

# HI-FI WORLD

MARCH 2019

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**MITCHELL & JOHNSON**  
S800/S815 pre/power amplifier **EXCLUSIVE!**

## ICON **EXCLUSIVE!** AUDIO

**Stereo 300 MKII**  
valve amplifier

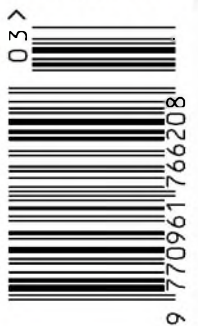


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MARCH 2019



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**W**hilst the LP is returning with a vengeance – just read our News this month (p7-9) – that other technology of the past, the valve amplifier, seems less assured in its progress. Britain, Germany, the USA and Japan have all returned to valve amplifier manufacture and China too, where they still make valves. But modern valve amplifiers come with curiously different design philosophies, Audio Research (USA) conceptually inhabiting Mars whilst Audio Note (UK) are on Venus – or something like that!

But perhaps that's why modern valve amplifiers are attractive: they are far more diverse than transistor amplifiers can ever be. Yet at the same time more challenging to own. This issue of Hi-Fi World uniquely identifies and gets to grips with the underlying reason: the heart of the beast. On p15 we look at a new valve designed by Icon Audio, the KT150D. That a UK manufacturer is so dedicated to do this leaves me more than impressed! Once you get down to such fundamentalism – think Peter Walkers Quad ESL-57 electrostatic loudspeaker – your place in audio history is being prepared. The KT150D raises the issue of reliability – a barrier to ownership and a curse on manufacturers and users alike. Worth reading if you are currently thermionic or thinking of going that way.

Our lead review is also an Icon Audio product, their new Stereo 300 MkII amplifier that uses 300B power tubes, designed 1938 in the USA – another look into and acknowledgement of past values. Doesn't it just look the part too! OK, your children will be baffled. It's so far from a Playstation PS4 they will fall silent in disbelief: Whats that dad? What it is you can read about on p10 where we review this amplifier in all its glory – a fusion of old and new that captures the best of both. Outshine your children – and neighbours!

Receiving two products for review that are not ready for market raises a perfect storm. Mitchell&Johnson's S800/S815 pre/power combo review on p20, and Micromega's M-One 150 review on p43 identify 'problems'. Read these reviews to find out. Also read my column on p65 that discusses how we Globe rate them – to abate a storm!

March 2019's Hi-Fi World dives into interesting and perhaps controversial subjects. Tackle me about it at The Bristol Hi-Fi Show where I look forward to seeing you and hearing your views.

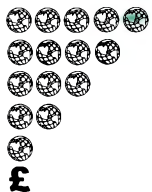
**Noel Keywood**  
*Editor*



## hi-fi world

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Buspace Studio,  
Conlan Street,  
London W10 5AP  
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## verdicts



**OUTSTANDING**  
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**VALUE**

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extremely capable  
worth auditioning  
unremarkable  
flawed  
keenly priced

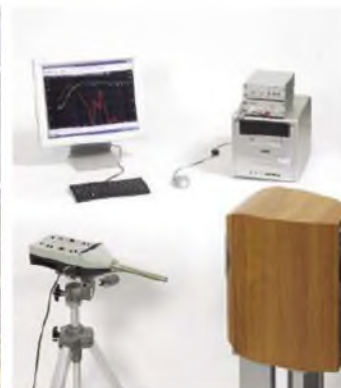
## testing (see [www.hi-fiworld.co.uk](http://www.hi-fiworld.co.uk) for full explanations of all our tests)

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

Loudspeakers are measured using a calibrated Bruel & Kjaer microphone feeding a 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.



## ELECTRONIC MAGAZINE

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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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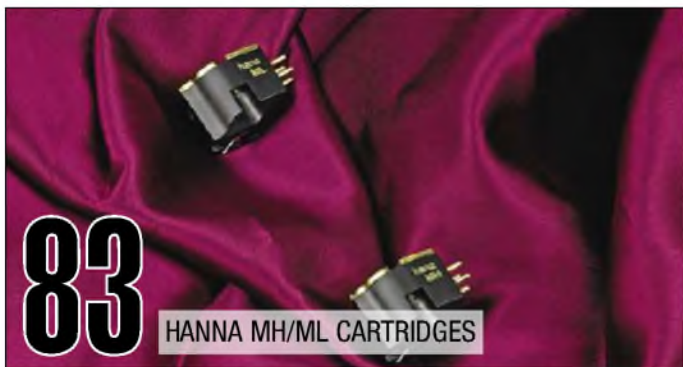
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Now with more depth  
and more clarity



**WHAT HI-FI?  
AWARDS 2017**

PRODUCT OF THE YEAR  
Best standmount speaker £400-£800  
KEF Q350

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that's unheard of at this price.'*

KEF Q350, What Hi-Fi? July 2017

**The new Q Series hi-fi speakers**

The eighth iteration of this successful range continues to be centred on KEF's legendary Uni-Q driver array, and is now enhanced with a new system design, beefier low-frequency drivers and a new damped tweeter loading tube. The result is superior bass performance and an even more detailed natural sound. Listen for yourself and experience pleasure in high resolution.

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# news



## AN ICON REBORN

When one lists the world's true turntable legends, Technics' SL1200 must surely rank highly. This direct-drive deck went from hi-fi to DJ turntablism (in its quartz-locked Mk2 guise) and – more recently – back again. Over 3.5m SL1200s (and darker-hued SL1210s) have been sold since 1972, making it one of the all-time best-sellers. No club or disco was complete without at least two! Technics stopped production for a while, but the line was reintroduced in 2016 as a result of public demand. We now have the all-black

SL1210 Mk7, for which a new coreless motor has been developed; Technics claims that it has “eliminated the root cause of cogging”, a problem with Direct-Drives. Features include reverse-play, 33/45/78rpm speeds with the familiar pitch slider, microcomputer-based starting-torque/brake-speed adjustment, a ‘highly-sensitive’ tonearm, two-layer platter with improved damping, rigid cabinet and detachable cables. Technics has also announced the SL-1500C, which is billed as a “premium-class” Direct-Drive turntable with on-board phono stage. No prices yet for either.

Proof that there's still life left in the physical formats comes in the form of Technics' new £2k+ CD/SACD SL-G700. Bets are evidently being hedged, though – it's also a network player with support for MQA, Bluetooth, AirPlay, Spotify, TIDAL and internet-radio! SL-G700 features include a 'disc-only' playback mode, native DSD processing, 'remastering' for CD-resolution material, specially-designed low-jitter clocking, 'high-grade' dual-monoc DACs, discrete analogue circuitry, a high-quality headphone amp and Google Chromecast/Assistant compatibility.

Contact: Technics, +44 (0)333 222 8777 [www.technics.com/uk](http://www.technics.com/uk)



## CONNECTED LP

Another turntable? Yes, but this one – the £1,500 direct-drive Alva TT – is from Cambridge Audio. And its proud manufacturer assures us that Alva TT is the first to feature aptX HD, which enables your precious vinyl to be streamed over Bluetooth at high resolution (24-bit/48kHz uncompressed) to compatible amplifiers, speakers and headphones. Or, as Cambridge put it “convenient and seamless wireless streaming that doesn't compromise on audio quality”. The Alva TT's 'lightweight and strong' single-piece straight tonearm is pre-installed with a high-output moving-coil cartridge – available separately for £450. According to Cambridge, it delivers “pristine musical detail with no tricky setup”. The elegant two-speed deck's integrated preamp, which was developed from Cambridge's existing phono stages, does more than feed Bluetooth - there are line-outputs too. It's available from April 2019.

Contact: Cambridge Audio, +44 (0)207 551 5422. [www.cambridgeaudio.com](http://www.cambridgeaudio.com)



## DJ'ING ON A BUDGET

Audio Technica may have made its reputation in phono cartridges, but the Japanese firm also makes turntables to give them a home. Its latest bears more than a passing resemblance to the Technics SL1200 featured in our News, and indeed the provocatively-named AT-LP120XUSB has been designed with “aspiring DJs” as well as music fans in mind. Like the Technics, it's a quartz-locked Direct-Drive with 33, 45 and 78rpm speeds and pitch slider. You also get an on-board phono stage, USB converter and AT-VM95E cartridge. At £245 it's much cheaper than most else.

Audio Technica has also announced an entry-level 'table, the belt-driven £100 AT-LP60 with preamp and AT3600L cartridge, plus versions with USB, Bluetooth and headphones. There are step-ups, the stylish wood-finished £259 AT-LPW30TK and £299 AT-LPW40WN, with AT-VM95E cartridge. Plus a range of “intelligent” wireless noise-cancelling headphones priced between £89 and £269.

Contact: Audio Technica, +44 (0)1132 771441 [www.eu.audio-technica.com](http://www.eu.audio-technica.com)





## RHAPSODY IN BLU

Available now is NAD's £2,199 M10, a 'Masters Series' integrated amplifier. Like other recent NAD products, it uses BluOS to partner versatile streaming (DLNA, Internet radio, Bluetooth and various subscription services) with a "great audiophile sound". The touchscreen-controllable M10 can be used in its own right in a hi-fi system, or "at the heart of a quality whole-home system" with other players in a "BluOS ecosystem" of wirelessly-networked music players. Also on board are Dirac Live Room Correction, MQA support, compatibility with 'smart home' protocols and a wide range of inputs for sources both analog and digital. Among the latter is a HDMI port with ARC (Audio Return Channel) support; connect this to your telly and you'll be able to enjoy programmes through the M10's HybridDigital amplification. Featuring the remarkable Hypex nCore, this said to be "conservatively rated" at 100 watts per channel.

Contact: NAD, [www.nadelectronics.com](http://www.nadelectronics.com)

## THE SOUND OF MAGIC?

The £60 E11D in-ear headphones from SoundMAGIC retain the "classic shape of the well known and loved E10". They feature a new design and improved materials – much use has been made of aluminium. There's a USB-C interface and a built-in 96KHz/24bit DAC, for what SoundMAGIC describes as "a more mature listening experience".

Also part of the E11D proposition is an in-line, 3 button control and microphone that allows users to control volume, track skipping and play/pause functions as well as take calls. The E11D is "fully-functional" with most USB-C compatible Android devices, while some compatibility with USB-C Apple devices is also claimed. Bluetooth (E11BT) and 'True Wireless' (E11TW) versions will be launched shortly.

Contact: SoundMAGIC, +44 (0)1903 768944. <https://soundmagicheadphones.com>



## LAB WORK

Like most of its competitors, Korean consumer-electronics giant Samsung maintains a research programme to produce new ideas, some of which will end up in products. Recent Samsung 'C-Lab' (Creative Lab) projects include an auto-adjusting monitor stand, a hearing assistant and ASMR sound recording. ASMR, or 'autonomous sensory meridian response' refers to pleasant feelings triggered by soft sounds like rustling leaves. There are plenty of ASMR videos on YouTube, but with Samsung's recorder – known as 'aiMo' – you'll be able to make your own. A smartphone is used with an AI sound rendering app and a cover case that simulates the human ear. When recording ASMR content with aiMo, users will be able to obtain "vivid, realistic...and spatially-enhanced" ASMR sounds without the need for professional recording devices. "Anyone" Samsung explains, "can easily create high-quality ASMR content – even when outdoors". But we don't know when or if aiMo will be commercially available.

Contact: [www.samsung.com](http://www.samsung.com)



## TITANIC KUDOS STRIKES AGAIN!

In 2015 County Durham based Kudos Audio introduced the Titan 808, a £20k+ 'reference' speaker based around Harry Olson's isobaric bass-reflex principles. Then came the more affordable 606 (£13k) and 707 (£9k) models, which have just been joined by the most affordable Titan so far - the £7,000 505. A two-way design, the stand-mounting 505 features twin "brand-new and totally unique SEAS mid-bass drivers" in an isobaric arrangement – said to yield "significantly improved midrange clarity and bass response, as well as a reduction of bass distortion" - together with a SEAS K3 fabric-dome tweeter for the highs. Its cabinet has a "completely new resonance chamber, complex constrained-layer damping in the side panels and a base-panel reflex port". Other features of the 18kg 505 include improved magnet systems with copper shorting-rings, a "new face-plate profile", 6 Ohm nominal impedance and 250W power handling. Kudos designer, the one-time live sound engineer Derek Gilligan, assures us that "having a smaller space and/or budget shouldn't mean you have to compromise on the sheer joy of your music".

Contact: Kudos Audio, +44 (0)845 458 6698. [www.kudosaudio.com](http://www.kudosaudio.com)

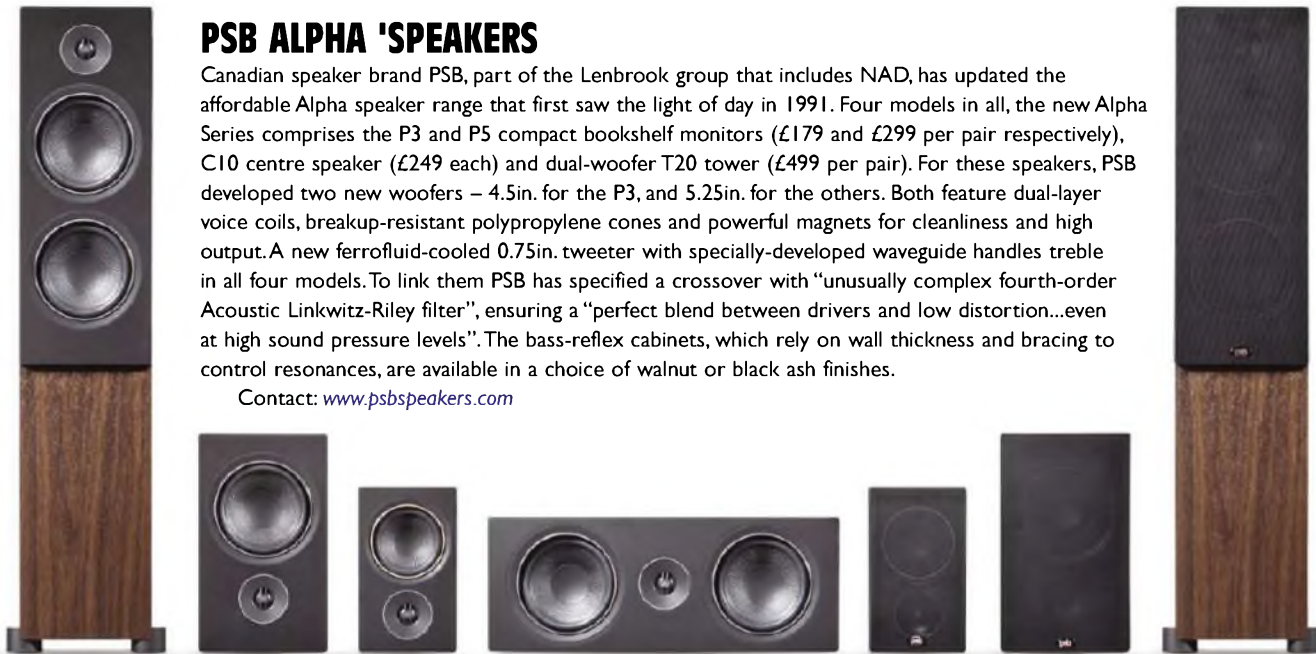




## PSB ALPHA 'SPEAKERS

Canadian speaker brand PSB, part of the Lenbrook group that includes NAD, has updated the affordable Alpha speaker range that first saw the light of day in 1991. Four models in all, the new Alpha Series comprises the P3 and P5 compact bookshelf monitors (£179 and £299 per pair respectively), C10 centre speaker (£249 each) and dual-woofer T20 tower (£499 per pair). For these speakers, PSB developed two new woofers – 4.5in. for the P3, and 5.25in. for the others. Both feature dual-layer voice coils, breakup-resistant polypropylene cones and powerful magnets for cleanliness and high output. A new ferrofluid-cooled 0.75in. tweeter with specially-developed waveguide handles treble in all four models. To link them PSB has specified a crossover with “unusually complex fourth-order Acoustic Linkwitz-Riley filter”, ensuring a “perfect blend between drivers and low distortion...even at high sound pressure levels”. The bass-reflex cabinets, which rely on wall thickness and bracing to control resonances, are available in a choice of walnut or black ash finishes.

Contact: [www.psbSpeakers.com](http://www.psbSpeakers.com)



## LINN'S NEW RELEASES

Scottish hi-fi brand Linn may be best known for its hardware, but it's active on the software front too. Linn Records enthusiastically tells us that it is going to be busy in 2019. Among the releases will be “plenty of orchestral and choral highlights to look forward to”, as well as debut recordings from exciting new artists. Among the latter will be a programme of Purcell from soprano Rowan Pierce, accompanied by harpsichordist Richard Egarr and Palladians founding-member William Carter. The Maxwell Quartet has recorded traditional Scottish tunes alongside Haydn's string quartets, while the Odyssey Ensemble tackles William Byrd's Great Service. Established acts haven't been forgotten: Claire Martin will be releasing her twentieth album for Linn and the Fitzwilliam String Quartet marks its fiftieth anniversary with a special recording. They'll be available in hi-res, courtesy of Linn's 'Studio Masters' programme.

Contact: [Linn Records](http://Linn Records), [www.linnrecords.com](http://www.linnrecords.com)



## SONY'S ON THE LEVEL

Sony has recently announced its £200 PS-LX310BT turntable, a basic auto-return design which will apparently “perfectly recreate the classic vinyl sound experience”. The belt-driven two-speed deck incorporates a Bluetooth transmitter so that you can send your audio wirelessly to headphones, speakers or – for that matter – a fully-blown audio system. The Bluetooth link is of course digital. However, the PS-LX310BT's MM cartridge and on-board phono stage feed a line-level output, as well as the Bluetooth circuitry, so the deck can upgrade any audio system with analogue disc replay. A neat trick is the three-position gain switch, which allows all records - from squashed compilation LPs to heavily-modulated 12in. singles - to be accommodated without noise or distortion. Manufacturers of USB turntables, take note.

Contact: Sony, +44 (0)207 365 2810. [www.sony.co.uk](http://www.sony.co.uk)



## BUDGET ATMOS FROM PIONEER

In this month's Olde Worlde you can read about Pioneer's QX4000, a budget surround-sound receiver, circa 1972. Back then it was all about 'quadraphonics'; today, home cinema is the focus. And to this end we have Pioneer's entry-level VSX-534 5.2ch AV receiver, which is claimed to bring “immersive Dolby Atmos and DTS:X theater sound, precision-calibrated by Pioneer's clever MCACC microphone-based sound-calibration technology, to the family or media room”. Instead of the QX4000's measly ten watts per channel, the €379 VSX-534 offers 135 watts for “convincing and responsive surround sound”. Other features include multiple HDMI inputs with 4k and HDR support, various DSP modes, a reflex optimizer for Atmos

speakers, on-board Bluetooth, dialogue-enhancement and a second audio zone (with optional support for wireless headphones). In other news, Pioneer told us that Apple AirPlay 2 support will be added to selected products in the spring.

Contact: Pioneer, +44 (0)203 936 8086. [www.pioneer-audiovisual.eu](http://www.pioneer-audiovisual.eu)



# Old And New

Icon Audio's Stereo 300 MKII valve amplifier puts an old classic valve in a new setting. Noel Keywood listens.



**T**here aren't so many valve amplifier companies left in this world and those that do exist usually have their own specific design approach. Icon Audio's designer and MD, David Shaw, likes to build around classic valves (tubes) to exploit their specific strengths – and that's what I'm reviewing here, the Stereo 300 MKII built around the 300B tube. I switch to 'tube' because it is a U.S. valve, no – tube! In this amplifier delivering 30 Watts per channel.

The 300B is an old and much

respected power triode, designed by Western Electric way back in 1938 specifically for audio amplification. Raising two big issues: audio quality and cost.

Back in the 1930s feedback was rarely used – tubes had to be designed properly in the first place to give good sound quality, meaning low distortion. So at heart this is an amplifier built around a dedicated audio device; transistors are not good enough to be used like this. And I'll tell you straight away that the 300B triode valve gives a classically open and spacious sound that, once heard,

is difficult to forget.

