (24/96) wasn't a mile behind"

good idea as the little Roths are not bass machines.

As if all this wasn't enough at the price, Roth even provide a small and light remote control powered by a button cell. It switches between inputs, has bass, treble and volume controls and a power on/off function. Amazing at the price!

Each cabinet houses a 4in (100mm) bass/midrange unit reflex loaded by a rear port, accompanied by a 1in (25mm) textile dome tweeter. The right channel powered 'speaker also has a remote control sensor on its front face. Removable cloth grille covers are fitted.

As a turntable front-end, the



**The rear of the Master cabinet (left) has an array of inputs, including turntable, and also a volume control in case the remote is lost. Note it needs a mains connection.**

**The slave (right) needs no mains connection, being coupled only by a loudspeaker cable.**



VA4s cost less than most phono stages yet offer a complete audio system at the price. As you might expect only moving magnet (MM) cartridges are suitable – there's no moving coil option.

The reason you don't find phonostages in loudspeakers is simply that the two need to be kept well

apart to prevent sound from feeding back from 'speaker to turntable, since the latter are sensitive to vibration. At worst you get self-sustaining feedback, or 'howl-around'. As turntable signal leads are rarely more than 1 metre (3ft) long this isn't so easy to arrange. It isn't impossible though; the speaker could go on a floor stand close to a rear wall (reinforcing its weak bass), close to a turntable on a wall shelf. Modern turntables commonly have a phono stage built in, in which case a longer lead can be used and the analogue input slide switch set to Line. The Roth's internal phonostage is then not used.

## SOUND QUALITY

I used our Timestep Evo modified Technics SL-1210 Mk2 with SME309 arm and Ortofon 2M Black cartridge, mounted on a rigid floorstanding shelf system. The Roths were placed on floorstands sited either side. Digital (CD) came from our Oppo UDP-205 Universal player and hi-res from an Astell&Kern AKI20 portable player connected to the UDP-205 using QED glass optical cable.

Spinning Kate Bush's King of the Mountain (180gm vinyl) I was presented with a bright and clear sound, forceful up top. The reggae bass line was clean enough if lacking weight, and slight boxiness evident. There was no hiss or hum: the system was silent.

Treble was best reduced one step (-2dB) to compensate for the 'speakers inherent brightness and bass boosted one step – this gave the best balance. Increasing bass any further just made for boxier sound. Setting the tone controls wasn't so easy as they are not calibrated. There are four steps up and four down. I had to step up to maximum (five or more



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## Amplifiers

Abrahamsen V2.0, excellent boxed	used	Call
Aesthetix Atlas stereo power, superb and mint	x/d	4899
Arcam P7 Multichannel amp	used	1099
Arcam FMJ P1 Monoblocks, excellent	used	999
Astin Trew AT5000 Power amplifier excellent boxed	used	399
Audio Research Ref 610 Monos, boxed REDUCED	used	12799
Audio Research Ref 210 Monos, boxed	used	5799
Audio Research Ref 75se Power amplifier	used	6999
Audio Research Reference 3 Preamplifier	used	3749
Audiolab 8000A Integrated with phono	used	249
Audiolab 8000S Line level Integrated	used	299
Audiolab 8300A, excellent condition boxed	used	549
BAT VK50se Preamplifier, factory service 2016	used	2399
Bel Canto Eva 2 Power amplifier	used	699
Bryston BP17/8B8T pre (new) power (used)	used	3498
Cairn 4810 Integrated with tuner, boxed nr mint	used	799
Cairn 480R Integrated with tuner, boxed nr mint	used	499
Chord Electronics Prima Preamplifier, mint	x/d	2199
Chord Electronics Mezzo 140 Power, mint	x/d	2199
Classe CAP2100 Integrated boxed	used	1599
Consonance Cyber 10 Signature boxed	used	Due in
Cyrus 8a, excellent boxed with remote	used	799
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Van den Hul D102 mk3, selection	used	Call





**The Master has an infra-red sensor on the front panel, with Bluetooth link indicator.**

button presses) and then back down four steps to establish zero (flat response). One treble step down reduced treble to an even tonal balance and one bass step up got lows into balance. The buttons had to be pressed quickly to get one step and not two.