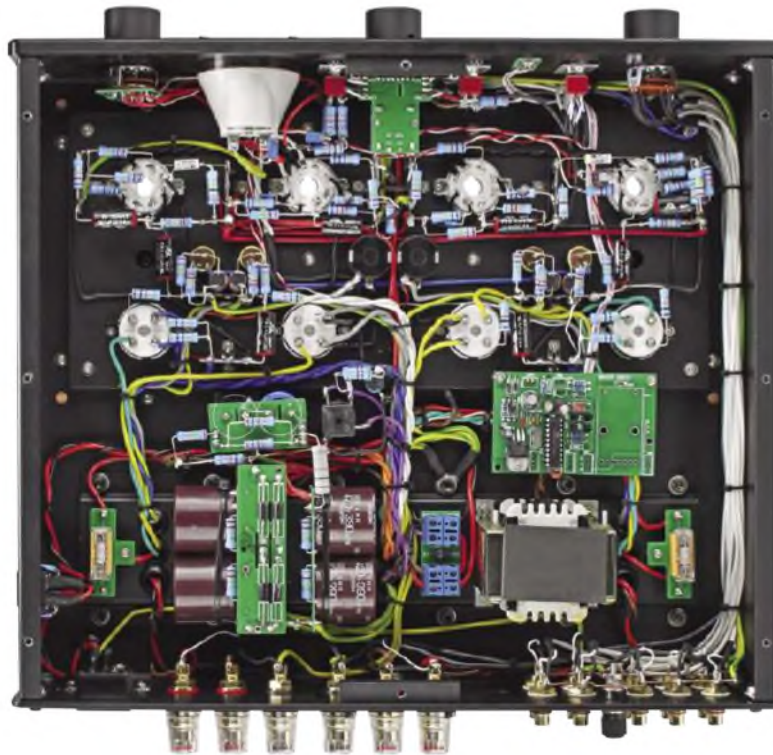
Second issue is that of replacement cost. A power tube like the 300B has a life of typically 3000 hours, so there is a running cost – one I well know about because I run a World Audio Design 300B amplifier (also with switchable feedback). The Stereo 300 MKII comes with valves, but a 300B amplifier is a more expensive animal to run than those with cheaper tubes.

What Icon offer in this recently updated version of their Stereo 300 amplifier is very good support for the valve to get the best from

it. This means big, quality output transformers, sturdy and reliable circuitry, all carefully packed into a relatively compact chassis measuring 380mm wide, 330mm deep and 230mm high. Needless to say, those three transformers at rear are heavy, making all-up weight a challenging 26kgs. The chassis needed to carry them has to be strong also, in this case folded and welded sheet steel with a satin black paint finish, plus thick alloy fascia plate.

Icon Audio are happy to style their amplifiers in keeping with the period, even though they use modern audio components. A brushed copper top plate and lovely analogue meter, back-illuminated yellow, ensure this amplifier catches the eye and is very obviously a classic, not a modern piece of consumer electronics destined for scrap after 5 years.

What does the meter do? To achieve 30 Watts per channel from 300Bs Icon Audio use 'fixed bias' that, confusingly, you must adjust – but only occasionally as the valves slowly change over time. Fixed bias gives more power than 'auto-bias'. It is possible to use fancy transistor circuits to do this job, but in a valve amp they tend to have a short life span! Better to keep things simple and reliable. The five position rotary control at left is set to one of the four 300Bs (V1-V4) and bias adjusted so the meter needle falls into a small black sector. It's a quick twiddle with a screwdriver, the only problem



**A complex internal assembly that is both hard wired with neat looms and has internal circuit boards. At bottom right is a large choke for power supply smoothing.**

being those 300Bs close by are very hot. Adjustment may be needed at 4 monthly periods or so, according to usage. At the Off position the meter shows output level, to warn if full output is approached.

To the right of the meter lies a three-position Sensitivity toggle switch that changes the level of feedback. Few amplifiers in the world have such a thing – its affect upon performance is large. I used it in

our 300B amplifier back in 1993 to demonstrate what the 300B valve can do when 'unfettered' by feedback. It is for enthusiasts, that's for sure, but Icon have tailored this option to have practical purpose as well.

Maximum feedback (15dB) gives minimum distortion, widest bandwidth, best loudspeaker damping, but low gain and sensitivity, hence it is labelled (L). It suits high output CD players.

Low feedback (6dB) increases gain, giving high sensitivity (H) that suits external phono stages or low output sources. Distortion and frequency response don't suffer much measurement showed.

Zero feedback (0) you must take a view on! It gives the most relaxed and open sound, but electrical damping of the loudspeaker goes out of the window and those that are acoustically under-damped will sound obviously soggy in their bass. However, over-damped loudspeakers designed for near-wall placement change little, so what you actually hear depends upon your loudspeaker.

Many prefer the sound with zero feedback as I once did, but now I feel a small amount is useful and both the L and H settings provide choice. At 15dB feedback for L and 6dB for H feedback levels are still way lower than that used in transistor amplifiers,



**The small valves at front are 6SN7 triodes, known for their deliciously smooth sound. Behind are adjustable hum buckers (left) and adjustable bias potentiometers (right).**



**The rear has three line inputs at left, plus tape in and out to their right. Sturdy gold plated loudspeaker terminals are 8 Ohms and 4 Ohms and accept bare wire, spade connectors or 4mm banana plugs.**

typically 30dB or more; those 300Bs are free to give their own sound – a distinguishing feature of this amplifier.

Near centre lies a high quality Alps motorised volume control, that facilitates remote control of volume, provided by a solid metal remote unit. It controls only volume, with a Mute function, not input selection.

Being a valve amplifier there is a stand-by switch that turns off HT but keeps the heaters running, to prolong valve life. Alongside it is a Tape monitor switch – unusual but useful if you have either a three-head cassette



**The 6SN7 (CV181) valves fitted both amplify and phase split to feed the 300Bs working in push-pull.**

deck or an open-reel recorder.

At far right is a rotary input selector with four line inputs marked CD, Aux, Tuner, Tape, plus tape/source monitor switch.

To keep size down I con use a solid-state power supply, but with classic choke smoothing for an ultra-quiet HT line.

David Shaw rightly likes the 6SN7 triode as a preamplifier – a wonderfully neutral sounding valve – using four of them arranged neatly in front of the 300Bs. Inside, the

"the clocks and heartbeat filled our large listening room"

amplifier is classically hard-wired using silver plated, Teflon coated wire. SCR capacitors are used but Jensens can be specified if you fancy getting into component fine tuning. Our amplifier came with Electro Harmonix 300Bs but there are now plenty of other brands.

The 300B is a directly heated triode that suffers hum when driven from a 50Hz/60Hz a.c. supply so hum buckers are fitted to minimise this. They too need occasional adjustment. This is an awkward drawback of the 300B; hum can be very low, inaudible at the listening position, but it cannot be eradicated completely, unless d.c. is used for the heaters – but this shortens their life.

I have to say a little here about what we found in measurement and what it means, in simple non-technical terms. Generally, valve amplifiers have higher levels of distortion than transistor amplifiers, but this amplifier managed just 0.01%! It achieved this with high and low feedback and got close at zero feedback. It gets the best from the 300B.

Warm or bloated bass is another weakness of valve amplifiers, caused by bass distortion in the output transformers and low damping factor. The Stereo 300 MKII output transformers have massive cores to achieve very low bass distortion.

Damping factor is low, just 6, but whether this matters depends upon your loudspeakers. If you have tight, dry sounding bass a low damping factor figure will seemingly add bounce and life – contrary to what you may have read (hypothesis) about this subject.

My World Audio Design 300B amplifier shows feedback selection depends upon the loudspeaker in use. The Stereo 300B gives three options here – a fascinating degree of flexibility that you'll find few places elsewhere.

The zero feedback option is for those suspicious about feedback's affect upon sound quality. As good as it is, the Stereo 300 MKII is not perfect here; treble rolls off above 10kHz and there's some bass distortion, although at 1% maximum it isn't great as valve amps go. Bear in mind that loudspeakers produce

at least 1% distortion at bass frequencies to get this into context. Zero feedback is a fascinating option, one that seemingly brings the technical perfection and sonic romance of the 300B out into the open, unshackled by feedback.

**SOUND QUALITY**

I ran the amplifier from its 4 Ohm tap into our Martin Logan ESL-X hybrid electrostatic loudspeakers, connected with Chord Company Signature Reference cables. Sources were CD from an Oppo BDP-205D Universal player, and hi-resolution digital from an Astell&Kern AK120 player feeding the Oppo through a QED Reference Optical Quartz glass optical cable. An Isotek Evo3 Mosaic Genesis regenerated mains power supply fed the electrostatic supplies and Oppo player, the Icon being connected to its high current filtered but un-regenerated output. Power consumption of the Stereo 300 MKII



**A weighty remote control with volume and mute.**



**A 300B triode with its large, grey anode.**

is 150 Watts quiescent – a big light bulb (old sort!).

Anyone of the common view valve amplifiers sound warm would be surprised by this amplifier, at least with the new Russian Electro Harmonix 300Bs in our sample. They had a sheen and forward but super-insightful view, especially noticeable with Nigel Kennedy's Stradivarius violin (CD) when playing Spring, from Vivaldi's Four Seasons. Not only was the instrument prominently clear, but it was texturally richer and more complex in its sound than usual – and of course surrounded by a sense of open space that you only get with a refined valve amplifier.

The same comments apply to Nils Lofgren playing Keith Don't Go (CD) – different string instrument but vividly forward, cutingly fast and texturally more complex than solid-state. Captivating and deeply impressive. I was using L Sensitivity at this point (highest feedback).

Switching to 0 Sensitivity (zero feedback) made the sound even more dimensional and spacious, but a small amount of congestion appeared. Subjective trade-off here: you may prefer one or the other; I'm agnostic.

Moving on to strenuous Rock performances, spinning Safri Duo's Samb Alegro (CD) nailed differences in bass quality, zero feedback slightly softening the impact of the bass 'kick drum' beat, where L gave it massive power and presence. The H setting was all but as clean as L but a tad less heavyweight. On balance L had it for sheer heft and grip, making the Stereo 300 MKII a monstrously powerful sounding amplifier. I noticed the meter needles going up to high

levels as I worked through both CD and high resolution tracks, such as Pink Floyd's Time (24/96) where the clocks and heartbeat filled our large listening room (6500 cu ft). It was mesmeric.

The power and scale this amplifier brought to Rock also benefitted big classical works, the Chicago Symphony Orchestra taking on massive form in front of me, playing Rimsky Korsakov's Sheherazade. Horns were sonorous and had a fruity rasp, bassoons full bodied and large. They were all set out in sharp definition against a lucidly clear background, spread wide across the room.

I put in an alternative set of 300Bs that proved to need very different biasing. They gave a slightly more muted sound – also with a tad

less vivacity. Of uncatalogued usage I can't say much about this – whether they were aged or just intrinsically (and slightly) different in character. The amplifier coped however.

**CONCLUSION**

Icon Audio's new Stereo 300 MKII captures the famously spacious and atmospheric sound of the 300B valve, underpinning it with strong deep bass and a sense of lacerative speed that few amplifiers match. With three sensitivity/feedback options to play with, it also has sonic configurability – almost unique. Add in compact dimensions, remote control and relatively low price, it stands out not just in the field of amplifiers but also amongst valve amplifiers. You should hear an amplifier like this before buying a new one.

**MEASURED PERFORMANCE**

Power measured 32 Watts (8 Ohms and 4 Ohms), at 1% distortion limit.

High feedback (L Sensitivity) gives lowest distortion and at 0.015% at 1W (1kHz) it is very low, rising steadily to 0.5% just below full power output. High feedback kept bass distortion right down – 0.04% rising to just 0.22% at full power, low figures and good bass quality.

Zero feedback (0) did not worsen low level distortion figures but did worsen high level figures, and also bass distortion (0.5% at 1W / 1% at full output).

Low feedback (H) was a good compromise, lowering bass distortion and high level distortion usefully. It also gave flattest frequency response with steep subsonic roll-off below 20Hz, plus usefully high sensitivity.

Feedback affects frequency response too. High feedback introduced a small bass peak of +3dB at 6Hz caused by feedback LF phase error. Sensitivity was low at 0.9V for full output but this is fine for silver disc players. Few CDs have energy below 20Hz so the subsonic peak is inconsequential.

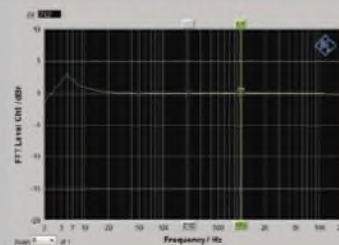
Low feedback gave flat frequency response down to 10Hz and a steep roll-off below – useful for low output phono stages and LP.

Zero feedback is an 'open loop' situation that big, linear triodes like 300Bs were designed for. All the same, big output transformers suffer treble roll-off (-1dB at 12kHz) and bass rolls off too, to minimise peaking when feedback is applied. With a damping factor of 0.9 zero feedback gives poor figures all

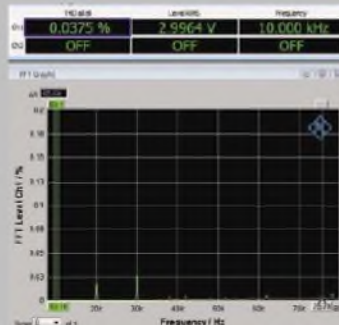
round. The Stereo 300 MKII gave 30 Watts per channel. With high or low feedback, measured performance was good, especially at low frequencies due to the large output transformers, avoiding soggy bass. At just 0.015% distortion this is a very linear amplifier. **NK**

<b>Power</b>	<b>32W</b>
<b>Frequency response (-1dB)</b>	<b>20Hz-30kHz</b>
<b>Distortion (10kHz, 1W)</b>	<b>0.04%</b>
<b>Separation (1kHz)</b>	<b>84dB</b>
<b>Noise (IEC A)</b>	<b>-88dB</b>
<b>Sensitivity</b>	<b>150/300/900mV</b>
<b>Damping factor</b>	<b>6</b>

**FREQUENCY RESPONSE**



**DISTORTION**



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# KT Free

**Icon Audio design a new triode valve as a plug-in replacement for KT150s and EL34s. Noel Keywood looks at the issues and checks the sound.**

**V**alves come with a lot of history and background, adding to their appeal. If you ever trawl through what's available in valve amplifiers you'll come across many with KT88 output valves – or tubes as they are known in the US. Here I can justifiably stay with the term 'valve' because KT88s – more precisely Kinkless Tetrodes – were

designed in the UK in 1955 and have spawned numerous updates since then, the latest being the KT150 and – here and now – a variant of the KT150 from Icon Audio, the KT150D that you see in our pictures.

I love KT88s and think their popularity wholly justified. They have a deliciously modern sound that's sheeny and fast – not soft or warm – reminiscent of a transistor amplifier,

yet with valve purity and the sense of air and space they bring. Better still, KT88s don't cost a lot – around £40 apiece. Quad use them in their 11-forty and 11-eighty amplifiers for example and Icon Audio in their Stereo 40 Mk IV. You get at most 40 Watts from a pair of KT88s running in push-pull (Class A/B), when auto bias is used.

Unfortunately, 40 Watts is



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***Our Icon Audio Stereo 30SE single-ended valve amplifier with KT150D at left and, for comparison, KT150 from Tung-Sol at right. The 150D is larger all round, especially in height. Note that the Stereo 30SE becomes triode-only with the 150D fitted, losing the Ultralinear option.***

***With just one power valve, no phase splitter and no crossover distortion, the 30SE is as minimalist and pure as is possible with KT150D fitted. A 4 Ohm output tap suits electrostatic loudspeakers. Simple, cheap to run, small and very stable, but pure. A perfect review tool.***

considered too little nowadays. Transistor amplifiers have pushed the norm up to 100 Watts and Class D amplifiers can exceed that easily without even getting warm. All of which makes the poor old KT88 look inadequate. To get 80 Watts – critically below the 100 Watt figure – two pairs of KT88s must be used in parallel and this makes for a big amplifier, as well as doubling valve replacement cost.

As valve amplifiers slowly came back into fashion around the end of the last millennium, there was a perceived need for a valve able to handle more power than the KT88, so the KT90 was born, and shortly after the KT120. Where KT88s – especially GEC originals – sound lovely I have yet to hear a KT90 or KT120 I like. As a generalisation, amplifiers using these valves sound a little clanky and uncouth. People might want higher power from a cheap valve but I never heard a KT90 or 120 that could quite match the KT88 – this was a move backwards rather than forwards.

What was happening here I suspect is that the mechanical assembly that constitutes a kinkless tetrode, with its unique beam forming plates, was simply being extended in height to increase surface area, thermal dissipation and power handling, with internal electrode clearances increased a little to avoid flashover at high operating voltages. A simple fix as it were, for the KT88. But the fix was crude and made in East European or Russian factories I would guess, without much thought.

Then the New Sensor Corporation, of Long Island, New York, came up with the Tung-Sol KT150. This is actually built in Russia by Sovtek, not America. New Sensor produce Electro Harmonix tubes for the music business, used mainly in guitar amps where tubes reign supreme.

The KT150 has a distinctive gherkin-shaped glass envelope and it is a recent design with strengthened electrode assembly to lessen ringing, plus a strong and thick glass envelope, also to lessen outside influence. It

has eye popping specs, including the ability to withstand 850V on the anode and dissipate 70 Watts from it – way above a KT88. Most importantly of all, it sounds good – very good. With less sheen than an '88 it is more valve like, shall I say, but also it has plenty of heft in a well designed amplifier. The KT150 has tempted Audio Research away from the pedestrian sounding rugged 6550, primarily because it is equally reliable. To date I have never heard a KT150 equipped amplifier I didn't like – and this valve is not expensive at around £100.

Regular readers will know I use an Icon Audio Stereo 30SE single-ended amplifier fitted with KT150s as a reference. A single-ended with linear, high power kinkless tetrodes is as simple and pure as it can get, as demanded by electrostatic loudspeakers. The two go hand in hand, in theory and in practice. So when David Shaw, Icon Audio's MD, turned up with 'different' KT150s, known as KT150Ds I was as intrigued and potentially excited as

he was at showing them to me (it's an affliction!).

The KT150D is left field. For a start, it isn't a Kinkless Tetrode, it's a triode! The KT prefix is used because it is a plug-in replacement for the Tung-Sol KT150, giving triode operation without modification to the amplifier. There is a lower power version plug-in replacement for the EL34 as well, called the EL34D, again converting any amplifier using EL34s to triode operation.

Reasons. David Shaw says the wire grids of valves make for unreliability, quoting KT88 batch breakdown. We suffered this with World Audio Design amplifiers using KT88s, but it was one batch that I assumed was a batch issue, not a fundamental construction or design fault (difficult to know without an autopsy!). The KT150D is a pure triode with only a control grid, no screen or suppressor grids – more reliable. It is big and rugged, the anode accepting up to 700V and the heaters being identical to the KT150, meaning 6.3V at a high-ish 2A.

People – me too – like the triode sound even though it measures worse than Ultralinear. So the KT150D delivers both power and the triode sound as a plug-in replacement for the standard Tung-Sol KT150. It has been developed by David Shaw through numerous prototypes, so this is an Icon Audio specialist valve. It has an expensive 'hard glass' envelope used on high temperature valves like 845s, not cheaper barium glass that can crack and lose vacuum around the pins. The anode plates are carbon coated for stable results at high temperature. Price is £299.95 for the KT150D – phew! This is up to 300B price, but it is a competitor in effect. The smaller EL34D comes in at £175.95.

Plugged into our Stereo 30SE amplifier the KT150Ds gave the same measured performance as Tung-Sol KT150s switched to Triode operation instead of Ultralinear. That means 18

Watts output (Ultralinear gives 28 Watts). You get less gain and less output from a triode and, without feedback, more distortion. But this has to be seen in perspective. At 1 Watt distortion rose from 0.06% Ultralinear to 0.2% Triode – very low values and mostly innocuous sounding second harmonic.

Near full output we're talking 0.4% for Ultralinear and 0.8% for Triode, again mostly second harmonic. All the same Triode appears obviously worse than Ultralinear, so why is it popular?

The distortion increase with a Triode is second harmonic and the distortion pattern more stable with level, resulting a slightly 'easier' sound I find. Differences aren't great – on the Stereo 30SE they're quite subtle but I gravitate to Triode all the same. Am I influenced by group-think or am I genuinely detecting a more amenable (correlated) distortion pattern? It is difficult to say. But Triode does have it and the new KT150D offers Triode sound anywhere a KT150 valve is in use, without amplifier modification. Because its heater draws 30% more current than other KT series valves however, it isn't recommended as a plug-in for anything other than the KT150. The EL34D similarly has the same heater as an EL34 (6.3V, 1.6A) so plugs straight in with no issues.

I replaced the Tung-Sol KT150s in our Icon Audio Stereo 30SE with KT150Ds and there was no appreciable difference in measured performance. All the same, what I heard – and, independently, Jon Myles – was a slightly more solid and better fleshed out sound, with useful extra heft. Since the Tung-Sol KT150s have been run long and hard perhaps their emissivity had fallen; it is hard to know. The new KT150Ds sounded younger and sprightlier as it were. However, the KT150D anode is larger than that of Tung-Sol's KT150 so there is obvious mechanical difference here; it is a stronger physical structure. Whatever the reason, because the KT150Ds brought more heft and weight to our Stereo 30SE they will stay in place.

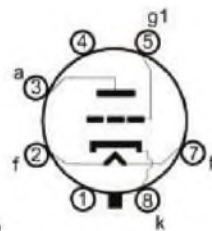
I guess both the EL34D and KT150D are for die-hard enthusiasts, especially when you need four KT150Ds at £299.95 a pop – a mere £1200! – in a push-pull stereo amplifier. Yet they are impressively built and spec'd. This is a genuine UK-specified quality product. You get bomb-proof strength and reliability plus the Triode sound. Heaven!

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- 1 - NC
- 2 - Filament
- 3 - Anode
- 4 - NC
- 5 - Grid
- 6 - NC
- 7 - Filament
- 8 - Cathode



Viewed from below



The Icon Audio KT150D is general purpose Triode valve directly equivalent to the KT150 and KT120 operating with the screen grid (G2) strapped to the anode. But unlike the KT150 pentode the KT150D is a true triode valve without a screen grid and suppressor grid (G3). In most circumstances it may replace the KT150 as the pin connections are the same.

When used in an Ultralinear amplifier (cathode bias or fixed bias) the cathode bias, or fixed bias settings will be approximately the same.

Height (from base plate)	138mm	<b>Amplifier class A1 Single valve fixed bias</b>	
Diameter (max)	62mm		
Weight	150 Grams		
Filament Voltage	6.3V ± or -5% 2.0 A	DC Plate Voltage	580 V
Amplification Factor	8	DC Plate Current 0 sig	100 mA
Transconductance	10 mA/V	AC input Grid	60 Volts
		Grid bias Voltage	-68 V
		Output	22.5 Watts
<b>Maximum Ratings</b>		<b>Amplifier 2 Valves Push Pull Class A/B fixed bias</b>	
DC Plate Voltage	700 V	DC Plate Voltage	620 V
Dissipation Anode	70 W	DC Plate Current 0 sig	50 mA*
DC Cathode Current	220 mA	AC input Grid	80 V*
Grid return cathode bias	470K	Grid bias Voltage	-88 V*
Grid return fixed bias	220K	Output	65 Watts
		*Each valve	

**Pinout and specifications of the KT150D. Like the KT150 it uses an International Octal base. In push-pull with fixed bias it will deliver 65 Watts, Icon Audio state – above most trad. triodes.**



# Local power

**Martin Pipe has fun with a comprehensive British-built pre/power amp combination. Does it offer a taste of the high-end for £2,600?**

**M**itchell and Johnson burst onto the hi-fi scene in 2012 with worthy budget gear made in the Far East. M&J evidently now has a more upmarket clientele in its sights, if its new 800 series is anything to go by. These units are all “designed, manufactured and assembled in the UK”, comprising CD player, pre-amp and power amp.

Each sells for £1,299.

I am focusing here on the S800 preamplifier and S815 power amplifier. Both radiate a 1980s aura from their machined aluminium front panels, especially the S815 with its delightfully-retro VU meters and ‘toggle-action’ switches that are pushed downwards to turn the units off or on.

The 150 Watt (claimed) S815 weighs a hefty 16kg, on account

of the enormous toroidal mains transformer and the metalwork needed to cool its six beefy Toshiba ‘audio-grade’ power transistors that you’ll find in its Class AB output stage. Two parallel sets of substantial binding-posts make speaker bi-wiring a cinch, while the input can be balanced (XLR) or unbalanced (phono). Loop through ‘pre out’ outputs are provided for bi-amping. A 12-volt ‘power link’ enables

switch-on to be synchronised with the S800.

The preamp part of M&J's flagship proposition shares the retro looks of its matching amplifier, right down to the electric-blue lighting scheme – this extends to the standby mode, the relevant LEDs of both units being arguably far too bright. But there's plenty of reassuring high-tech under the bonnet – not least an onboard DAC, based around the ubiquitous ESS Sabre 9018 chip, with 24/192 PCM and DSD128 (i.e. 2x) hi-res capability. The latter requires the on-board X MOS asynchronous USB interface, and a computer with the necessary playback software (and, for pre-Version 10 Windows, drivers from the M&J website).

If you're using the conventional digital inputs – M&J has been very generous here, bestowing the S800 with three coaxial and three optical types – then 24/192 PCM is your upper limit. Bluetooth isn't catered for. However, analogue connectivity is plentiful. In addition to a single balanced (XLR) input are four line-level phono inputs and a phono stage that can be switched between MM and MC via a front-panel interface based around a LCD screen and two knobs. The latter are coupled to rotary encoders, everything being digitally-controlled including volume that, M&J tell us, consists of a 'precision resistor ladder'. There are no tone controls.

Digital control makes possible all kinds of tricks, and the S800 has a thoughtful touch – lowering volume to a 'safe' level and then raising it again after inputs are selected. Unfortunately, there's no gain trimming, nor is there a stereo balance control. Pressing the volume control engages mute. This can also be achieved with the remote control handset, which looks like something you'd get with a TV set.

As well as muting, volume control and source selection the handset will also switch the S800 (and, if the 'power link' is in place, the S815) into and out of standby. If you have the matching CD-S800 player, the remote will work that too.

Another input 'HT direct', is provided for use when the S800/S815 are driven by the front-channel outputs of an external surround processor. It's activated through the set-up menus, which – the aforementioned MC/MM selection apart - will also allow those numerous inputs

to be named to something more relevant, and the brightness of the display your chosen words appear on to be increased or decreased.

In terms of outputs the S800 gives you two sets of unbalanced phonos, a pair of balanced XLRs and a dedicated subwoofer feed.

interfaced Windows PC (running Foobar2000) and an analogue source comprising a Rega Planar 3 turntable, RB300 tonearm and Bias (MM) cartridge. The material played included a selection of LPs, various lossless CD rips, DSD and hi-res PCM stored both locally and on a

"Digital control makes possible all kinds of tricks, and the S800 has a thoughtful touch".

On the front panel is a 'grown up' quarter-inch headphone socket – a nice touch, as for personal listening the power amp can be turned off. Indeed, if you're using Powerlink and flip the preamp's power-toggle upwards then the S815 continues to sleep. All outputs are subject to the volume control; there's a 'fixed' output labelled 'tape'. However, the S800 lacks a proper tape loop with 'monitor' button.

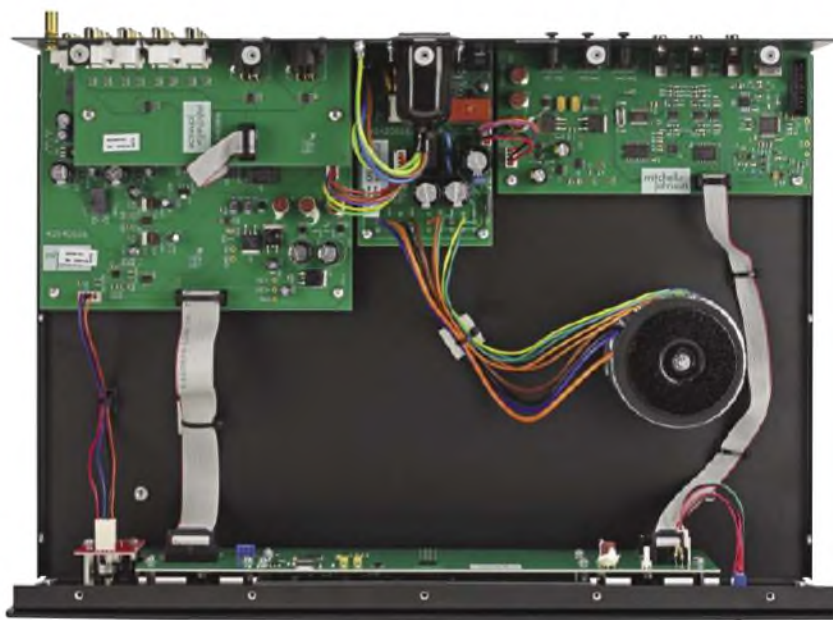
## SOUND QUALITY

I partnered the XLR-interconnected S800/S815 with my Quadral Aurum Wotan VIII speakers, relying on Focal Utopia headphones for smaller-scale listening. Sources included a Cambridge CXN streamer, USB-

NAS.

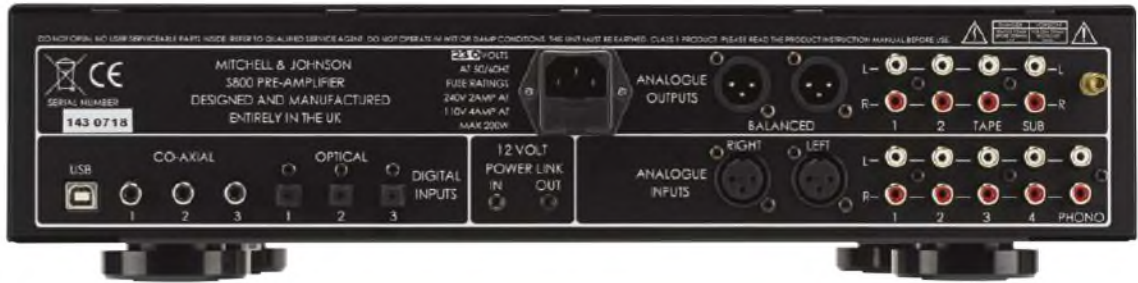
First impressions were good, this amplifier combination delivering a good sense of scale with a wide variety of music.

LPs tended towards the strident on occasions and with 12in. singles I found myself reaching for the volume control – which, on the remote, is in an awkward position. However, the sound's cleanliness and decent resolution will enable you to dig out the finer details from the mix – a percussive flourish here, an extra guitar part there. Treble from vinyl was crisp and unexaggerated while the low-end is taut and defined by an extension that perhaps goes a little too far; stay clear of warped records if you value your speakers!



*The S800's circuit boards serve for input, output, power supply and – to the right – digital. There's also a front-mounted board containing the display and controls, and a toroidal mains transformer for the power supply.*

*I hope that analogue audio from the DACs is not being routed, via that unscreened ribbon cable, to the input selector via the display board. It would explain the display-dependent background noise that mars listening to digital sources.*



**There's no Bluetooth but you get no fewer than six digital inputs (three optical, three coaxial) plus a DSD-ready asynchronous USB port. On top of this are five analogue line inputs (one balanced XLR, four unbalanced phono) and a phono stage that can be switched between MM and MC cartridges. It's a shame there's no 'genuine' tape loop, but the outputs consist of two lines, a sub, tape out, XLRs and - on the front panel - headphones.**

However, I noted that the stereo image was 'reversed'; no problem, as I simply swapped over the XLR cables! Hopefully, this error was down to the sample

– or can be fixed in production.

Another annoyance is that the raising and lowering of volume that the S800 imposes as inputs are changed is rather slow.

Then there are the S815's VU meters. During the review period, the left-channel one became more eager to respond than the right; there was no audible change in stereo balance, so the meter drivers were to blame!

But I found far more serious problems with the digital section. All of the numerous digital inputs are accompanied by a rasping whine in the background that destroys any pretence of dynamic range. When I first heard it – through the S800's revealing but somewhat brash-sounding headphone amp – I was listening to the Radio 4 Today programme, courtesy of the CXN (320kbps AAC stream).

I thought that the noise was part of the report that was being aired. However, I switched to the Radio 3 320kbps AAC and it was still there – and seriously detracting from the Scriabin piano concerto being played. It was exclusive to the S800's DAC section; as soon as one of the

analogue inputs was selected the noise disappeared.

No unit with these issues could possibly be marketed as 'hi-fi', so I'm prepared to accept that the review sample was at fault or that our sample was 'pre-production'.

Ultimately, the noise prevents me

sample. Yet in some respects you can hear strengths trying to emerge. The S800 can, for example, be punchy and rhythmic when needs dictate – if its treatment of the fluid bassline, insistent electronic drums and 80s-style analogue-synth textures of *Totally Enormous Extinct Dinosaurs*

"However, the sound's cleanliness and decent resolution will enable you to dig out the finer details".

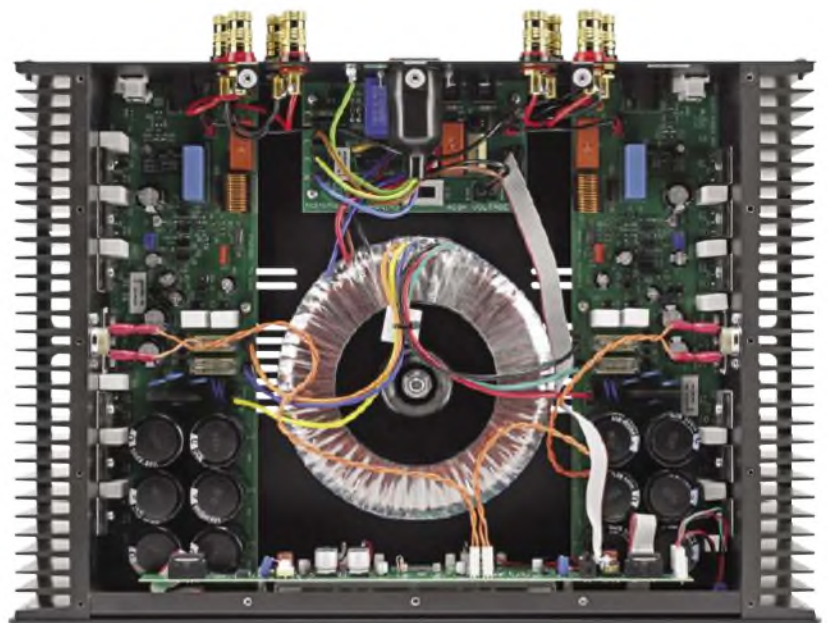
from making a serious assessment of subjective digital performance – not least because it masks musical subtleties – and there was insufficient time to request a second

Tapes and Money (CD FLAC rip) is anything to go by. Plenty of low-end here, and the sheer weight of the S815 is harnessed to good effect.

A switch to a Chord Quest



**The remote has a nice solid feel but the layout leaves much to be desired. The location of the volume control buttons, for example, was awkward.**



**Down the left and right sides can be seen the heatsinks, to which are attached the banks of output transistors (six per channel). Rather than the Class D PWM technology Mitchell & Johnson has opted for a traditional Class AB design.**



**Two parallel-wired sets of decent speaker terminals - which will accept 4mm banana plugs, spades or bare wire - have been fitted for bi-wiring. In addition to balanced XLR and unbalanced phono inputs are 'loophrough' outputs that will feed another amplifier. One would serve the bass driver of a compatible speaker, and the other its tweeter (bi-amping).**

DAC, fed to one of the S800's line inputs, hints to what the amplifier could deliver from digital sources. In many respects, then, the S800/S815 is a brave British-made attempt by M&J to give hi-fi enthusiasts something that's different yet still represents value for money. Time – and possibly

further attention – will tell if they got it right.

**CONCLUSION**

All power (pun intended!) to Mitchell and Johnson for its attempts to bring us a flexible, potent and value-for-money pre-power combination.

Ours had problems that need fixing: reversed channels, VU meters that misbehave and, worst of all, a whine from the DAC that was unacceptable. From the analogue sources the S800/S815 delivered in spades. A work in progress perhaps – one with plenty of potential.

**MEASURED PERFORMANCE**

The Mitchell&Johnson S815 power amplifier delivered 150 Watts into 8 Ohms and 270 Watts into 4 Ohms. Distortion levels were low at all outputs and frequencies, the critical 1W/10kHz value – a measure of crossover distortion - coming in at a low 0.03% second harmonic our analysis shows. With a high damping factor of 58 the S815 will sound powerful but tight and clean. Input sensitivity was half the 1V common standard - 2V via both phono and XLR, so the S800 pre best suits. The meters showed max at around 1 W so need calibrating.

The S800 preamplifier had a normal gain value of x3 from RCA1 (line) input to its RCA-socket Line out, with volume set to 0dB. However, this increased to a massive x35 with volume wound to maximum (+21.5dB), more than enough to accept any source. Maximum output is 9V. The XLR output socket output gave double gain (x77 max) and max output (18V).

From XLR in to XLR out gain was similarly x3.6 at 0dB volume. Whilst the XLR left input went to the left XLR output, all the RCA inputs (line and Phono) were reversed, right inputs going to left XLR output, likely a wiring error.

Frequency response measured flat 2Hz to 100kHz, unaffected by volume control position.

The Phono stage also had massive gain of x8700 (79dB) at 0dB on the volume control, and x106000 (100dB)

at maximum on the volume control (+21.5dB). These gain values are huge, far more than necessary. Equalisation was accurate; there is no warp filter so response measured flat from 6Hz to 20kHz. Input noise was low at 0.16µV, if above the 0.1µV possible.

The electrical (co-axial) and optical digital inputs (S/PDIF ) both accepted 192kHz sample rate PCM, frequency response measuring flat to 38kHz (-1dB) before slow roll off to the 96kHz upper theoretical limit.

Distortion from 24/96 hi-res PCM was very high at 0.36% and EIAJ Dynamic Range consequently low at 81dB with 24bit where 115dB or better is common. USB had 81dB dynamic range and 1.6% distortion at -60dB. This is a very poor result; digital performance is way below expected, in terms of distortion and dynamic range.

The S815 power amplifier measured well but the S800 preamplifier's digital section was poor, far behind current norms. NK

**AMPLIFIER**

<b>Power</b>	<b>150W</b>
<b>Frequency response (-1dB)5Hz-50kHz</b>	
<b>Distortion (10kHz, 1W)</b>	<b>0.03%</b>
<b>Separation (1kHz)</b>	<b>94dB</b>
<b>Noise (IEC A)</b>	<b>-108dB</b>
<b>Sensitivity</b>	<b>2V</b>

**DIGITAL**

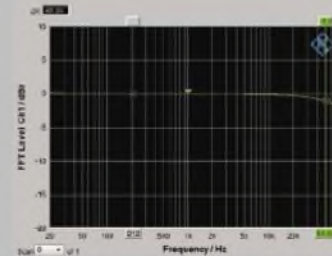
<b>Frequency response (-1dB)5Hz-38kHz</b>	
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<b>Distortion (-60dB, 24bit)</b>	<b>0.36%</b>
<b>Dynamic range (EIAJ)</b>	<b>81dB</b>
<b>Noise</b>	<b>-80dB</b>

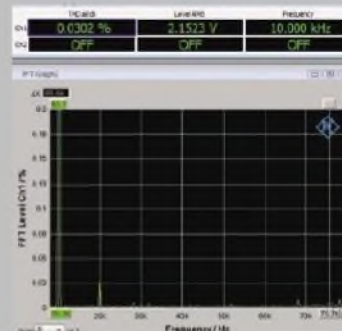
**PHONO (MC)**

<b>Frequency response (-1dB)6Hz-20kHz</b>	
<b>Distortion (1kHz, 5mV in)</b>	<b>0.06%</b>
<b>Separation (1kHz)</b>	<b>64dB</b>
<b>Noise (IEC A)</b>	<b>-82dB</b>
<b>Gain</b>	<b>79dB</b>
<b>Overload</b>	<b>7mV</b>

**FREQUENCY RESPONSE**



**DISTORTION**



**MITCHELL & JOHNSON S800 PREAMPLIFIER £1399**

**MITCHELL & JOHNSON S815 POWER AMPLIFIER £1399**



**EXCELLENT - extremely capable**

**VALUE - keenly priced**

**VERDICT**

The British-made S800/S815 offers excellent value for money and is an energetic performer. Just don't use its DACs.

**FOR**

- excellent connectivity, analogue and digital
- a big enjoyable sound
- plenty for the money

**AGAINST**

- digital playback issues
- remote control
- operational 'sillies'

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# Mail



## LETTER OF THE MONTH PRIZE



Visit our website at [www.hi-fiworld.co.uk](http://www.hi-fiworld.co.uk) or send your emails to [letters@hi-fiworld.co.uk](mailto:letters@hi-fiworld.co.uk). Letter of the month wins a pair of KEF EGG wireless digital music system

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

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

**A KEF EGG WIRELESS DIGITAL MUSIC SYSTEM is on its way to DR. MARK PITCHFORD, Letter of the Month winner in our February 2019 issue.**

## Letter of the Month

### MAINS SOLUTION

Just thought I'd ask your opinion on the subject of a dedicated mains supply for my system. Over the years I've come to the conclusion this may be the only way to achieve the sound that I've experienced at various retailers down the years.

In the early eighties, having auditioned various systems, I decided on an LP12/Ittok/Asak turntable set up, Naim pre/power amps and Linn Saras. At the retailer's it sounded wonderful, as it should, but on installation at home it sounded thin, bright, lacking in bass etc. I took the whole lot back to the shop and listened. A completely different sound.

The retailer said it must be room acoustics, try different speakers, different amps etc, but no real change. Ultimately, two years later I sold the lot as I could never get anywhere near the reproduction of their dem. room.

Ten years later I'd moved to a different property. I tried again, a more modest system from a different retailer, Rega Planer 3, Arcam integrated, B&W standmounters; sounded great in the shop, but guess what? The same thing happened at home: thin grainy gritty treble, hard mids etc. Again, I tried different components but,



**The Power Inspired AG1500S is a mains re-generator that eliminates both distortion and noise (filters eliminate only noise). Would it eliminate the "thin grainy gritty treble, hard mids etc" Michael Hender suffers?**

underwhelmed again, stopped listening to it and flogged it.