LP certainly was smoothest

**JON SAYS -**

The internal phono stage and cost make the Roths ideal for being partnered with budget decks. At this sort of level there are many around from the likes of Lenco and Dual at the £200 mark.

One standout, though, would be the Pro-Ject Elemental which retails for around the £160 mark. It's a solid-sounding design which is a great introduction to the joys of vinyl. Pair it with the Roths and you have a system for less than £400. Now, that's budget hi-fi at its best!

and easiest in demeanour, but hires digital such as Fleetwood Mac's 'Dreams' (24/96) wasn't a mile behind as the VA4s rather made the two sound alike and did not mine the best from either. All the same, they were starkly clear and worked well, whilst having a hard quality caused by Class D distortion emphasised by raised treble output, as well as weak low bass due to small cabinet size and the strong bass filtering used.

OK, this sounds critical but since I'd been listening at length to PrimeLuna's best valve amplifiers through Quadral Rodan 9 loudspeakers beforehand the little Roth's put up a creditable performance and in terms of flexibility the system can hardly be faulted. The VA4s did a nice enough

job in user terms, flipping quickly and cleanly between sources via the remote control.

**CONCLUSION**

What you get here is a surprisingly well-engineered package with no great flaws, ignoring the Class D amplifier necessary at the price. Roth have kept bass down with internal filtering, likely to minimise vibrational feedback into a nearby turntable. To compensate the 'speakers need to be used close to a rear wall. In this position and tweaked using the tone controls, they offer a modern forthright sound and smooth enough results from LP, with a harder edge from digital. At the low, low price this is a good side system that manages a lot and is well worth considering.

**MEASURED PERFORMANCE**

Measured on-axis frequency response of the VA4s had a strong lift of +4dB around 2.5kHz that will make for an obviously bright sound, as well as a similar lift above 10kHz that will give a sharp edge to treble, as our analysis shows. Bass rolls off below 100Hz, the port adding a little energy around 65Hz (red trace).

Power output of the amplifier measured 20 Watts (8 Ohms) – enough to go loud, if not very loud. Distortion levels were on the high side, 0.22% at 1 Watt with a wide array of harmonics so this is a truly budget unit that will have some edge to its sound.

Frequency response via Line input was flat down to 50Hz (-1dB), below which a subsonic filter cuts output fast to -3dB at 20Hz. The Phono input has an even earlier and faster bass roll-off, output falling to -1dB at 70Hz and -3dB down at 40Hz – likely Roth are trying to minimise the possibility of bass feedback here. Whatever, LP will have light bass.

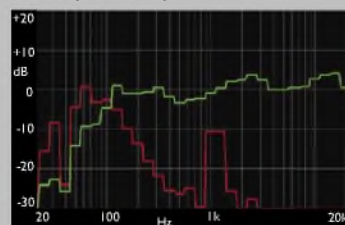
Frequency response via the optical digital input was flatest of all, extending from 70kHz down to 40Hz (-1dB) with a 192kHz sample rate digital input. Dynamic range was low at 93dB with a 24bit input

– 10dB below CD (103dB) due to noise. The tone controls offer 8dB of boost or cut at 2dB increments, four steps up or down with each control. There's no zero

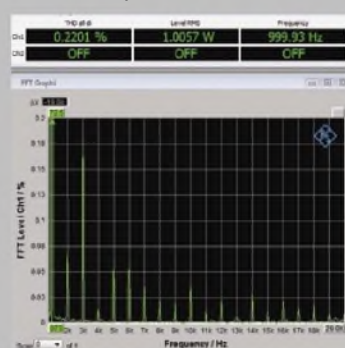
**FREQUENCY RESPONSE**

**Green - driver output**

**Red - port output**



**IMPEDANCE**



indication so to find zero (flat response) max or min must be set by pressing at least five times, then four steps taken backward – and they have to be quick or two steps are taken. See the review for the importance of this.