I've had two property moves since and have started a new system. Now I have another Linn LP12 turntable, Nima arm, Benz Ace SL cartridge, Quad 24 Phono preamp, Quad PA-1 headphone amp, Beyer T-70 phones, Supra mains cables, Chord Epic interconnect. It's still not great.

I've tried really expensive cables, but they change rather than improve things. To a lesser degree, the sound is representative of what I've experienced

over the last 35 years. Perhaps I really should knock this lark on the head.

This became even more apparent last summer. I had my LP12 serviced by the great crew at Infidelity. I took my whole system to them to try to gain any clues. We plugged it in, switched on... and I was gobsmacked! Smooth treble, warm mids, fulsome bass through my headphones. The only difference at Infidelity is the rack they use, and a dedicated mains supply.

Their rack is the Quadraspire SVT. I've used various racks over time, all



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sorts of isolation pucks, feet, etc, so I'm left with the conclusion it may be mains quality. But not everyone who has a great sounding system at home is able to have this luxury of an isolated mains. It would mean an expensive way to go for me, flooring would need to come up in two rooms to run cabling to my set up, new electrics etc, and it still may not give me the sound I know my system is capable of. Please, any insight into this would be greatly appreciated.

Regards,

**Michael Hender**

Hi Michael. Yours is one of the strangest and unfathomable problems I have ever heard of! It seems to be related to you, meaning your situation – and since it is consistent with differing rooms in your various homes I can only assume – like your first dealer – it is linked to how you personally choose to furnish your listening room. Except that, in your current system you seem to be using headphones only.

Assuming there are unmentioned loudspeakers in the equation, do you like a modern minimalist room? One with little absorptive furniture like settees and carpets? Bare wooden floors, hard walls with no acoustic dispersion from the irregular face of bookshelves, sparse furnishing and such like? If so then your room will differ from any dealer room that's well sorted acoustically and it will give a hard bright sound that sends reflected treble energy back to your ears. This is a ragged sound that must not be allowed to dominate, overwhelming the direct sound from the loudspeakers.

If this supposition is correct I suggest some quick, cheap and dirty experiments! Ikea have thick and absorptive carpets like Vindum that they say "dampens sound and provides a soft surface to walk on".

Try one. Also try wall hangings on the left and right wall to absorb reflected side wave. It is a Saturday of messing around but it won't cost a lot, far less than installing new mains cabling.

Then there is positioning. For maximum bass put the loudspeakers at one end of the room and sit at the other. You then hear highest sound pressure at your room's lowest modal frequency.

If you now use only Beyer T-70 headphones this obviously eliminates the room and all I have said about it. An improved mains supply or a filtered or re-generated one gives greater depth and insight by removing mush, but this isn't your problem it seems. And since it follows you from home to home the mains wiring appears an unlikely culprit.

Re-wiring is drastic. Best to try and loan a mains re-generator for home demo if you are set on pursuing mains quality, the Power Inspired AG1500S reviewed in our September 2018 issue is a good option. We use an Isotek Evo3 Mosaic Genesis at Hi-Fi World.

One final thought is that of source material quality. Dealers will use decent records as demos – have you tried the same LPs at home? You may get the same sound as them. I have become very wary of this: a good system better reveals the problem of bad recordings. LPs I once thought sounded good – for example 1970s commercial demos like the Fisher Fidelity Standard – now sound miserable. Check your system with some good modern

LPs on heavy 180gm - 200gm vinyl. Look for Quiex -SVP vinyl since it gives a smooth and low-noise sound I find. A decent LP may cost £20-£40 nowadays but most are worth it.

I hope something in here helps. If you solve this puzzling mystery please let us and readers know. And if readers feel I have missed something Sherlock Holmes would have spotted, say so. **WATSON (NK)**

### HOME NETWORK 1

*I have replaced my venerable Musical Fidelity Nu-Vista 300 power amplifier as I was offered a very reasonable price as a private sale, and with Music Fidelity changing ownership thought it best for long term support to cash in.*



**Chord Electronics Blu Mk2 CD upsampler. It needs a Squeezebox interface to sound good with Roon says David Waterman.**

*I upgraded to the Audio Research VT80SE and am very happy with my choice as the synergy with my Sonus Faber Elecata Amator IIs being fed by my Chord Electronics Blu Mk2/DAVE front-end is highly musical and the best my system has sounded.*

*I use my Blu Mk2 primarily as an upsampler for my Squeezebox Touch modded to handle 24/192 HD music, with the music files being served via my QNAP NAS via Roon.*

*I took out a trial Roon service and subscribed for the year, the interface and meta data searching is great.*



**"I upgraded to the Audio Research VT80SE and am very happy with my choice as the synergy with my Sonus Faber Elecata Amator II is highly musical" says David Waterman.**

Come Together  
The Beatles  
FLAC 192 kHz 24 Bit

4/5

4:16

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**Something was lost when we went digital Roon say. Their cataloguing brings back the visuals.**



**Roon is a powerful, network music cataloguing and transmission system that may suit Jean-Christophe Xerri.**

However, I have noticed a counter-intuitive sound quality issue. When I connect Roon directly to my Blu Mk2 as an end point the sound losses dynamics and musicality compared to connecting to the Squeezebox Touch as an end point. I would have expected the more direct connection to the Blu Mk2 to have the best sound quality, however this is not the case – and it is by a large margin. I can only think connecting to the Squeezebox, Roon is doing less processing on the QNAP and the Squeezebox acts as some sort of electrical buffer to the Blu Mk2. Your thoughts?

As using a Roon end-point before my Blu Mk2 is the best sound quality, I have in mind an upgrade to either the Lumin U1 or Auralic G1, which are comparable in price and functionality. However, with the Auralic it appears if you are not using its native Lightning renderer then you may be paying for and losing performance? Unfortunately Lumin and Auralic appear to be mutually exclusive products for dealers so it would be hard to A-B test them. What would be your thoughts regarding sound quality 1st and long-term support and continual development 2nd?

Regards

**David Waterman  
Croydon  
Surrey**

Hi David. I spoke to Chord Electronics about this; they use Roon at shows. They pointed out that it could just be you have Roon correctly set for Squeezebox but incorrectly set for Blu Mk2 – a good point. You should contact either Roon, who have good support and are helpful Chord Electronics say, or themselves at [info@chordelectronics.co.uk](mailto:info@chordelectronics.co.uk) to sort out the settings. It is also possible for you to send Roon direct to Dave, by the way.

Roon compatible products can be certified to either work with

Roon or, better, carry its software. Roon quote Squeezebox as a compatible end-point partnering product and it appears from Roon literature that such a product communicates with Roon to choose a mutually compatible transmission format, up to 384kHz/24bit for PCM or up to DSD256, and with bit-perfect results. This would also explain why interfacing with Squeezebox works better than Blu Mk2 direct.

I'm sorry to say we have no experience with Roon compatible end-points carrying Roon software like Lumin U1 or Auralic G1, able to feed either Dave direct or your Blu Mk2 CD upsampler connected to Dave.

If your files are largely MP3, AAC, CD etc (i.e. not hi-res) then you will likely get best results by choosing 44.1kHz sample rate output from Roon and its end-point, then feeding into Blu Mk2 – as at present. But



**A Roon ready DAC, like the Hugo from Chord Electronics shown here, is a good choice for a network connected hi-fi system.**

Roon suggest upsampling in Roon is to be preferred, so as to apply their own internal digital filtering for CD. If this route is followed it makes no sense to set end-point output at 44.1kHz to feed Blu Mk2. Rather, the

Roon end-point should feed Dave direct. Gets complicated doesn't it. Experiment!

Please let us know how you get on because readers with networks are interested in this topic, as the following letters show. **NK**

## HOME NETWORK 2

*I've got sporadic problems within my home network: my NAS, where the music is stored, is not always recognised by my home network. So I think that a streaming device equipped with a hard drive, or better two that can be configured in RAID 1, could eliminate the network issue and provide without hiccups a feed to my DAC. The device should be able to play all current audio files (wav, flac, mp3, aac as well as dsf, ie DSD) and be remote controlled from an Android tablet*

*My DAC can accept up to PCM 24/384 (although my files collection is limited to 24/192) and DSD128 on a USB connector. Therefore the device should have a dedicated USB audio output able to output natively the above mentioned formats. My current budget is of AU\$1000 = US\$700 = GBP600 = euros 600. If nothing exists within this price bracket please let me know about more expensive options. I might also consider buying on the second-hand market*

Thanks,

**Jean-Christophe Xerri,  
Australia.**

Hi Jean-Christophe. You may well be interested in the previous e-mail (Home Network 1) since

"Tellurium Q Statements are no usual cable affair and if I've called the Silver Diamonds an Emotional Tour de Force what are then the Tellurium Q Statements!? Well, they certainly transcend any typical labeling and this time I'm elevating them on the throne, that they clearly deserve. Their stand out, extraordinary performance can only be recognized with the 2018 Editor Choice Award!"

-Matej Isak, Mono & Stereo

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**"The Moon Audio Mind is recommended as having good sound quality. So where does this 'sound quality' come from?" asks Jonathan Ledger.**

Mind 2 that receives the incoming data stream and sends it on to a DAC (or has a DAC on-board). Since Roon is becoming well supported and popular it seems like to a good way to go for you. **NK**

### HOME NETWORK 3

*I would be grateful for some assistance in deciding on a cost effective upgrade path for my system. I am sure many other readers of a certain age will also be interested in this discussion!*

*My question is: Which part of the digital front end is responsible for increasing sound quality? Is it the front end that handles the control apps, different types of USB connectors (Type 3, Type 2, mini A, B, micro, etc), connections to the Ethernet, digital inputs and outputs and MQA?*

*Or is it the DAC that must now be capable of handling increasingly large word lengths and frequencies, and DSD?*

*For instance, at around £1800 the Moon Audio Mind is recommended as having good sound quality and effective control apps. So where does this 'sound quality' come from? Especially when you then have to factor in the cost of a DAC of commensurate quality! Another £1000 plus!*

*Am I being naive in thinking that the most cost effective way of future proofing a modern hi-fi system is to purchase a top quality DAC such as Chord Dave, Hugo, Audiolab M-DAC + etc and buy a cheap all-in-one box with reliable control apps and a lowly DAC with a digital out socket?*

*Keep up the good work!*

Regards,

**Jonathan Ledger  
Leicester**

Hi Jonathan. In my experience to date it is conversion to analogue in the DAC that has most affect. However, as hardware DACs get ever more capable and sophisticated emphasis does appear to be swinging toward digital pre-processing, such as

upsampling and jitter removal from re-clocking. This is especially the case in distributed home networks where a NAS storage drive might be 'under the stairs' – meaning far from a DAC. Both Roon and Moon Audio offer intelligent music cataloguing and distribution systems, the Moon MiND 2 being just one such network endpoint able to accept very high quality data streams, for output to the DAC of your choice. This does send cost right up as you say. Or consider buying a Roon ready DAC like Hugo or Mojo from Chord Electronics.

**NK**

### GOING GREEN

*As a long time reader of your excellent magazine I have particular interest in the evolution of the amplifier technology implemented in commercial plug-and-play power amplifiers. Sometimes it is hard to find relevant information in reviews on the topology of the power*



**"My aim is to find a product matching at least the positive sound characteristics of my current Electrocompaniet DMB100" says Philippe Vanden Broeck.**

*amp and its sound-wise impact. My concern is to find a good power amp based on Class D modules (Ncore, Hypex and the like) with long-term reliability and much less power consumption. My aim is to find a product matching at least the positive sound characteristics of my current Electrocompaniet DMB100, brought up to latest specs and renewed components by the Benelux importer: transparent, neutral with a touch of warmth*

*The power amp should be able to drive my Spendor SP100s, delivering tight and thundering bass of reggae and dub as well as high dynamic contrast in classical music without sounding harsh.*

*I want to replace the amp for eco-friendly reasons. I know there are some exotic brands out there offering Class D amps with +£10k price tags. I'm looking at somewhat more balanced approach with the rest of my down-to-earth components – EAR 8341 preamp, Eastern Electric DAC, Marantz S11 SACD, Astell & Kern/ FiiO DAPs and Auralic mini server.*

*Should I save my money and wait for further development in Class D or other topologies? Could you shed your light? I would much appreciate.*

**Philippe Vanden Broeck  
(Belgium)**

Hi Philippe. Replacing your Electrocompaniet DMB100 with a Class D amplifier will not save the planet. A Class A/B like Electrocompaniet's AW180 (250W) consumes 100 Watts from the mains quiescent (no music), so with two of these mono blocks 200 Watts. A Class D like NAD's C275BEE is quoted as 312W or 100W at idle. Not a lot of difference then! The rated audio power output of an amplifier is no guide to the quiescent power draw from the mains.

Another issue now arising is that of standby power that should be less than 1W by IEC Recommendation so you may see a figure of >1W quoted,

but this isn't quiescent idle current. It is the current drawn when the unit goes automatically into standby mode after a period of inactivity.

If you are happy with the Electrocompaniet I'd suggest you save your money. Moving to a Class D amplifier will not necessarily reduce power consumption from the mains. It may even increase it.

Class D is efficient so runs cool, meaning it needs small heatsinks



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- The RUBICON Series trade-in promotion runs from 4th December 2018 until 31st March 2019.
- The discount will only be applied to new purchases of DALI RUBICON speakers purchased through authorised DALI stockists, and is only open to residents of the UK and Ireland.
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– and this saves a lot of money; extruded alloy heatsinks are very expensive. Chassis size and strength can be reduced too, especially when a switch-mode power supply is used, as they usually are with Class D. As a result Class D is cheaper to produce all round and modern Hypex modules measure well, so all looks good. Except switch-mode power supplies are prone to failure, often because they are overstressed in order to meet low price expectations. And few audiophiles like their sound. You are unlikely to find sound quality improves with Class D, nor mains power consumption.

For all these reasons you'll see the term 'linear power supply' used even in digital products like Audiolab's M-DAC+. Traditional linear power supplies are big, heavy and expensive but sound good and are reliable. So don't believe that Class D with switch-mode is better. They do not necessarily consume less quiescent (no music) current from the mains, they do not sound better and, if reliability is worse, they

deliver tight thundering bass as well as high dynamic contrast without sounding harsh or being too expensive. That's a tall order! One product (it's more than just a power amplifier) that gets close to your requirement is the Devialet Expert Pro 220; we use it frequently with Spondor Classic 100s. While it won't add warmth to your music, it will maintain any recorded warmth very precisely. It has loads of power and deep, clean articulate bass for your reggae. It's delicate and detailed at the same time. Coming out of low-power stand-by mode the Expert Pro 220 takes only seconds to reach optimum sound quality. That can't be said of any conventional amplifier, many of which you really need to leave switched on permanently or you'll be forever waiting for the sound to settle.

Be careful not to assume any strong correlation between amplifier operating class - A, A/B, Class D, ADH etc and sound quality. The same goes for power supply type - linear, switch-mode etc.

**Philip Swift, Spondor Audio Systems Ltd.**

and shelving of books and CDs. The sound I am getting at the moment is well balanced but with a slight tendency towards being bright. We have a hard floor but no rugs.

My equipment is Marantz Pearlite SACD player and amplifier connected by VDH 102 MK11 interconnects. Elac FS189 speakers are currently connected with Van Damme 2.5 mm cable in two runs to each speaker. The speakers use either WBT plugs or bare ends however the terminal hole is of limited size.

I also play vinyl occasionally using a Goldring 1042 mounted in a Project Perspex turntable and 78s on a Goldring GL78 with Shure pickup.

My main listening is from CD and SACD. I also use Beyer Tesla headphones a lot. Support is by Hifi Racks.

Musical choices are from Opera to heavy orchestral works, film and show music and jazz including people such as Ella and Sinatra. A wide choice which does not include the artificial noise of pop and rock.

Many thanks in advance.

**Keith Millward.**



*The Elac FS189 speakers used by Keith Millward would reveal the sound from Arcam's CDS50 CD/SACD player, with its superb ESS ES9038Pro digital converter.*

Hi Keith. That looks like a good system to me. The slight brightness most likely comes from Elac's fine sounding JET III ribbon tweeter. Ribbons have wide lateral dispersion but are constrained vertically so you are unlikely to be getting much floor bounce from it. A small rug half way between the speakers and the listening position might be worth trying – just throw down any old thing able to absorb sound, like a folded bath towel, as an experiment.

For a system that is a tad bright I would recommend Van den Hul 'carbon' cables, like the CS-122 with its Linear Structured Carbon layer, but it looks like you may have already tried them. Some don't like their dampening effect, in which case a Chord Company cable is a good choice, offering very smooth, insightful but natural balance without the sharpness of some cables.

Since you like classical and atmospheric recordings, rather than manufactured pop (really meaning synths etc) you may well like to audition Arcam's CDS50 CD player I reviewed in the January 2019 issue. It plays CD and SACD but with an ESS ES9038Pro DAC that is well above all else, including the Cirrus Logic CS4398 in your Marantz Pearl Lite player. The Arcam isn't so nice to use but you might take to its fabulous sound that – especially – your Elac loudspeakers will convey with slick ability.

**NK**

are less 'green', not 'more green' by creating more electronic waste.

Spondor is run by Audiolab founder Phil Swift – a man deeply knowledgeable and experienced in amplifier design – so we asked him to comment. See below. **NK**

You're looking for an energy efficient amplifier that's transparent and neutral with a touch of warmth to complement your Spondor SP100s. It must also

### NOISE ABATEMENT

*A bit of advice please. An American friend is encouraging me to improve my system, which I use daily. He suggests that I might gain if I changed my 'speaker cables, although having used a lot of cables from DNM to Van Den Hul over the years, I doubt it. However I never give in and would value your recommendations.*

*My room is approximately 15 feet by 14 feet and well filled with armchairs*



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Vacuum Tube Stereo  
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Vacuum Tube  
Preamp



# WORLD STANDARDS

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

## TURNTABLES

**AVID INGENIUM** £800  
Great bass response and upper midrange detail allied to clarity makes this a must-hear at its price-point



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



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



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

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



**PRO-JECT ESSENTIAL DIGITAL** £300  
A budget turntable that turns in a great analogue performance, but also has a hi-res digital output. Send 24/96 across your lounge via optical cable to a DAC and get great audio quality. Or record LP to your laptop.



**REGA RP3** £550  
The first of the super-quality Regas, little compromised by price and featuring Rega's outstanding RR303 tonearm, suitable for MM and MC cartridges. A standard at the price point.

**TIMESTEP EVO** £2100  
The famous Technics SL-1210 MkII Direct Drive but with improved plinth, isolation, main bearing and power supply, plus an SME arm (add £1500). DD convenience, rock steady pitch and fab sound at a great price. Our in-house reference.



## TONEARMS

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

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

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



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

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



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

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

## CARTRIDGES

**AUDIO TECHNICA AT-OC9 ML III 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 E945**  
Highly finessed Swiss moving coil that plays music with riflebolt precision.

**DENON DL-103** £180  
A popular and much loved budget MC with big bass, smooth treble and deep sound stage. Fantastic value.



**LYRA TITAN I MC** £3,500  
Breathtaking speed and dynamics from LP, helped by diamond coated, boron rod cantilever.



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



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

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



**ORTOFON CADENZA BLACK MC** £1,800  
Ultra smooth and dimensional moving coil with bass and punch aplenty. Lovely stylus.

**ORTOFON A95 MC** £3,750  
Fast and extremely detailed, this is an MC cartridge that sets standards.

**REGA CARBON MM** £35  
Budget price for a competent cartridge with a fairly unflappable nature. Ideal for beginners.



**GOLDRING 1012GX MM** £250  
A glorious sounding cartridge with solid bass and strong dynamic punch, plus excellent treble from its Fritz Geiger stylus. Fun and affordable.



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

**VAN DEN HUL DDT-II SPECIAL MC** £995  
Long-established cartridge from Holland with an open and dynamic sound.

**PHONO PREAMPS**  
**CAMBRIDGE AUDIO 651P** £200  
Clean, concise sound from MM and MC cartridges at a very low price. A real bargain.

**ICON AUDIO PS3 MKII** £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 phono stage 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 phono stage 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 phono stage that sonically punches well above its weight.

**PREAMPLIFIERS**  
**ICON AUDIO IA-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 VSI60** £3,500  
Power house sound with enormous pace and punch from traditional U.S. muscle master Audio Research. Breathtaking, but expensive.



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

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



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

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



**ICON AUDIO STEREO 60 MKII** £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 MKII** £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.

**ELECTROCOMPANET EMP-1/S** £4,650  
Epic in scale, lavish in tone and exuberant in its musicality - this is a memorable SACD spinner. Quirky in operation and modest in finish, though.