The subwoofer output offers a bandpass peak at 80Hz so it can be taken to any amplifier with a volume control. Deep bass is not available even here.

The VA4s offered a well tailored set of results in the electronic section but the acoustic response of the loudspeaker will give a very bright sound, emphasising amplifier distortion. **NK**

**LINE IN**

**Power (8 Ohms) 20W**  
**Frequency response (-1dB) 50Hz-30kHz**  
**Distortion (10k, 1W, 4 Ohms) 0.22%**  
**Sensitivity 0.5V**  
**Noise -95dB**

**OPTICAL IN**

**Frequency response (-1dB) 40Hz-70kHz**  
**Distortion (10k, 1W, 4 Ohms) 0.22%**  
**Dynamic range 93dB**

**ROTH VA4 £200**



**EXCELLENT - extremely capable.**

**VALUE - keenly priced**

**VERDICT**

A neat little active loudspeaker package that can be connected to a turntable direct. Bright but acceptable at the price.

**FOR**

- LP and digital replay for peanuts
- small and light
- easy and slick operation

**AGAINST**

- hard and forthright
- reticent bass
- no flat response indication
- no USB

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 www.rothaudio.co.uk

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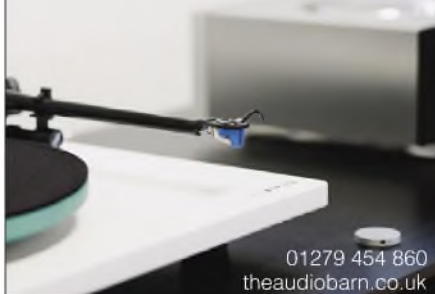
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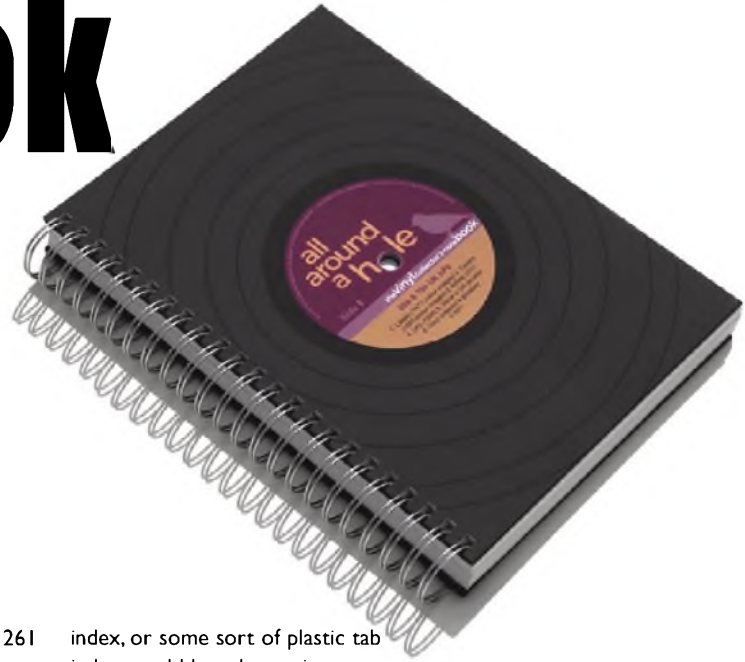


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# A true vinyl handbook

Paul Rigby looks at a new guide to 1960s and 1970s British progressive music LPs.

**ALL AROUND A HOLE:  
THE VINYL COLLECTOR'S NOTEBOOK  
60S & 70S UK LPs**  
Author: Paolo Verda  
Price: 90



**T**he book itself is aimed at vinyl fans of British progressive, psychedelic, folk, blues and jazz LPs issued in the UK in the 1960s and 1970s.