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



**REGA APOLLO-R** £550  
Rega comes up with a fine CD player again. Tremendous detail and an easy, unforced sound at all times. Few bells and whistles but made up for by its superb sonic ability.

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



## TUNERS

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



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



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



## DACS

**AUDIOLAB M-DAC** £600  
Excellent sound from ESS Sabre32 DAC and impressive flexibility with a unique range of filter options make this a stand-out product. Low price is the icing on the cake.



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

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



**CHORD 2QUTE HD** £990  
Superb build quality and exceptional sound from this compact unit. Boasts the ability to handle DSD direct via USB and has an exceptional soundstage. One of the best DACs you can buy.



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

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



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

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



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



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



## NETWORK PLAYERS

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



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

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



**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 heft. A wonderful DAC with full 24/192 handling. Only the display could be better.



**NAIM NAC-N172 XS** £1,650

A pre-amp/DAC/streamer package provides a taught, rock-solid presentation with a tonally rich midband and a superior sense of rhythm.



**PRO-JECT STREAM BOX RS** £1,095

Unusual valve-based streamer/preamp with variety of inputs and a lovely liquid sound. Not the most detailed but compensates with sheer musical verve.

**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**

**ASTEEL&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.

**LOTOO 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.



# REMOVE ALL CLICKS AND POPS



## What is SugarCube™?

Everyone wants their record collection to sound the best it possibly can. But be it too many playbacks, parties or simply just wear and tear, records can become impossible to enjoy due to unwanted noise in the form of clicks and pops.

The SugarCube™ is a line of all-in-one vinyl noise removal components. The SugarCube SC-1 is the first audiophile-grade product to enable non-destructive click and pop removal on any vinyl LP record in real-time.

**Try it now at your local hi-fi dealer!**



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# Life on M.A.R.S.?

Martin Pipe gets to grips with French firm Micromega's M-One 150, an upmarket 'all-in-one'.



**M**icromega's £5,500 M-One 150 machined aluminium case has a low profile, with bright monochrome displays set into the front and top panels. Inside sits 150 Watts per channel of Class A/B amplification supported by twin switch-mode power supplies; the amps warm in use.

Within its modest dimensions, Micromega has managed to cram in a fairly impressive array of features. A CD transport may be absent, but the M-One 150 is endowed with a phono stage that handles MM or MC cartridges, line inputs (XLR and phono), three digital inputs (coaxial, optical and AES/EBU), a USB port for computer DAC use, Bluetooth and

an Ethernet connection that enables the unit to play music stored on networked devices.

The M-One 150 is compatible with DSD (as high as 11.2MHz, or DSD256) as well as PCM (all the way to 32bit/768kHz) material.

A 3.5mm rear socket accepts the input from a supplied microphone. It is associated with an internally-developed M.A.R.S. (Micromega Acoustic Room System) RoomEQ feature that, in addition to higher power output, delineates the M-One 150 from its physically-identical M-One 100 brother. To provide digital room equalisation all signals, including analogue inputs, are converted to digital through an ADC, a system used in home-cinema AV receivers, Micromega's RoomEQ function being

similar in the way it is set up.

Also on the M-One 150's busy rear panel – which is not labelled – is a pair of USB sockets, but they're only for update purposes and can't play music contained on storage media. There are also two HDMI sockets – but these are proprietary I2S digital audio links for other Micromega gear.

The M-One 150 can drive an active subwoofer and also has preamp outputs, which lurk in balanced XLR form between the loudspeaker binding-posts. There's a barely-visible front-panel 3.5mm headphone socket that – with yet more Micromega magic – can be given a binaural sheen.

Using the M-One 150 is simple enough, although the tiny buttons

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**Plenty of connections, arranged into logical groups. They are however awkward to get to, being recessed and bunched together. Furthermore, they're not labelled – and Micromega has used HDMI-type connectors for its incompatible I2S digital inputs.**

of the slab-like remote control handset only cover input selection, volume, muting, what information is displayed – and standby. Setup functions require buttons that are set into the top of the unit, on either side of the display. There is however the Micromega M-One app (Android/iOS), which is simple but effective – and, in my case, essential as the M-One 150 remote happened to operate my Cambridge CXN v2 streamer too!

**SOUND QUALITY**

I partnered the M-One 150 with Quadral Aurum Wotan VIII 'speakers, a Rega Planar 3/RB300/Bias vinyl combo, the aforementioned Cambridge CXN v2 and a network on which also dwelled a Synology NAS containing music. Neither the M-One 150 nor the M-One app make provision for selecting music from such repositories. Instead, you have to use a separate uPnP app – I used the freely-available BubbleUPnP – to 'push' music to the M-One 150

via the uPnP network route were flagged on the front-panel as '192kHz' (PCM) and either stuttered or refused to play outright – a 'network' firmware update, performed over a web interface, made no difference (transcoding was switched off on my media server). Could it be that DSD is exclusive to the USB port (Windows drivers from the Micromega website)?

Another problem I had related to M.A.R.S. I couldn't get it to work at all. The REQ option wasn't there on our review-sample. Updating the firmware didn't help. A shame, as I was looking forward to comparing the difference in sound presentation that it makes.

Even without M.A.R.S. though, the M-One 150 has at its core the basis of a very capable music reproducer. CD-sourced FLACs and hi-res PCM files streamed to the 'LAN' input were very credible indeed. Born Under Punches (The Heat Goes On) from Talking Heads' Remain in Light sounded vital and



**Micromega's remote handset has an excellent range and is machined from a solid block of aluminium. The buttons are tiny and can't access certain functions – setup-related ones, for example. They are at least labelled, though. An alternative is Micromega's free M-One app for Android or iOS – you'll need a smartphone with DLNA app, if you want to try the M-One 150's worthwhile network playback.**

while the sterling efforts of vocalist David Byrne lost nothing in terms of their unique character and delivery.

An ability to convey atmosphere, depth and organic tonality also made the electronica of Mogwai's Remastered (Rave Tapes, 24/96) a joy to listen to.

One of my favourite classical recordings of recent years, conductor Gianandrea Noseda and the London Symphony Orchestra performing Britten's War Requiem (24bit) was rendered with a naturally-expansive stereo image. The bold dynamics of this brooding piece fall well within the M-One 150's capabilities, yet the subtleties – low-level instruments, and individual singers within the Eltham College Choir and London Symphony Chorus, could be singled out.

Bluetooth may lack the ultimate fidelity, but it's easy to use and has practical (i.e. party) 'sound reinforcement' applications.

And analogue? Initial vinyl listening was marred by a faint 'buzzing' that wasn't down to any earth loop. Much head-scratching followed, until the turntable was moved away from the M-One 150. I then got clean and detailed playback of my LPs. There I found that the bass synth of Kool and the Gang's Street Kids may be tight, but lacks impact.



**Some of the M-150's internal operating system ('firmware') can be upgraded over the network. Updating the core firmware – which we tried in a last-ditch attempt to get M.A.R.S. working on the review sample – involves copying the downloaded file to a USB stick. This is transported to one of the M-150's rear-panel USB ports.**

(described by the app as a 'local renderer').

This combo worked fine with MP3, CD-derived FLAC and hi-res 24-bit PCM material, but DSD tracks introduced to the M-One 150

appropriately-driven, thereby doing justice to the complex polyrhythms contributed by Chris Frantz. There was still plenty of room for other elements – Tina Weymouth's basswork was punchy yet tuneful,



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***This condenser microphone, complete with tripod, is an essential element of the M.A.R.S. (Micromega Acoustic Room System) RoomEQ feature that is built into the M-One 150. Unfortunately, M.A.R.S. didn't work on our review sample.***

Ommadawn, and here the M-One 150 came across as insightful; I could make out the individual instrumental layers that Oldfield had so carefully assembled.

**CONCLUSION**

On the whole, the M-One 150 has much to recommend it – I can

However, at the other end of the scale the track's brass elements don't lack bite. Next came Mike Oldfield's

imagine that my problems with M.A.R.S. and DSD playback were down to issues with our early and seemingly incomplete review sample; if not, perhaps firmware updates will save the day There are some annoyances – for example, top-mounted buttons and a lack of labelling – but they are more than outweighed by a solid and energetic performance and a spread of sensible features.

**NOEL SAYS -**

Our Globe rating assumes the review product is an unrepresentative early sample, M.A.R.S. RoomEQ being available and effective in final production.

**MEASURED PERFORMANCE**

The Micromega M-One 150 measured 162 Watts into 8 Ohms and 290 Watts into 4 Ohms – just above that quoted. Damping factor was 49. It's powerful and will deliver controlled bass.

Distortion was low at 0.01% from low power to full power (1kHz), into 4 Ohm and 8 Ohm loads (via Line in). At 10kHz, 1 Watt (a measurement of crossover distortion) the figure was again low at 0.02% – as our analysis shows. The M-One is a low distortion design.

Frequency response (Line in) measured flat from a low 2Hz up to 30kHz into 8 Ohms and 4 Ohms, cutting off sharply at 48kHz, our analysis shows, due to 96kHz sample rate internal processing.

Input sensitivity was very low, 1.7V for unbalanced input where 0.3V is common, and 1.6V for balanced (XLR socket) inputs, with Sensitivity set at 0dB. Setting Sensitivity to +6dB made no difference, so no extra gain is available, but setting to -6dB halved gain – this function did not work properly on our sample.

These inputs suit silver disc players only (2V output), not low gain external Phono stages or such like. Input overload margins were low for CD, measuring 1.8V where 2V is needed and 3.5V at XLR socket line in where 4V is needed.

Measuring the ADC-DAC loop from XLR in to XLR (Preamp) out, at -60dB in (3.5mV), EIAJ Dynamic Range was a respectable 105dB. Distortion was low at 0.12%, making this a relatively high quality digital conversion system, albeit of 48kHz bandwidth.

Frequency response of the Phono stage was dominated by an IEC warp

filter that rolled off gain below 80Hz, measuring -1dB at 50Hz, on both MM and MC. This is severe, rarely used because it audibly lightens bass from LP.

Sensitivity of MM was very low at 15mV (5mV is normal) and overload just satisfactory at 32mV; similarly MC was low: 1.6mV and 3mV. Low gain gives low conventional noise figures relative to full output (MM -93dB, MC -82dB) but equivalent input noise (ein) of 0.3µV for MM and 0.12µV for MC were good if unexceptional. Hiss is not an issue; the phono stage is relatively quiet.

The electrical (co-axial) and optical digital inputs (S/PDIF) both accepted 192kHz sample rate PCM, frequency response measuring flat to 30kHz (-1dB) before roll off to a sharp 43kHz limit. Distortion from 24/96 hi-res PCM measured a reasonably low 0.04% (CD 0.22%) whilst EIAJ Dynamic Range was on the low side at 114dB with 24bit where 115dB or better is common. The balanced AES/EBU XLR-socket input gave identical results to optical and electrical (coaxial) inputs. The digital performance was unexceptional.

The M-One has limitations, including very low input sensitivities (low gain), low overload margins and a phono stage with weak bass. Digital dynamic range was mediocre and RoomEQ unavailable for measurement on our sample. Improvement is needed. **NK**

**AMPLIFIER**

<b>Power</b>	<b>162W</b>
<b>Frequency response (-1dB)</b>	<b>2Hz-30kHz</b>
<b>Distortion (10kHz, 1W)</b>	<b>0.02%</b>
<b>Separation (1kHz)</b>	<b>94dB</b>

<b>Noise (IEC A)</b>	<b>-100dB</b>
<b>Sensitivity</b>	<b>1700mV</b>

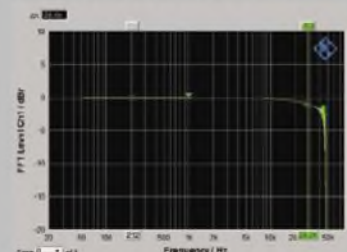
**DIGITAL**

<b>Frequency response (-1dB)</b>	<b>5Hz-30kHz</b>
<b>Distortion (-60dB, 24bit)</b>	<b>0.04%</b>
<b>Dynamic range (EIAJ)</b>	<b>114dB</b>
<b>Noise</b>	<b>-112dB</b>

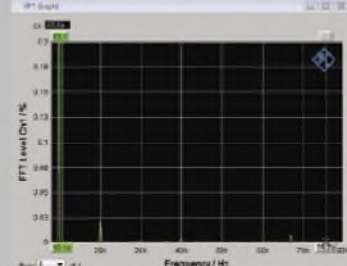
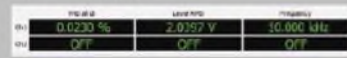
**PHONO (MM/MC)**

<b>Frequency response (-1dB)</b>	<b>50Hz-20kHz</b>
<b>Distortion (1kHz, 5mV in)</b>	<b>0.06%</b>
<b>Separation (1kHz)</b>	<b>67dB</b>
<b>Noise (IEC A)</b>	<b>-93dB / -82dB</b>
<b>Sensitivity</b>	<b>15mV / 1.6mV</b>
<b>Overload</b>	<b>32mV / 3mV</b>

**FREQUENCY RESPONSE**



**DISTORTION**



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# Faber-ulous

**Noel Keywood listens to Sonus Faber Sonetto III loudspeakers.**

A small floorstanding loudspeaker is arguably the best compromise between size and performance in loudspeakers. They're not so intrusive, especially when wall standing, but you get a big sound. That means clean deep bass to add heft and scale to a performance. It's a popular sector every manufacturer aims to cover in their product range and Sonus Faber (Italy) weigh in with their slim, elegant Sonetto III model that I'm reviewing here.

No end of letters we receive ask about room matching and loudspeaker manufacturers actually do a good job here but they don't broadcast it well. I could tell when measuring the Sonetto IIIs that they're designed for an 'average room' of the sort most of us live in - that means 14ft-18ft long. Sonus Faber have bigger models for bigger rooms.

Yep. I am being bleakly simple. Best to be because the subject gets very confusing very quickly! Too much equivocation is the result. I've designed such loudspeakers, know the issues and am fascinated to see how other designers tackle it. Sonus Faber get a lot well sorted in their Sonetto III, conspicuously in bass control - the bit that excites potential buyers. This 'speaker is a small move ahead in delivering tuneful bass, free from the inflation and waffle that large ported loudspeakers are accused of. But it gets all else right too, ticks all the boxes and sounds great as a result.

So on to specifics. The Sonettos use the tried and trusted formula of a bass/midrange unit just below the tweeter at top, crossover over between them being at 3kHz, in line with common practice. Below sit two bass units that work below 200Hz to handle deep bass, making this in effect a three-way design. A large port fires downward to the floor, clearance above it being provided by the





stabilising feet and their spikes. The cabinet stands 1018mm high - the usual 1m or so - and it's 219mm wide and 301mm deep. In Imperial, 40in x 9 in x 12in. A high-ish weight of 16kgs (35lbs) makes them sit firmly on four pedestal type feet that are screwed into the base. The feet have height adjustable spikes that serve not only to keep the cabinet well anchored and stable, but also provide clearance for the port that provides acoustic damping of the twin 150mm aluminium cone bass units. If you'd rather not see the driver array there are black fabric grilles, held on magnetically.

A terminal panel carries sturdy gold plated bi-wire terminals with links for mono-wiring. Bare wire, spades and 4mm banana plugs can be used. The Sonetto looks attractive but the veneer finish is uniform in appearance, having a simple repetitive pattern. Sonus Faber's 29mm fabric dome tweeter has a frontal phase plate to suppress peaking, and an attractive alloy surround. The fibre-pulp midrange unit sits below, a small badge acting as central dust cap.

### SOUND QUALITY

I chose to use our Creek Evolution 100A amplifier to drive the Sonettos, since it is powerful but smooth - and reasonably representative of what they would be driven by in practice. An Oppo BDP-205D Universal Player span CD and acted as a source of hi-res digital, fed from an Astell&Kern AK120 player. Connection was through Chord Company Signature Reference loudspeaker cables. Conveniently standing nearby was the Icon Audio Stereo 300B MkII valve amplifier that I could not help but connect up also. OK, it might not be a typical amplifier but I sensed it would suit.

With the Yuri Honing Trio's *Walking on the Moon*, hand drum strikes were vividly clear and forward, and the sparse instrumentation picked out well against a clean background. This track illustrated a dry and composed delivery from the Sonettos, but also one starkly outlined. As I worked through a wide range of uncompressed CD review tracks it quickly became obvious there's great vocal projection here, from Renee Fleming singing *Madame Butterfly* to Holly Cole and her laconic *Train Song*; I could hear their every murmur and the finest intonations. It was like listening through an acoustic magnifying glass.

The dry quality came about largely through lack of any colour - an almost cold tonality - and a strong grip on bass lines. For example, plucked acoustic bass behind Elvis Presley singing fever stride along with a sense of clean ease. There was no surrounding 'warmth', more intense insight into the instrument that well revealed its timbral properties; the Sonettos added no flavour of their own.

With Patricia Barber singing *Let it Rain* sibilance was a little emphasised by the tweeter but her vocals were sharply defined in front of me. The 'speakers image with precision and set up a wide, forensically defined sound stage, vocals thrown forward.

As I expected the high resolution and firm deep bass were a perfect match for Icon Audio's Stereo 300B MkII amplifier. The L Sensitivity setting added subtle but complementary bass heft whilst the openness of purity of the 300Bs was well conveyed. Don't begin to think warm or romantic so much as sharp and fast, punchy yet with a

sense of bass grip and tunefulness hard to come by. The big spacious sound of this amplifier was well conveyed by the Sonettos; they are revealing of source.

### CONCLUSION

The Sonetto is a high resolution loudspeaker for a typical medium sized room. It is dry, projective and informational. Sonus Faber have engineered it well to give an accurate sound tailored for medium sized rooms where it will impress any listener. Worth hearing without a doubt.



*Tall slim rear shape, held stable by out-rigger feet. Bi-wiring is possible.*

### MEASURED PERFORMANCE

Our analysis of frequency response, using third-octave analysis of pink noise, shows an impressively flat characteristic extending from a low 45Hz up to 10kHz within very tight limits. The tweeter peaks up sharply above 10kHz and, having wide dispersion, there was little difference off-axis. This will add a little sting to the high end.

Lack of an upper midrange dip at crossover will be subjectively obvious as effective delivery of detail. Also, the smoothness of response is due to a lack

of local resonances in cones and low colouration as a result. This means the Sonetto III will be neutral in its sound.

It's common for small floorstanders to have some upper bass lift to add warmth and body, but the Sonetto III lacks this and will sound relatively dry and lean; it is best used close to a rear wall to enhance lows.

Lower bass is both smooth and well extended downward. The large downward firing port provides extra bass output (red trace) around 40Hz.

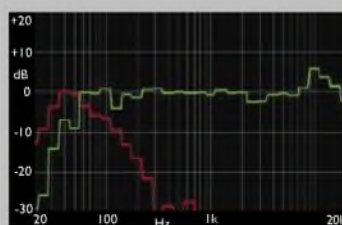
Use of a crossover compensation network results in a perfect resistive load of around 5 Ohms - easy for an amplifier to drive as there's no reactance and energy storage. Bass extension and damping are good (red trace), so note resolution will be excellent down to lowest frequencies. However, this is not a bass heavy loudspeaker: it's tailored for medium sized rooms (circa 16ft long) and near wall placement, then bass will be in balance.

Sensitivity was very high, 90dB sound pressure level (SPL) produced from one nominal Watt (2.8V) of input. Amplifiers of 20 Watts per channel will go loud with these 'speakers.

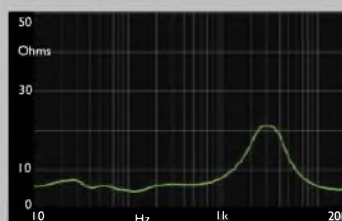
The Sonetto IIIs are well engineered but the tweeter peaks up, creating obvious treble. **NK**

#### FREQUENCY RESPONSE

Green - driver output  
Red - port output



#### IMPEDANCE



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#### AGAINST

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# Mini Melcos

Jon Myles is seduced by Melco's latest half-width storage unit and its optical disc reader.

**M**usic comes in many different forms these days. There's digital downloads, CD rips, digitised copies of vinyl collections and music held on USB sticks (of which I invariably lose, misplace or simply forget what's on them). Therefore the problem of where to store all this is becoming more and more important. And it's not just storing them in one place but storing them in the best quality possible.

There's always the ubiquitous NAS (network attached storage) drive where everything can be rounded up to be relayed to your hi-fi system via a streamer. Convenient

as this is the majority of NAS drives are not pure hi-fi components, being purposed to hold many other types of media such as films, movies, office files etc. As a result they can be rather noisy environments not conducive to the replay of delicate music signals.

So enter Melco - whose goal was to produce high-quality storage devices specifically designed to store and replay music to your system via a network player/streamer/DAC. I reviewed the original entry-level N1A model four years ago (Hi-Fi World March 2015 issue) and was impressed by its detail, resolution and flexibility.

Since then Melco have updated and revised its product line and has

now come up with two of its most intriguing models yet - at a price point that may well draw in a host of new customers.