Described as a 'notebook', that's actually a fair description. You're encouraged to make any notes in it. You could add a location where your LP copy was bought, its price and so on. There's even a little picture-template in the book advising how and where to make notes.

The book features a strong hardcover to the front and rear and, most importantly, it's 'wiro' bound. This means that the book itself will not fall apart from constant use.

Packed with 326 pages and 3,029 colour photos, the book sits in two sections. The first looks at the most

important 134 British labels with 261 colour images of their variants. You find out what groups were under what label then a description of each and every label with a sample record label image as a form of reference.

The second section includes an alphabetical directory of 511 British artists or groups and their 1,566 albums.

Here, each album is described in detail. So, for example, let's look at the Juicy Lucy self-titled rock album released in 1969. That year is stated, the label and catalogue number, which all sits under the sleeve art. In this case there are two Vertigo labels shown, the LP's first and second version (two values are listed here to reflect that, all values are for mint condition LPs). Other LPs might vary in price because of included posters or because one LP variant was issued in mono and then stereo.

In addition, the sleeve and label receive a full description of the words on the label, type of printing and its position – as well as what's left off, in this case a printer's credit.

Downsides for this book? Well, there are no real downsides. Only picky things.

For example, I imagine that this book will be used 'live', as it were, checking a valuation in a shop, record fair, among friends and colleagues or when running through a collection. Hence, a quick access thumb-type

index, or some sort of plastic tab index would have been nice.

Another minor gripe, when an LP is presented in, say, four versions, prompting four different price valuations, there is no quick way to find out which LP variant allies to what price. You have to patiently read through a paragraph of text to work it out yourself. Not a big deal and it doesn't take a long time but it would have been nice to have a layout promoting quicker access for the eye.

The final downside...isn't after all. I lamented the lack of glossy pages in this book which, in fact, offers a matt finish. The matt paper loses a measure of impact for the images included here. I quickly realised, though, that it would be harder to make notes on glossy paper. Which is fair enough.

The above are picky criticisms because, when it comes right down to it All Around a Hole is a quite brilliant book and useful practical source.

You can clearly see the hard work put into it. Use the valuations as a guide and not literal figures and this book will provide a terrific buyers and sellers tool for all LP collectors, but will also offer a great store of browsing knowledge for music and vinyl fans.

Click [www.allaroundahole.cloud](http://www.allaroundahole.cloud) and access the Store to purchase.



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### RECORD STABILIZERS 7" ADAPTORS FROM £3.49 EACH

A problem with 7" singles is that many of them arrive 'dinked'. That is, the record itself does not feature a spindle holder-sized hole but, instead, a much larger centre hole.

This situation can occur for many reasons. The principle being that the record was once used or was designed for use in a jukebox whose large record holders demanded the removal of the usual spindle holder. Also, some jukeboxes holding mixed media (including 7" EPs played at 33rpm) would sense the vinyl speed from the hole size in its centre, the 33rpm EPs always offering small spindle-sized holes.

You'll also find new dinked 7" singles sold as such for merely marketing reasons. If you have a dinked 7" single then the only way to play it on your turntable is with



the use of an adaptor.

That is, a device that fits over your turntable's spindle. The dinked 7" then fits over the top of the adaptor. The friction and snug fit between the two enables the vinyl single to play as normal.

You'll often find budget decks arrive with free plastic adaptors while other plastic examples can be picked up at record fairs and record shops.

But what if you want more than a cheap plastic example?

Record Stabilizers offers a range of intriguing adaptors that are priced from £3.49 and range up to

£5.99 depending on the style and complexity.