First of all the new Melco N100. It's a half-width (215mm) shoe-box sized unit but contains all the usual Melco elements. The chassis has an aluminium front and back panel with the rest constructed from 2mm steel to protect against vibration.

Inside is a 2TB hard disk drive with its own anti-vibration system while there are three USB 2.0 ports - compatible with a USB-DAC, USB CD drive and USB storage such as USB HDD or USB flash memory.

The N100 is DLNA/UPnP compliant with a gigabit dual ethernet



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The N100 storage drive rear panel has USB ports for data upload/ HDD and two RJ45 ethernet sockets for network connection.

LAN port for connection to a local network. Do note, though, there is no wireless connection.

The front features a large OLED display for displaying track titles, status, sample rate and other information. To its right sits a button for scrolling through all the information. To be honest these can take a little getting used to - but fortunately Melco has now launched its own app for mobile devices and tablets that makes things much easier as it contains all the usual functions such as track search, playlist creation and management as well as full Tidal and Qobuz integration.

To sit alongside the N100 is the similar-sized D100 - a CD disc ripper or stand alone player when

connected to a USB-DAC. Again it's constructed from heavy duty steel and feels weighty at 3.5 kg. The cynics out there will undoubtedly point out that ripping a CD is simply replicating 1s and 0s — something even a MacBook Air can do at an adequate quality. I'd advise them to read on.

**SOUND QUALITY**

The thing that has always impressed me about Melco's products is their pristine sound. They have an ability to draw out details that some of the best streaming products fail to discern.

Take the beginning of John Coltrane's 'One Down, One Up: Live At The Half Note' where there



D100 rear panel. At left is a USB 3.0 Type-A port for connecting another USB Device. The USB 3.0 Type-B port on the right is for connecting a Digital Music Library or computer.



The D100 spins CDs and rips them to the N100.

is some faint audience chatter in the background. So faint, in fact, that the effect is often lost through a NAS drive.

Not with the Melco. Yes, it's still in the background but adds just the right atmosphere to bring out some extra ambience to the track.

And when Coltrane's saxophone kicks in it sounds crisp, refined and entirely natural — his notes flowing with an unerring



Internally, the N100 is a hugely complex network attached storage drive.

naturalness.

Steely Dan's 'Aja' had the same quality — there was weight, yes, but a sense that every instrument was occupying its own space so every musical line could be made out.

In fact this is one of the most impressive qualities of the N100. It is free of digital harshness with a lightness of touch and accuracy that makes brings a realism to anything you play. I hooked it up to a number of USB DACs and the effect was always the same.

What came as a real revelation, though, was ripping CDs through the D100 and then transferring them to the N100 via USB.

The air and space that this opened up in even familiar recordings was palpable. I was struck by just how much more vibrant Charlie Mingus's bass sounded on 'Mingus Ah Um'. I could hear the pluck of every string with a force that ordinary CD rips do not bring across.

Jimi Hendrix's guitar on 'Hey Joe' also had extra bite. It would, of course, be wrong to say the D100 was adding anything — but it was certainly eliminating the haziness that some other rippers can add.

**CONCLUSION**

Melco has produced two complementary products here that are ideal for anyone wanting to store their music in one place. Easy to use, superbly built but most of all imbued with wonderful sound.

**MELCO N100 £1800**



**OUTSTANDING - amongst the best.**

**VERDICT**

Great sounding, large capacity network storage device that is hard to beat at the price.

**FOR**

- large capacity
- sound quality
- build

**AGAINST**

- needs USB-DAC

**MELCO D100 £999**



**OUTSTANDING - amongst the best.**

**VERDICT**

One of the best optical disc readers available. Ideal for ripping CDs or as a standalone player.

**FOR**

- accurate rips
- ease-of-use
- quality construction

**AGAINST**

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# Enter the Quadfather!



**Martin Pipe acquaints himself with the 'affordable' Pioneer QX4000, which in 1972/3 attempted to bring quadraphonic sound to the masses.**

**B**ack in the early 1970s, quadraphonics – having sound behind as well as in front of you – was believed to result in more natural reproduction, the ambience of the concert hall supposedly being conveyed with greater realism. Today we call this surround-sound. Those four channels of sound could also be used creatively in the studio by rock and pop music artists.

Doubling the number of speakers and amplifiers relative to stereo came at a price and this new field of audio was seen as a rich man's hobby. It didn't help that there were three commercial quadraphonic formats for LP. CBS (USA) came up with SQ, Sansui (Japan) came up with QS (both matrix encodings) and JVC pioneered CD-4 with discrete channels. No wonder the music-buying public was confused!

Into this melee came the Japanese firm Pioneer, which in 1972 was well on its way to becoming the world's biggest producer of hi-fi. "You thought the excitement of four-channel sound was beyond your budget? Think again!" Those words announced the QX-4000,

Pioneer's "economically-priced" four-channel receiver proposition. The wood-trimmed QX4000 sold for little more than a decent stereo receiver, meaning that budget-conscious music lovers blinded by the razzamatazz and hype associated with four-channel could take the plunge - even if it meant using the QX4000 as a stereo receiver until the rear speakers could be acquired subsequently, with the proceeds of a future payday. Crucially, the QX4000 is compatible with SQ and QS.

A giant selector knob switched between the two, as well as a regular stereo mode (which 'silenced' the rear speakers). The QX4000 didn't have internal decoders for CD-4 support - although the QX4000 did have line-level front and rear-channel inputs for an off-board CD-4 demodulator. There was no mode for deriving ambience from 'ordinary' stereo signals that you'll find on most present-day AV receivers.

Another quintessentially-1970s chunky knob, adjacent to the surround selector, switches between AM, mono FM, stereo FM, auxiliary and the MM phono input. There's also a tape loop, which is also four-

channel. Given the budget nature, though, it's unlikely that any QX4000s were ever partnered with pricey quadraphonic recording equipment.

Behind the visually-appealing backlit tuning scale are a signal-strength meter and mode indicators (the ones telling you that the QX4000 is operating in 2- or 4-channel are prominent!).

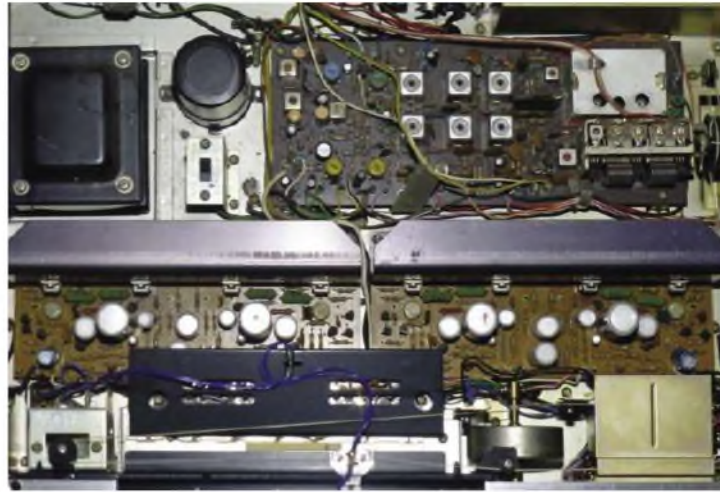
The unit's tuner is rather 'no-frills', with a limited specificity - on paper, at any rate. It does of course boast a stereo decoder, and on those rare 1970s occasions when broadcasters were experimenting with quad broadcasting its output could be routed to the QX4000's onboard surround decoder so that the deeper soundfield could be enjoyed across all four speakers. A handful of commercial stations (such as Liverpool's City Radio, and Capital in London) tried SQ and QS with live material during the 1970s (shows featuring matrix-encoded LPs were also broadcast), but the QX4000 would have been of little use with the BBC's sporadic quad broadcasts - as these employed an incompatible four-channel format, known as 'Matrix-H'.

Splash out the QX4000's

purchase price - £165 in 1973 – and you could have expected 30 or more Watts per channel. The QX4000, with all channels active, could only spare a meagre ten watts for each speaker. Today, even TV sound systems and factory-fit car audio are more powerful than that!

Achieving the balance between speakers uses a simple but effective system of front-panel controls. One knob balances between left and right front channels, while another does the same with the rear channels. In between them is a control that changes the overall balance between front and rear. It works very well in practice, but making the adjustments may necessitate multiple trips between the receiver and your listening position. Today, of course, we take remote-control for granted...

The QX4000 featured here was acquired for a mere fiver from last October's Tonbridge Audiojumble. It was in a tatty state, some of the 'Pioneer-special' speaker sockets having been removed and the captive power cable lopped off inside the unit. I fitted conventional 'spring clip' terminals to the rear panel for speaker-output duties, and a length of new mains cable was soldered into position. Basic checks were then made, to ensure that a receiver approaching 50 years old was safe to power up. Amazingly, all was well – and the QX4000 was found to work perfectly, to the extent that every single one of the dial lights and indicator bulbs was operational! Furthermore, the volume and tone controls (separate concentric treble and bass controls for front and rear) operated without a crackle!



**The QX4000's tuner, power amplifier boards and the power supply's modestly-sized mains transformer. A switch - visible to the right of the transformer - changes the FM de-emphasis characteristic between 75µs (USA) and 50µs (UK). If this switch has been set to 75us mistakenly, UK FM radio will sound 'topy' and lacking in bass.**

Random components were removed and found to be well within spec; when the unit is powered down sound continues to be heard

Mk2s. My sources included a (what else?) Pioneer quartz-locked turntable with Shure MM cartridge to spin various matrix-quad LPs,

“You thought the excitement of four-channel sound was beyond your budget? Think again!”

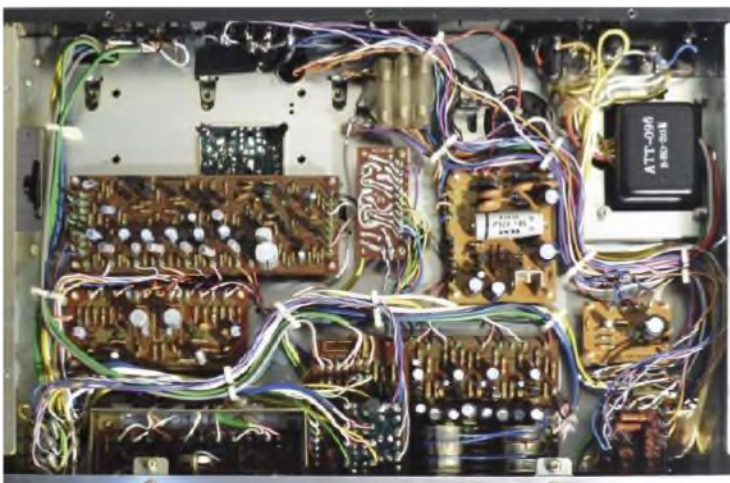
through the speakers for a couple of seconds or so – indicating that the power supply's electrolytic reservoir capacitors are still in rude health nearly five decades after they were manufactured.

The speakers I was using were four identical Wharfedale Diamond

plus an Arcam DV27A DVD player performing discrete-source duties with a selection of CD-4 and discrete-tape DVD-A transfers as well as stereo CDs.

Initial impressions were disappointing, with stereo and quad material alike. Treble was brittle and hard, the midrange distinctly coloured and bass conspicuous by its absence (even allowing for the Diamonds!). In short, unpleasant and fatiguing. Over time, though, the QX4000 improved considerably; I wonder how many years had elapsed since it was last used? The eventual presentation was 'warmer' sounding but not fantastically-detailed. When the volume is wicked up the limits of this Pioneer's modest amplification then become obvious.

This 're-burning in' did not improve the primitive (non-logic) matrix decoder's restricted ability to delineate between front and rear channels. 'Obvious' quad material, like Pink Floyd's Dark Side of the Moon (SQ) fared best – On The Run...and those clocks! - but I soon realised what you're missing



**Underneath are tone controls, phono preamp, power supply regulators and matrix quad (SQ and QS) decoder. Note Pioneer's extensive use of wiring looms, common practice at the time and labour intensive.**

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*Pioneer have endowed the QX4000 with a sensible array of inputs plus a 'stick' aerial for a MW/AM tuner that's actually quite listenable.*

*There's an MM phono stage and the Aux input and Tape loops can accommodate either two or four-channel hardware. Originally, the speaker sockets used special flat-blade sockets but these have been replaced with spring-clip terminals. The mains-voltage selector shows this is an 'international' model.*



*The QX4000 used two integrated circuits (ICs), 30 diodes and 70 transistors. The ICs were in the MW/AM and VHF/FM IF amplifiers. I found it to perform exceptionally well. A signal-strength meter and stereo beacon are visible through the smoked tuning dial.*

reasonably clean in the treble and believable in terms of stereo image.

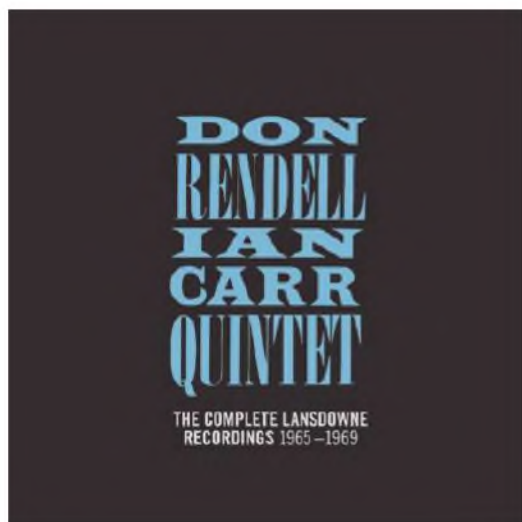
QX4000s are not as rare as one might expect, cropping up on eBay now and again. What better way of discovering the joys of quad on a budget? Expect to pay between £30 and £100, depending on condition, although shipping costs may be high as most seem to be in the US. Before bidding, check that it's capable of working from the UK supply voltage (the international 'FW' version, unlike the 120 volt-only US/Canada 'KLUW' model, has a voltage selector on the rear panel) or an ungainly step-down transformer will be required. If you're buying abroad, also ensure the seller packages the 10kg unit carefully. Finally, confirm that the Pioneer speaker plugs are supplied - as they're unobtainable nowadays. If not, you might have to replace the speaker sockets.

when matrix quad is compared with the discrete version (on DVD).

In other, more stereo related, respects the QX4000 comes across as a surprisingly-credible performer. Electronically, it's far less sophisticated than today's multichannel AV receivers. The unit's phono stage is equal to a good modern budget design, while the FM tuner performs far in excess of what its modest specifications suggest it's capable of. Even with a simple dipole aerial, 'difficult' BBC Radio 3 was brought in without 'mush' even during quiet passages where at my busy Essex location modern digital tuners with more exotic specs struggle in this regard. FM listening with the QX400 also proved to be tonally-balanced,



*The matrix-quad decoder is a basic design, containing the phase-shift networks through which the surround channels are derived. The paper spec is poor (3dB back-to-front separation) but it can sound surprisingly effective.*



DON RENDELL/IAN CARR  
QUINTET

The Complete Lansdowne  
Recordings 1965-1969  
Jazzman

**T**he Lansdowne label was founded by British producer/writer Denis Preston, in 1956. The

West London company produced works for Joe Harriott, Amancio d'Silva, Stan Tracey and Guy Warren. Even Joe Meek worked there for a while.

Plymouth-born, Don Rendell was a tenor sax of some note. Exhibiting his love for Lester Young, Rendell was a superb improviser who couldn't resist a slice of post bop. Rendell would team up with Ian Carr at Lansdowne. Scots-born sax player Carr would go on to found the fusion outfit, Nucleus but his partnership with Rendell was important for British jazz. Both penned five albums for Lansdowne

Decca Records UK has re-issued all five albums, packaged as individual entities but collected within a slip case. Remastered at Abbey Road from the original master tapes, the albums are 'Change Is' (1969), 'Live' (1969),

'Phase III' (1968), 'Dusk Fire' (1966) and 'Shades of Blue' (1965), featuring plenty of guests including Michael Garrick.

In addition, the set features a 6-page, large format booklet detailing each LP. In there, Rendell muses upon his relationship with Carr, "With the contrast of personalities, the contrast in music also came true. And you need that contrast. You don't get fire and vitality if things are too smooth. It's good to have some friction and between Ian and me there was friction".

In terms of mastering, generally there is a rather lively midrange which, I suspect, derives from the original recordings. Nothing offensive but one that adds precision to percussion and piano and a certain crispness to bass.

The range of albums here certainly feature many and varied jazz styles. Even the final album, 'Change Is' exhibits that sense of variety. It has kept these albums fresh and shining with innovation.

AUDIOPHILE VINYL



SIMPLE MINDS

Rejuvenation  
Demon

**T**hought they'd all died? Or had retired to become postmen, street cleaners and shelf packers in Tesco's? Oh no. Simple Minds might have moved out of the spotlight but their work has continued a-pace.

This box set proves the point as it collects five albums: 'Neon Lights' (2001), 'Cry' (2002), 'Black & White 050505' (2005), 'Graffiti Soul' (2009) and 'Big Business' (2014). The latter spans two discs.

The mere existence of this box set is good news for fans because the first three albums in the above list appear on vinyl for the very first time. Newly-created sleeves (inner and outer) have been specially featured. You'll even find bonus cuts from the CD releases here.

I'm being picky but I find it intriguing that there's a sense of penny pinching when 'Big

Business' does not arrive as a gatefold but as a single sleeve, containing two discs, stuffed within. And yet each and every disc in this set arrives pressed in a completely different colour! So, go figure on that one.

What of the sound quality? Nicely balanced with an overall neutral presentation, the sound has a mature quality. Mature in terms of its solid, focused sound but also how the soundstage has been put together during the recording. The effect is to enhance the clarity of the music. Compression, if any has indeed been added, was never a problem during play. Hence, the mastering behaved itself in general terms.

I love the idea that the band still sees itself as a creative entity. Most mature outfits peter out in a fug of boredom and lassitude but Simple Minds continue to move forwards. Long may that continue.

When I initially heard that Fleetwood Mac were releasing a new compilation of their works, I slumped just a little in a sigh. "Oh, good grief" passed my lips and I shunned the news to make a coffee. Compilations of big bands released at the end of the year smack of exploitative money making, fan squeezing endeavours undertaken by pin-striped accountants desperate to end the forthcoming tax year in the black while permission is sought from the artists with the promise of enough readies to buy a new B&W.

You're looking for a 'but'? There is one. Actually, there's two of them.

The first is that shovelware tends to be restricted to cheap CD make-overs and shady iTunes corners. 'Crappy comps', the technical terms for such animals, do not appear as luxurious vinyl box sets. This one does.

The five included discs arrive shrouded within inner sleeves while

a four-sided, full-sized booklet is brief but informative, offering track information including the album the track derives from, date of issue, catalogue number and label, time, version type (i.e. single, etc) and even licensing information. Again, not what you expect from a compilation.

The content, moreover, is a narrative of the history of the band from the old blues days of Peter Green to the current incarnation, from 1968's Elmore James cover ('Shake Your Moneymaker') on the 1968 self-titled album to Lindsey Buckingham's 'Sad Angel' from 2013 via 'Extended Play'

In terms of sound quality? The mastering is top class, with the rich tonal aspect to many of the track here. On 'Oh Well!', for example, Peter Green's guitar is beautifully intricate, his finger work providing a feast for the ears.

In short? This is arguably the best Fleetwood Mac compilation that has ever been issued.



## FLEETWOOD MAC

50 Years Don't Stop  
Warner Bros

# AUDIOPHILE VINYL

There are classic albums – and then there's this stone cold classic from the little mod lads. One of the best albums to emerge from the late sixties. Full of innovation, imagination, hooks a-plenty (from the likes of the single, 'Itchycoo Park') and the good professor himself, Stanley Unwin or, as the band has it 'Stan (The Man) Unwin'.

Ogdens, oddly enough, has a personal connection for me because this tobacco factory was situated not too far from my childhood Liverpool home. I used to pass the place on the way to my best friend's house.

Originally issued on the Immediate label, this album is packed with melody but also energy, it can be fierce as well as structurally fascinating. The linking narration by dialect expert, funny man, Stanley Unwin merely adds spice to the project.

This new release arrives as a beautiful box set. Remastered by Nick Robbins (Soundmastering Ltd) and vinyl cutting engineer Matt Colton (Alchemy Mastering) with the approval of Kenney Jones, the release has been half-speed mastered as a three disc set collared in red, white and blue. A large format, two-page book is full of Gered Mankowitz photos, original artwork, rare memorabilia, in-depth sleevenotes and interviews.

The first disc features the original mono mix, the second disc includes the original stereo mix, whilst disc three includes rare tracks released for the first time on vinyl.

As for the sound? Balanced and neutral in its basic approach, the music has punch when necessary but there is plenty of space available here allowing delicate treble output and midrange insight to the fore.



## SMALL FACES

Ogdens Nut Gone Flake  
Charly



*exposure*



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# "The 'bull in the china shop' here is measurement"



Noel Keywood

**T**his month's column is one you want me to write, I don't want to write – and it will irritate or annoy you in any case!

I know you want me to write it because I get tackled enthusiastically about the subject at every show – our Globe ratings. I don't want to write it because the issue is contentious. And some of the issues raised are 'unfortunate' shall I say. But I have to write it because our Micromega (France) and Mitchell&Johnson (UK) reviews this month make the demand.

At the end of each review you will see a box-out advisory that our Globe rating assumes the product works properly, fully and as advertised in real life – as it must be within consumer law. But how can we give a Globe rating to any product that doesn't work properly? It's a contradiction in terms; a product that doesn't work as advertised – Micromega's M-One 150 for example – is zero Globes, is it not? Let's go over this.

Micromega shipped a sample to the UK that its importer sent to us for review, in good faith. However, the loudspeaker equalisation software and firmware was not loaded and we were unable to get it loaded.

We should have returned it, you might think. I agree – the best solution. Or is it? Even without this software we can provide an effective analysis of performance of the basic unit from both measurement and listening. Since loudspeaker EQ software that runs in a Digital Signal Processor (DSP) is part of every AV receiver it's a well worked out technology that Micromega (or a Far East OEM perhaps) can implement easily. We can still review what is in effect the M-One 100 that lacks this software. Seen like this it is a useful-to-the-reader review, and useful to

the manufacturer for exposure of the product.

"You should have sent it back and asked for another sample". Superficially, absolutely right; this makes perfect sense. In practice not so. We've been down this path many times before. Some manufacturers/distributors co-operate with a new sample immediately, others start to argue about our findings. No problem with this as we have the data and can both explain and defend our position.

But will we get a second sample? Often not, so all the time measuring the first and sending our measurements to them is wasted. That they sent a questionable product to us for review in the first place means they don't understand the issues under question or lack the means to assess them. Which brings me to even deeper complications.

The 'bull in the china shop' here is measurement. Once the argument starts, as it has done many times, we get tied up in sending reams of test data to the manufacturer and then explaining it. This is especially the case with turntables, whose manufacturers are not, as mechanical engineers, versed in using a low frequency spectrum analyser to inspect the frequency demodulated output of a Wow and Flutter meter. These regimes are worlds apart.

We cannot as a magazine spend the time needed in measuring numerous samples, each time relaying test data gathered at considerable expense to us, in terms of measurement time and equipment used. This ends up as free consultancy. That some manufacturers are unable to gather the data we offer is because they are unwilling to make the investment in testing their products as we have made in reviewing them. Quite a depressing situation, but not uncommon.

The truth is measurement

unearths so many problems we quite often reject products for review.

This is one reason why Hi-Fi World publishes so many four and five Globe reviews. We'd rather not waste space in the magazine on things that don't work, even if such reviews make interesting reading. Our reviews are, in so far as this is possible, insightful, forthright and hopefully of help to the manufacturer as well as the reader. They are not gratuitously destructive. Example next.

It's obvious that Mitchell&Johnson have put a lot of effort into the 800 preamp and have best intentions, otherwise they would not have used a top ESS Sabre 32 Series DAC. But DAC chips are hard to make work properly: board layout and cabling are critical, because frequencies are so high. It could just be that their 800 preamp could be easily fixed, or perhaps ours just has a production fault with cables mis-routed. Apparently a major fault, but likely a minor issue behind it. No reason to damn the product and all the effort put into it.

So back to Globes and the consternation they cause. The Micromega M-One 150 and Mitchell&Johnson cannot be put onto the market in the state we received them. We have to assume they will reach market in full and proper working order, in which case our Globe rating is valid.

Whatever the shenanigans, I hope you find our reviews interesting, perhaps entertaining and – most importantly – useful.

Funny (not the right word!) how an apparently simple issue such as Globe ratings should kick up the dirt. And I haven't room here to tell you more about the horrors we encounter in measurement, the dirt under the dirt. Another time and another column perhaps – if I'm still alive! ●

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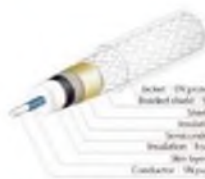
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# "Uncouth or truth? I would say the latter in McNeely's case"



Paul Rigby

There's a lot of talk about music equating to truth. You know the sort of thing, it's discussed from many angles. From the inner hurt coming through a performance and lyrics from a singer, to the flamboyant styles of a lead guitar player. The performer is supposed to reveal all. They can't help it, apparently. Sometimes that's true. Sometimes it's more compacted than that.

I remember reading about a close harmony duo called The Louvin Brothers. Country, bluegrass, gospel... that was their thing. Two voices, one high the other low with a strumming guitar in between. They had this trick whereby they could flip the registers with the brother singing high, now singing low and vice versa. They could do the flip, without warning and often in mid word.

Ira passed away as the result of a car crash in 1965. Charlie died in 2011, aged 83. They looked like grinning goons but they were hard men. Straight out of the Depression and off the cotton farm. Both brothers were worked hard by their father. Both brothers were also beat up - hard, by the same man. Their father was a mean individual and a drunk to boot. Singing was an escape. 'Twas ever thus, it seems.

Just before he died, Charlie wrote a book about himself and his brother, published by Harper Collins called, 'The Ballad of the Louvin Brothers'. It tells the tale of both men who once toured with Elvis Presley. "My favourite duet," Presley called them. Until the night that Ira fell for his father's disease and become nastily drunk. He spouted crude and racist language and Presley - who was due to cover one, possibly two of their songs - walked

away in disgust.

"If I had to guess, I'd say that one statement by Ira cost the Louvin Brothers music catalogue two or three million dollars" said Charlie.

Ira did his best to wreck their careers, failing to show up at concerts, smashing his instrument (which he had to glue together later), fighting with other drunks in the audience and almost strangling his wife with a telephone cable until she shot him six times with a .22-caliber pistol. Ira survived that one.

"It was an ugly thing when he drank" said Charlie, "and there was no fun in it".

Now you can hear these feisty individuals over two CDs of lost recordings from Modern Harmonic ([www.modernharmonic.com](http://www.modernharmonic.com)) including demos from 1951-1956.

What I like here is a spoken message from Ira. It seems directed at their music publishers and includes an apology from Ira about Charlie's language. He inserted the word 'balls' into the lyric of one song. "...I hope you don't play this where there's any ladies present," he said.

Watching the Louvin Brothers on an alcohol-free day, you'd think that butter wouldn't melt. Nice boys. Good kids. Not.

Another interesting book - this one goes back a bit farther to 1994 - is 'Nervous Man Nervous: Big Jay McNeely and the Rise of the Honking Tenor Sax!' I was reminded of the tome by the release of the CD, 'Big Jay McNeely: King of the Honkers' on Jasmine ([www.jasmine-records.co.uk](http://www.jasmine-records.co.uk)). McNeely was a rock-based sax player, active for many years. He hit his prime around the fifties. According to music historian and colleague Bill Dahl, he "...could peel the paper

right off the walls with his sheets of squealing, honking horn riffs". His frantic, energetic tenor sax flailed around the stage like a lethal weapon as McNeely cavorted "...on his knees, on his back, even being wheeled down the street on an auto mechanic's 'creeper' like a modern-day piper", added Dahl.

"I played with Nat King Cole up in Oakland one time and I came on powerhouse, the crowd was screaming", McNeely told LA Weekly in 2016. "I ran into him later that night at Bop City, an after-hours spot and he said 'You'll never work with me again'. I thought he was joking. He wasn't."

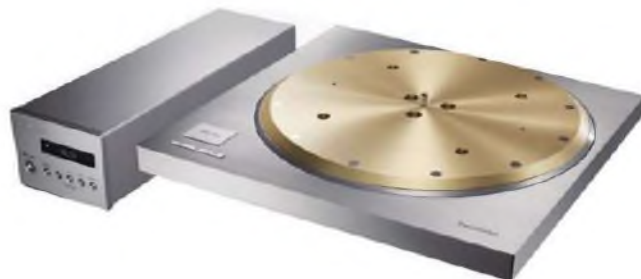
McNeely was quite a handful. This was a case where the man was open and honest to his audience. You could read the guy like an open book. There was no con here, no image. McNeely was R&B raw.

He was also scary. Sometimes white nightclub owners would summon the police to avert what they feared would be rioting by hysterical teenagers. Even some African-Americans would disapprove of his displays. They thought him "uncouth".

Uncouth or truth? I would say the latter in McNeely's case.

As ever in life, unless you're taking skin colour, there is no black or white. Life is about greys and the millions of shadings that it occupies. There is no real truth in music. There is a truth. The truth that the performer wants you to hear. Whether he wants to expose his soul to you in a form of selfish penance or therapy or whether he wants to wrap himself up in a constructed message to make a point. All too often, though, there's another truth. The one the performer wants to conceal. ●

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**Hi Fi News said:**

Any great turntable gives you a certain frisson when you hear it. It's that old 'shivers down the spine' feeling, a sense of being let into a world to which you had previously not been privy. This is a remarkable turntable, and arguably the apex of vinyl playback. It's difficult to see how the SP-10R motor unit can be improved upon. It is a definitive statement of engineering prowess, and marks the return of direct drive to the top tier of turntables.

Miyajima - Stereo - Mono - Denon DL-103 - Audio Technica AT33 & OC9

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# “Classical music is still alive and kicking”



Jon Myles

First came the vinyl revival. Now it seems classical music sales are following suit. They were the fastest-growing genre in 2018, figures released by the recording industry body the British Phonographic Industry (BPI) reveal – showing the medium is still alive and kicking.

Sales of physical media and streams increased by more than 10 per cent compared to the previous 12 months, helped by the likes of Andrea Bocelli, Katherine Jenkins and star cellist Sheku Kanneh-Mason.

That compares with a rise of just 5.7 per cent in music consumption across all genres. Even more surprising, sales of classical CDs actually increased by almost 7 per cent – in stark contrast to silver disc sales for pop and rock.

Streams also showed significant growth in 2018, rising 42% year-on-year, compared to a 33% rise in the overall market. In fact, streaming now accounts for a quarter of all classical music consumption – a figure that would have seemed unbelievable just a few years ago, lagging far behind the rest of the market, where the figure for streaming is 63.6 per cent.

Of course this does not mean a new generation of music fans are discovering the joys of Haydn, Beethoven, Wagner, Schubert or Shostakovich. It was not these legends or others that had commercial impact. Instead the music of Italian pianist Ludovico Einaudi accounted for one in every twelve UK classical streams in 2018. That may have been helped by his moving song 'Nuvole Bianche' being featured in the 2010 film *Insidious* and TV drama *This is England 86*.

Whatever the reason, it has been streamed a massive 137 million times on Spotify alone which is

a rather impressive figure – and there's nothing wrong with people discovering this delightful song. Perhaps some small proportion will go on to more traditional piano works – who knows? The influence can only be positive for classical music as a genre.

Away from such lofty thoughts though, according to the BPI seven of 2018's top 30 best-selling classical albums were soundtracks, including Howard Shore's 'Lord Of The Rings' and John Williams' 'Star Wars' scores. Pure classical music fans may baulk at these titles being included but that's an argument for a different day.

The overwhelming best-seller though was Andrea Bocelli's 'Si' that racked up sales of over 200,000 physical copies – making it the first classical title to pass that threshold since 2012 – and the first classical album to top the mainstream charts since James Horner's 'Titanic' soundtrack in 1998.

Other big-sellers were Aled Jones and Russell Watson's 'In Harmony', Sheku Kanneh-Mason's 'Inspiration' and Alex French's 'Evolution'.

Classical music is starting from a relatively low base compared to the likes of rap, hip-hop, pop rock et al. But it is certainly growing – especially in terms of physical sales. As a BPI spokesman recently told the BBC “there's a strong improvement and that gives us encouragement”.

He also floated the fact that the increase in CD sales may be down to the fact that older fans and passionate music lovers, appreciated the sleeve notes and additional resources that came with them. They are also easier to catalogue.

So streaming might be convenient but it has limitations that are starting to appear. Not everyone wants to give up sleeve notes and artwork, especially those that came

with the LP of course, where there was so much more space for such material.

Try sorting through multiple movements, composers, individual performances and even venues on the likes of Apple Music or Amazon and the whole experience can leave you tearing your heart out. Barren computer listings on a small screen are a turn-off.

There are alternatives appearing though. Primephonic, for example, allows searches by recording date, composer, artist, title, opus number and musical key. It's still not perfect but it is improving at a rate of knots.

There are also rumours of a nascent programme in development that will be able to analyse any slice of classical music and let you know the composer, year of recording, conductor, the orchestra involved, what label it was originally released on – plus subsequent re-releases.

If this comes to fruition it could be a boon to those looking to digitise their classical music collections. So are we entering a new age of classical music?

Well, that might be taking it a little too far. I'm pretty certain rappers like Kendrick Lamar, Eminem and Drake are not looking anxiously over their shoulders just yet – nor will Elbow, U2, The Arctic Monkeys nor The Killers be quaking in their boots at the moment.

But what the latest sales figures and the new technological developments do show us is there's still a healthy, growing interest in the classical genre in all its various shapes and forms. And for anyone who enjoys an active and diverse musical landscape that can only be a good thing.

So long may it continue and let's hope sales of 'classical' music rise over future years. ●

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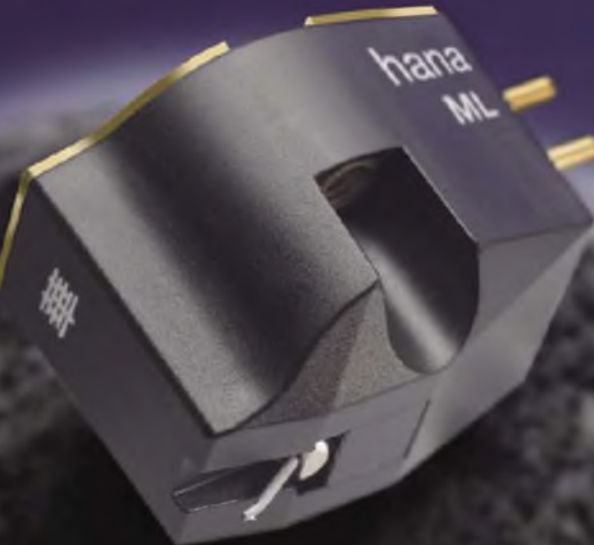
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# "Trusty open-reel hardware was turfed out of studios"



Martin Pipe

In last month's column, I recalled my experiences with reel-to-reel tape in the late 1980s and early 1990s. At that time, going digital was seen as the way forward for high-end and professional audio. Trusty open-reel hardware was turfed out of studios and the vacant space filled by 'perfect' 16-bit digital multi-tracks and DAT (Digital Audio Tape) hardware. The latter format was a combination of 16-bit audio, and a miniature VCR-type helical-scan transport. This was cutting-edge stuff at the time.

Some record labels and broadcasters took their faith in the new technology a little too far. Maybe they believed all the industry hype - plenty of that, as a cursory examination of contemporary pro-audio publications archived at the excellent [americanradiohistory.com](http://americanradiohistory.com) site will reveal. Two-channel production master-tapes were archived onto digital formats like DAT and Sony's PCM1630, in readiness for the inevitable CD release.

The PCM1630, by the way, is a long-obsolete 16-bit studio format that predated DAT. It used a VCR (UMatic) as a transport! Digital audio was converted into a video signal (fast-moving patterns of black and white dots) that VCRs could 'understand'. This format goes right back to the beginnings of CD - and the digital origins of many early releases can be traced to such hardware. I once came across one of the machines - or rather, its substantial UMatic contingent - at an audiojumble event; regrettably, the all-important rack-mountable audio processor was missing.

A 'consumer' version of this technology, the transportable PCM-FI that Sony intended to be partnered with a portable Betamax

VCR, was introduced during the early 1980s (I reviewed a later version, the PCM-1701, for *Olde Worlde* a while back). Studios often bought these rather than the pro gear, as it was a much cheaper introduction to the digital future that everyone was talking about! Some smaller labels released records of performances captured 'live' with a PCM-FI.

Converting to digital is fair enough, but the people responsible were then mad enough to discard the original analogue media! In some cases, 'skip-surfers' were lucky enough to chance on these magnetic gems (I'm always on the lookout for tapes with 'interesting' labels at record fairs and audiojumbles - but the tapes I find have usually either been bulk-erased, or put in the wrong boxes...).

These missing tapes were frequently - and lucratively - sold back to red-faced execs! And we're glad that they did; DAT turned out to be less than resilient, and interchangeability issues meant that a tape recorded on one DAT deck would play with unacceptable 'glitches' on another. UMatic tapes have not lasted particularly well, and the number of working machines to play them on is dwindling with time; serviceable PCM1630s are becoming rarer too.

DAT - the heyday of which was the early 1990s - is itself now as obsolete as 16-bit digital formats that relied on VCRs. New machines haven't been made for over a decade. What if the analogue mix-down stereo master tape was lost forever thanks to said carelessness, or the digital copy made from it unusable? The alternative would be to dig out the original multi-track master tapes and produce new mixes.

If the tapes are no longer

available, it's not unknown for record companies to work from the best vinyl source they can get their hands on. Yes, CDs might be originated from a 'needle drop'; typical 1990s bootlegger practice, funnily enough, before albums on CD were 'officially' released.

I discovered that there's a scary video equivalent to all this. In the early 1990s the BBC started transferring its irreplaceable programme archive to a now-obsolete uncompressed half-inch digital cassette format known as 'D-3'. Unfortunately, these tapes (of which the BBC had accumulated several hundred thousand) started to deteriorate with dropout 'glitches' affecting pictures and sound.

Worse still, D-3 VCRs - an invention of the Japanese broadcaster NHK - are no longer made or supported by Panasonic, the manufacturer that commercialised the format. As the remaining machines have a limited remaining lifespan, the BBC appreciate that not all of these tapes can be transferred to a new medium.

D-3 VCRs were expensive - many thousands of pounds even then - and sold only to the broadcast industry. So the BBC can't follow in the footsteps of NASA when it needed 8-inch floppy disk drives - and obtain the hardware on eBay. The BBC had to make difficult decisions as to what should be transferred using the carefully-maintained D-3 machines still at their disposal, and in what order (obviously the most important material has been given priority). The list was, I heard, whittled down to 80,000 or so items - and the good news is that the laborious work (by the BBC archives department) is now mostly done. Future generations can breathe a sigh of relief... ●

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# "opinions as to what is right or wrong with a sound are so diverse"



Dave Tutt

I have had a number of interesting conversations with my customers about how they consume music. As you can imagine they come from a wide range of the general public, many of whom seem to think that all music should be free; royalties due to the artists they don't exactly like paying for.

Many have vast collections of very average quality music 'borrowed' or should that be 'shared between many sources', none of which has ever been paid for. By quality I mean that at best they are early Apple-quality compression or more recently MP3, again of middling data rate levels. These customers don't generally own a hi-fi. They might have a stacking system that rarely gets turned on. They listen mostly whilst driving via iPod or iPhone.

Then there are the school and college people. Now these rarely have to deal with me for anything other than work equipment – school hardware that, as we know, is unlikely to be leading edge or super expensive. Occasionally I get pieces of hi-fi but I also get other hardware that you wouldn't exactly expect. Pianos, guitar amps and the like are all very standard but then something like a Symetrix Symnet interface comes in and you realise that not all schools are created equal!

The Symetrix Symnet rack unit is a digital output device that takes the core network and converts it into 12 channels of stereo audio sourced from its partnering input stage somewhere out there on the network. In this instance the entire school is audio digital and all Symetrix hardware for every class, hall, dance studio etc, so you could log in on one of the many iPads and play just about whatever you wanted anywhere in the building. But as

mind blowing as the hardware and software is – and the cost too for that matter – it still comes down to playing more or less MP3 or Apple based content, or perhaps that gleaned from Youtube and the like.

School music departments don't have hi-fi; their average 'cocking' amp and speakers are from the likes of Acoustic Solutions. A pair of bookshelf speakers is perfectly adequate for all but the most demanding situation and should the need be greater there is always a bigger system in the hall!

Families you might think could have old gear handed down to them and this could inspire kids to try something at least different, if not better. Thing is, as I have discovered, most of this equipment, no matter if it works or not, ends up at the tip as houses get smaller; the trend for lack of clutter and minimalist decor means it just has to go.

Chatting to kids, they get the feeling that music – noise as far as their parents are concerned – is a no-go. And anyway, what do they need hi-fi for when they have their ear buds permanently attached? Mum doesn't like dad's music even though it might have been one of the things that brought them together in the first place and mum actually is perfectly okay with the radio – analog or digital – so what does she want with a stack of equipment and a pair of speakers and all those leads?

What about the older generation? Now this is where much hi-fi comes from. It seems that having put up with normal background music, TV noise, kids and audio nasties for much of their lives there comes a time when the investment is actually worthwhile – especially with more time available and the emptying house means there is peace.