All are presented in a compact, circular plastic box. It's been a while since I last encountered this range and was pleased to see the improved finish (older models could present sharp edges) plus the painted finishes. Arriving in many shapes: spider, scorpion, clover, Scot's thistle, Welsh dragon, Bowie-type lightning flash, smiley face and more, these high-quality adaptors provide great value for money. **PR**

[[www.recordstabilizers.com](http://www.recordstabilizers.com)  
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# SOUNDBITES



### ELUSIVE AUDIO SOLITUDE ONE ISOLATION FEET £155 (SET OF 3) OR £198 (SET OF 4)

Noise is the enemy of all hi-fi components. It masks music, lowering sonic standards and reducing the efficiency of your hi-fi chain. I, for one, am interested in any possible methods to reduce or eradicate it. Elusive Audio's set of Solitude One Isolation Feet is one possible aid to the audiophile's armoury.

Most isolation feet concentrate on one form of isolation material to do the proposed job. The Elusive Audio feet arrive in three parts: two hockey puck-like constructions and a single ball bearing. The top and bottom of the finished 'foot' features an outer, machined PTFE

base to isolate the component from static build up along with anti-slip silicone rings.

Inside is a layer of 'audio grade'

Sorbothane to reduce vibration effects, plus a polished stainless steel cap with a location dimple at its centre.

Acting as filler for the sandwich is a grade five, highly-polished Zirconia Oxide ball bearing (spares are included in case of accidental losses) to offer minimal contact between the shelf and the component.

I used the feet under my Origin Live Sovereign turntable, placing three under the plinth itself and played Ian Dury's 'Inbetweenies' from his 1979 'Do It Yourself' LP plus Barbra Streisand singing 'I Can See It' from 'My Name is Barbra' (1973).

Using the feet, I did notice a

tightening up of all upper frequencies, cymbal crashes exposed plenty of treble information to extend the action of the cymbal hit with longer reverb tails while the Ian Dury vocal diction was enhanced.

Guitars and synth runs provided a boosted focus too. Bass, on the Streisand LP was solid, precise and massy while the orchestral performance benefited from a wider instrumental separation.

Easy to use, the Solitude One Isolation Feet will reward the ear with an impressive lower frequency focus and midrange accuracy. **PR**

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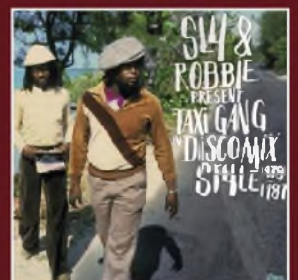
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**WANTED:** A Exposure preamplifier, most models considered. Wanted: A source selector switch for a Naim 62/72 pre-amp. Wanted: A 24vdc power supply for Naim, Exposure etc. Tel: 0775 627 1992

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**NEAT IOTA**, mint, £400 ono. Hegel H80, mint, £825 ono. Rega Apollo-R, mint, £400 ono. Thorens TD321, Linn arm, Goldring cartridge. Very good looking turntable. £300. Tel: Phil 07973 426291 (Bromsgrove)

**MUSICAL FIDELITY A1000**, Class A amplifier. Beautiful condition, no marks or scratches. £400. Monitor Audio Silver 1 speakers, 9 months old, perfect condition. £200 ono. Collection only, Heathrow area. Tel: 0794 117 4804

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**PINK TRIANGLE** Anniversary turntable, SME V arm, Ortofon MC20 cartridge. Demo and collection preferred, Pembrokeshire. £1,100. Email: [tandemon@btinternet.com](mailto:tandemon@btinternet.com)

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# NEXT MONTH MAY 2018 ISSUE



## KLIPSCH RP-260F

Klipsch loudspeakers are known for their expansive sound. Big, bold and room-filling. The new Reference Premiere RP-260F floorstanders are aimed at building on that reputation with an extra air of refinement via a horn-loaded 1" titanium tweeter plus two 8" mid/bass drivers constructed from spun copper. We'll tell you how they sound and measure in next month's issue. Don't miss it: this 'speaker is different!

Also, we hope to bring you —  
UNISON RESEARCH UNICO 90 AMPLIFIER  
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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, we cannot guarantee that all products listed above will appear.

**PICK UP THE MAY 2018 ISSUE OF HI-FI WORLD ON SALE MARCH 30TH 2018,  
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# FLEETWOOD MAC

## FLEETWOOD MAC REPRISE



"an album that draws an important line in the history of a band and, simultaneously, in the history of music itself"

**O**ften unfairly ignored because the LP following this release was the momentous 'Rumours', 1975's 'Fleetwood Mac' remains a superb release and, in effect, another debut for then current incarnation of the band. At the time Lindsay Buckingham and Stevie Nicks turned a British blues band into a West Coast institution – there to be aped and copied by many who decided to follow. Meanwhile, the band's additional song-writer, Christine McVie, morphed into a soft rock creator. The album as a whole is a perfect piece of pop, with numerous shadings and moods to satisfy all.

The above needs a bit of explanation, because Fleetwood Mac belongs to an exclusive club. Most bands are, for good or ill, stamped by the style of their lead singer with very few exceptions (King Crimson and Robert Fripp being one of those). Fleetwood Mac is another. In fact, Fleetwood Mac's very name is based on its rhythm section: Mick Fleetwood and John McVie. Neither, though, has a real influence on its music. As Mick Fleetwood said in the seventies, the band is merely a rhythm section awaiting writers to take it in varying directions. With Peter Green (Peter Green's Fleetwood Mac) who was dominant in its early UK days, that direction was the blues – and hard blues it was too. With his leaving and the introduction of West-Coast Buckingham and Nicks, the style changed to soft rock. The rhythm section remained and Fleetwood was still the captain of the ship, just not the creative force.

Hence, although this LP took the band in a completely new direction, one both expected and welcomed. The transformation was never jarring.

The biggest single release off the album was 'Over My Head' although it wasn't so much released as 'pulled'. Like the band's evolution, this was another organic decision. As Mick Fleetwood said, not long after the single was initially released: "As a track on the album, it was not considered. When you make an album, you say, 'That, that and that will make good singles' in order of preference. 'Over My Head' was not one of those. It sort of crept up and was being played a hell of a lot. It occurred to us that, because of that we should make it the

single, which we did. It was creeping up behind everything else. Actually, because no-one had thought of it, it was a more healthy thing to do. Sometimes very obvious hit records can bore an audience after a short time, that won't be the case with this record."

Now you can hear the album again but, this time as a special edition that includes newly remastered audio, rare and unreleased studio and live recordings and more. It arrives as Deluxe edition (3CD/DVD/LP) comprising the original album with newly remastered audio on CD and a nicely mastered LP, rare and unreleased studio and live recordings plus a DVD with 5.1 Surround Sound and high-resolution mixes of the original album. The Expanded version is a 2CD pack including the original album with newly remastered sound and expanded with rare and unreleased studio and live recordings. There's a single remastered CD out there too.

Both the Deluxe and Expanded editions include single mixes for 'Over My Head', 'Rhiannon' and 'Say You Love Me'. Also included is a second disc with an alternative version of the complete album comprising unreleased outtakes for each album track plus several unreleased live performances from 1976.

Exclusive to the Deluxe Edition is a third disc filled with even more unreleased live recordings including performances of 'Landslide', 'Oh Well', 'Station Man' and 'World Turning'.

The Deluxe edition is packaged in a 12in x 12in embossed sleeve with rare and unseen photos along with liner notes featuring new interviews with all the band members. The package also comes with a DVD featuring 5.1 Surround Sound and 24bit/96kHz stereo mixes of the original album and four single mixes.

Completing the set is an LP version of the original album pressed on 180gm vinyl.

Despite the nature of Fleetwood Mac and its rhythm-section-looking-for-a-writer ethos, it's rare in commercial music to find an album that draws such an important line both in the history of the band and, simultaneously, in the history of music itself. Fleetwood Mac's self-titled album is just that and, as such, deserves its place in music history and as a classic, on many levels. **PR**

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