Here we have a huge potential market of people usually 50 plus, with a little more money and a discerning temperament which results in mid priced mid hi-fi for CD and LP.

Alas, sometimes it isn't quite what they expected. I have found that some owners were expecting something closer to Sydney Opera House or Hammersmith Odeon rather than home hi-fi and as a result, after a few weeks, their interest has waned.

Alternatively, they are now hardened audio people and have the same turnover of equipment as the average hi-fi store – bringing its own set of issues because much of the exchange equipment is flaky to say the least. Hence its constant appearance on eBay and the small ads.

These people listen to just about every type of music you can imagine and then some. They also stretch from the fanatical and the "I believe everything I read on the internet" to the laid back "I just love the sound of good music man".

What is funny though is that opinions as to what is right or wrong with a sound are so diverse in this group. You would expect it between groups but to find listeners in one group that either have to have thunderous bass no matter what the music, to those who find even a hint of bottom end like finding a slug in your lettuce, is diverse! Some find the close-field LS3/5a sound the only way to love music even though that is no more a true representation as a 30kW PA system – and it is all here in this group.

So consumers vary as much as the music they listen to. I am sure there are others I haven't met yet – but in my business of repairing hi-fi I am sure I'll meet them all in the end! ●

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# 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, pacy and musical sound that's one of the best at the price.

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

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

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

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

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

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

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

**MICHELL 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.

**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 'Rotracer' 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-70** 1978 £600  
The best 'all-in-one' turntable package ever made. Clean, powerful and three-dimensional sound, ultimately limited by the tonearm.

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

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

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



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

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

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

**GOLDRING LENCO G1 75** 1970 £15.6S  
Simple, well engineered motor unit with soft, sweet sound and reasonable tonearm. Good spares and servicing support even today.

**GARRARD 301/401** 1953 £19  
Tremendously strong and articulate with only a veiled treble to let it down.



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

**TONEARMS**

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

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

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



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

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

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

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

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

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

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



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

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

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

**LINN ITTOK LVII** 1978 £253  
Japanese design to Linn specs made for a muscular, rhythmic sound with real dynamics. The final LVIII version worth seeking out.

**AUDIO TECHNICA AT 1120** 1978 £75  
Fine finish can't compensate for this ultra low mass arm's limited sonics - a good starter arm if you've only got a few quid to spend.

**HADCOCK GH228** 1976 £46  
Evergreen unipivot with lovely sweet, fluid sound. Excellent service backup.

**ACOS LUSTRE GST-1** 1975 £46  
The archetypal S-shaped seventies arm; good, propulsive and involving sound in its day, but ragged and undynamic now.

**SME 3009** 1959 £18  
Once state of the art, but long since bettered. Musical enough, but weak at frequency extremes and veiled in the midband. Legendary serviceability and stunning build has made it a cult, used prices unjustifiably high.

**PHONO STAGES**

**CREEK OBH-8 SE** 1996 £180  
Punchy, rhythmic character with oodles of detail makes this a great budget audiophile classic. Partner with a Goldring G1042 for an unbeatable budget combination.

**MICHELL ISO** 1988 £ N/A  
This Tom Evans-designed black box started the trend for high performance offboard phono stages. Charismatic, musical and punchy - if lacking in finesse.



**LINN LINNK** 1984 £149  
Naim-designed MC phono stage built to partner the original Naim NAIT - yes, really! Fine sound, although off the pace these days.

**INTEGRATED AMPLIFIERS**

**NAIM NAIT XS** 2009 £1,250  
With much of the sound of the 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-integrators.

**NUFORCE P-9** 2007 £2,200  
Impressive two box preamp with superb resolution and an engaging sound.

**MELODY PURE BLACK 101D** 2007 £3,295  
The clarity and openness of valves plus firm grip and fine detail make this a preamplifier masterclass.

**AUDIOLAB 8000S** 2006 £400  
In another life, this sold for three times the price, making it a stand-out bargain now. Very clean, powerful and tidy sound.

**MCINTOSH MA6800** 1995 £3735  
Effortlessly sweet, strong and powerful with seminal styling to match.

**DELTEC** 1987 £1900  
Fast, dry and with excellent transients, this first DPA integrated is the real deal for eighties obsessives. Ridiculously punchy 80W per channel from a tiny, half-size box. Radical, cool and more than a little strange.

**EXPOSURE VII/VIII** 1985 £625  
Seminal pre-power, offering most of what Naim amps did with just that little bit extra smoothness. Lean, punchy and musical.



**AUDIOLAB 8000A** 1985 £495  
Smooth integrated with clean MM/MC phono stage and huge feature count. Extremely reliable, too. Post '93 versions a top used buy.

**VTL MINIMAL/50W MONOBLOCK** 1985 £1,300  
Rugged, professional build and finish allied to a lively and punchy sound (albeit with limited power) make them an excellent used buy.

**MUSICAL FIDELITY A1** 1985 £350  
Beguiling Class A integrated with exquisite styling. Questionable reliability.

**MISSION CYRUS 2** 1984 £299  
Classic 1980s minimalism combines arresting styling with clean, open, lively sound. Further upgradeable with PSX power supply.



**NAIM NAIT** 1984 £350  
Superb rhythms and dynamics make it truly musical, but tonally monochromatic. Fine phono stage, very low power.

**CREEK CAS4040** 1983 £150  
More musical than any budget amp before it. CAS4140 loses tone controls, gains grip.

**MYST TMA3** 1983 £300  
Madcap eighties minimalism, but a strong and tight performer all the same.

**ROTEL RA-820BX** 1983 £139

Lively and clean budget integrated that arguably started the move to minimalism.

**NAD 3020** 1979 £69

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

**ROGERS A75** 1978 £220

Lots of sensible facilities, a 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 incisiveness.

**HH ELECTRONICS TPA-500 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. Pccc 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, TL/12 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 spry, light balance in the mould of Sugden. Something of a curio, but worthwhile nonetheless.

**AUDIO RESEARCH SP-8** 1982 £1,400

Beautifully designed and built high end tube pre-amplifier with deliciously sweet and smooth sound. Not the last word in incision or grip.

**LINN LK-1** 1986 £499

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

**NAIM NAC 32.5** 1978 £ N/A

Classic high end pre. Brilliantly fast and incisive sound that's a joy with vinyl but a tad forward for digital.

**LECSON AC-1** 1973 £ N/A

Amazing styling courtesy of Allan Boothroyd can't disguise its rather cloudy sound, but a design classic nonetheless.

**QUAD 33** 1968 £43

Better than the 22, but Quad's first tranny pre isn't outstanding. Responds well to tweaking/ rebuilding though...



**LEAK POINT ONE STEREO** 1958 £ N/A

Good for their time, but way off the pace these days. Use of EF86 pentode valve for high gain rules out ultra performance. Not the highest-fi!

**QUAD 22** 1958 £25

The partner to the much vaunted Quad II monoblocks - cloudy and vague sound means it's for anacronophiles 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&W 686** 2007 £299  
Baby standmounters offer a sophisticated and mature performance that belies both their dimensions and price tag.

**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.

**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 lauteness but can drive large rooms and image like few others.



**CELESTION SL6** 1984 £350  
Smalish 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 coarse 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.

**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.

**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.



**HH ELECTRONICS TPA-50D AMPLIFIERS** 1973 £110  
Simple design with easily available components, solid build quality and fine sound make for a surprisingly overlooked bargain. Not exactly stylish, however

**BBC LS3/5A** 1972 £88  
Extremely low colouration design is amazing in some respects – articulation, stage depth, clarity – and useless in others (both frequency extremes). Came in wide variety of guises from various manufacturers building it under licence.

**LEAK SANDWICH** 1961 £39 EACH  
Warm sounding infinite baffle that, with a reasonably powerful amplifier can sound quite satisfying.

**QUAD ESL57** 1956 £45 EACH  
Wonderfully open and neutral sound puts box loudspeakers to shame. Properly serviced they give superb midband performance, although frequency extremes less impressive. Ideally, use in stacked pairs or with subwoofers and supertweeters

## SYSTEMS

**MERIDIAN SOOLOOS 2.1** 2010 £6,990  
Crisp styling, bright, colourful touchscreen, plus excellent search facilities. This is one hard disk music system with a difference. Best partnered to Meridian active loudspeakers



**NAIM UNITIQUITE** 2010 £995  
Great little half width one-box system with truly impressive sound allied to a wealth of source options.

**ARCAM SOLD 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.

**MARANTZ 'LEGEND'** 2007 £22,000  
The combination of SA-7S1 disc player, SC-7S2 preamp and MA-9S2 monoblocks delivers jaw-dropping performance

**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.



**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 NATO3** 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.

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

**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.

**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 Ritsream gear. No digital output.

**CAMBRIDGE AUDIO CD1** 1986 £1500  
Inspired Stan Curtis redesign of Philips CD104, complete with switchable digital filter. Lean but tight and musical performer.



**MERIDIAN MCD** 1984 £600  
The first British 'audiophile' machine was a sweeter, more detailed Philips CD100. 14x4 never sounded so good, until the MCD Pro arrived a year later.

**SONY CDP-701ES** 1984 £890  
Sony's first bespoke audiophile machine used a 16x2 DAC to provide a clinically incisive sound; supreme build quality allied to the pure unadulterated luxury of a paperback-sized remote control.

**YAMAHA CD-X1** 1983 £340  
Nicely built 16x2 machine with a very sharp and detailed sound, sometimes too much so. Excellent ergonomics, unlike almost every other rival of the time.

**SONY CDP-101** 1982 £800  
The first Japanese CD spinner was powerful and involving. Brilliant transport more than compensated for 16x2 DAC, and you even got remote control!



**ANALOGUE RECORDERS**

**AIWA XD-009** 1989 £600  
Aiwa's Nak beater didn't, but it wasn't half bad nonetheless. Massive spec even included a 16x4 DAC!

**NAKAMICHI CR-7E** 1987 £800  
The very best sounding Nakamichi ever - but lacks the visual drama of a Dragon.



**SONY WM-D6C** 1985 £290  
Single capstan transport on a par with a Swiss watch, single rec/replay head better than most Naks. Result: sublime.

**PIONEER CTF-950** 1978 £400  
Not up to modern standards sonically, but a great symbol of the cassette deck art nonetheless.

**YAMAHA TC-800GL** 1977 £179  
Early classic with ski-slope styling. Middling sonics by modern standards, but cool nonetheless!

**SONY TC-377** 1972 £N/A  
A competitor to the Akai 4000D open reel machine, the Sony offered better sound quality and is still no slouch by modern standards.

**REVOX A77** 1968 £145  
The first domestic open reel that the pros used at home. Superbly made, but sonically off the pace these days.

**COMPACT DISC TRANSPORTS**

**ESOTERIC P0** 1997 £8,000  
The best CD drive bar none. Brilliantly incisive, ridiculously over engineered.

**TEAC VRDS-T1** 1994 £600  
Warm and expansive sound made this a mid price hit. Well built, with a slick mech.

**KENWOOD 9010** 1986 £600  
The first discrete Jap transport was beautifully done and responds well to re-clocking.

**DACs**

**DCS ELGAR** 1997 £8500  
Extremely open and natural performer, albeit extremely pricey - superb.

**DPA LITTLE BIT 3** 1996 £299  
Rich, clean, rhythmic and punchy sound transforms budget CD players.

**CAMBRIDGE AUDIO DAC MAGIC** 1995 £99  
Good value upgrade for budget CD players with extensive facilities and detailed sonics.

**PINK TRIANGLE DACAPO** 1993 £ N/A  
Exquisite; the warmest and most lyrical 16bit digital audio we have ever heard.

**QED DIGIT** 1991 £90  
Budget bitstream performer with tweaks aplenty. Positron PSU upgrade makes it smooth, but now past it.

**CABLES**

**MISSING LINK CRYO REFERENCE 2008** £495/0.5M  
High end interconnects, with deliciously smooth, open and subtle sound without a hint of edge.

**TECHLINK WIRES XS** 2007 £20  
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**VDH ULTIMATE THE FIRST** 2004 £250  
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**WIREWORLD OASIS 5** 2003 £99/M  
Excellent mid-price design with a very neutral, silky and self-effacing sound. Superb value for money.

**TCI CONSTRICTOR 13A-6 BLOCK** 2003 £120  
Top quality 'affordable' mains outlet block, with fine build and good sonics. Well worth the extra over standard high street specials, which sound coarse and two-dimensional by comparison.

# vinyl section

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MARCH 2019

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# news

## SOUND MIRACLES

Two new releases on this new imprint ([soundmiraclerecordings.bandcamp.com](http://soundmiraclerecordings.bandcamp.com)) include thirteen primitive Flamenco ditties (Spain's own blues) from the thirties onwards from the likes of Sarita Heredia and Manolo de Badajoz. Includes a CD too!

As does 'Incantations for Tape' Part one of early electronica from the twenties to the sixties. Includes Daphne Oram, The Blue Men and Gottfried Koenig.



## SPEAKERS CORNER

New from this quality German audiophile outfit ([www.speakerscornerrecords.com](http://www.speakerscornerrecords.com)) is Lee Konitz 'With Warne Marsh' (1955), playing alto and tenor saxes accompanied by Kenny Clarke and Oscar Pettiford. Both saxes merge easily with independent, perceptive styles that tweak the ear.

Herbie Mann's 'At the Village Gate' (1962) draws upon his hard bop-type Afro-Cuban and Brazilian music with Bossa vibes featuring brilliant interpretations of classic songs.

On 'Johnny and Edgar Winter Together Live' (1976) blues rock energy dominates. Features Sam and Dave's 'Soul Man' and Little Richard's 'Tutti Frutti'. Belt up, strap in and brace yourself.

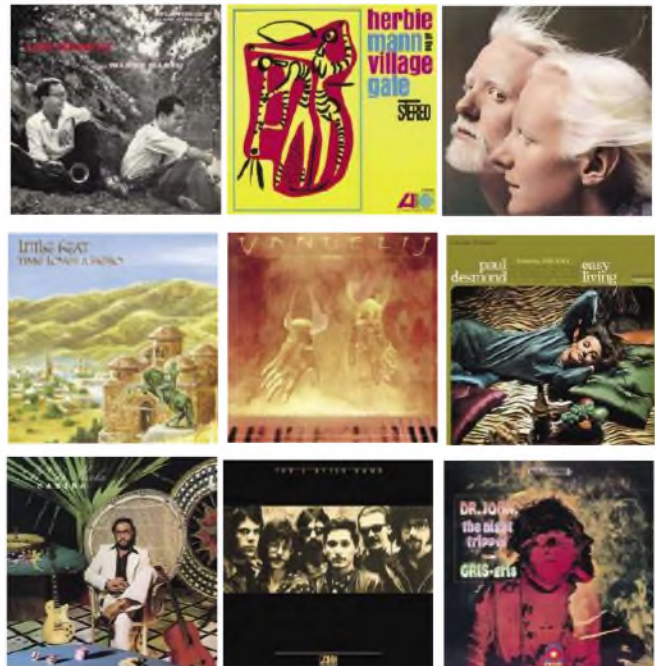
Little Feat's 'Time Loves A Hero' featured a case of civil war. Between band leader, Lowell George (increasingly overtaken by drugs and more) and...everyone else (who were frustrated by that situation). Not the band's best but there's enough high points to retain interest.

Vangelis' 'Heaven and Hell' (1975) features guest vocals from Jon Anderson. The LP includes the theme for the American television documentary series 'Cosmos: A Personal Voyage' by Carl Sagan. Strong and significant.

'Easy Living' was Paul Desmond and Jim Hall's 1965 release, their last for RCA Victor, comprising remainders of past sessions. That's not to denigrate the LP though, which is packed with quality and top solo sequences that are lively and full of vivacity.

The impressive jazz fusion guitar of Al di Meola can be heard in all its glory on 'Casino' (1978), including Steve Gadd, Anthony Jackson and Barry Miles. The great man's hands fly across his guitars, elevating the music to new heights. A brilliant LP.

Also look out for 'Brubeck Time' (1955) Dave Brubeck's cool jazz outing, The J. Geils Band blues rock band's debut featuring cuts from Otis Rush and John Lee Hooker, plus Dr John's classic 'Gris-Gris' (1968) that blends psychedelic, funk and New Orleans' voodoo – and is all the better for it.





## VINILISSIMO

Three releases from the Spanish label ([munster-records.com](http://munster-records.com)) includes Vainica Doble's intriguing, self-titled LP offering female-fronted psyche rock, pop and folk with often delicate, ethereal harmonies.

Os Murantes' final studio album, 'Tudo Foi Feito Pelo Sol' moves further away from the band's original Brazilian sounds to harder psych and rock softened by vocal harmonies and melodic guitar.

Giampiero Boneschi was the first recognised Italian to dabble with synthesisers. With 'Cybernetic Circus' (1973), released on the British label Chapter 1, you can see how the album influenced the likes of Stereolab with its irreverent loungecore approach.



## THIRD MAN

New from the US-based outfit ([thirdmanstore.com](http://thirdmanstore.com)) is two from the 'Live at' series. Firstly the hip hop-slanted indie outfit Why? who use the rapping style like a layer in a jam sponge cake. Strangely melodic.

Bill 'Smog' Callahan is a singer-songwriter who takes introspection into Leo Kottke territory as his low frequency vocals connect with tired retrospection.



## PROPER CHARLY

Three Johnny Cash releases from his Sun period on Charly ([www.charly.co.uk](http://www.charly.co.uk)) include classic material from 1958 on 'The Songs that Made Him Famous' including 'I Walk the Line'.

Cash's minimalist 'With His Hot And Blue Guitar!' (1957) debut repeats 'I Walk the Line' and adds 'Folsom Prison Blues' and 'Cry, Cry, Cry' to prove a folk edge.

Finally, 'Greatest!' (1959)...wasn't really. It was a collection of B-sides and unreleased songs after he departed Sun. Plenty of interesting songs to check out.

## ...AND FINALLY

From Strange Fish ([fruitsdemerrecords.com](http://fruitsdemerrecords.com)) comes Symmetric Communication's (aka Kris Gietkowski) entertaining self-titled album which is more art rock than prog, with a nostalgic glow in terms of its arrangement.

Judith Owen's 'RedisCOVERed' ([Twanky;judithowen.net](http://Twanky;judithowen.net)) offers snappy swing, vocal jazz covers of popular songs. Often drastically reimagined. Take 'Summer Nights' from the musical, 'Grease'. Unrecognisable yet tastefully tackled.

Mi Mye's 'The Mountain Forces the Future And the Force Causes the Rain' ([Cable;www.mimye.com](http://Cable;www.mimye.com)) leans towards post rock, subdued with a gentle portent.

British library music, part of the old EMI organisation and often used as TV theme tunes but also background music, was once largely ignored but has now come into its own. KPM's new Music Record Library LP, 'Full Circle' celebrates this phenomena via the Be With label ([www.bewithrecords.com](http://www.bewithrecords.com)). Features musicians such as ex-Shadows man, Brian Bennett and Alex Hawkshaw (The Mohawks).

From Penelope comes 'Two' ([penelopetrappes.bandcamp.com](http://penelopetrappes.bandcamp.com)) using contrasting ethereal, reverb-heavy, synth soundscapes and sparse vocalisations to back romantic, melodic and rather sweet ditties.

Colombia's Totó y la Momposina's 'La Verdolaga' ([Astartares;www.astartares.com](http://Astartares;www.astartares.com)) offers simple yet looping cumbia vocal and melodic rhythms to offer a hypnotic, pulsing celebratory melange.

Finally, Don The Tiger's 'Matanzas' (Crammed Discs) takes Cuban folk to thoughtfully avant-garde levels while featuring a slightly horse whispery, kinda-Bowie vocal delivery.



# m&rw

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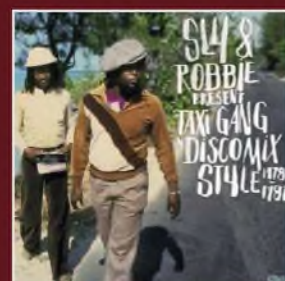
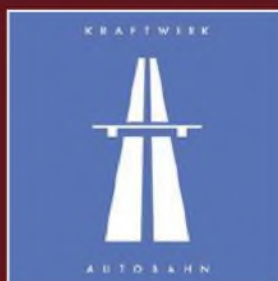
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# Microfine

Hana fit a Microline stylus to a quality moving coil cartridge for a fine result. Noel Keywood listens.



increasing effective rip mass and reducing mid-band tracking ability.

The ML has the typically low output of a moving coil cartridge and needs a dedicated MC phono stage. But whilst low output may seem to be a drawback there are benefits and – fundamentally – it's always better to go the low output route if you have a phono stage to suit. This is the quality option. Tracking is better than a high output type.

Both cartridges are built on a moulded black Delrin synthetic body that has captive nuts built in. This makes for easy mounting, especially in fixed headshell arms (Rega and SME). You hold the cartridge body beneath the shell and pop in the aluminium screws supplied from above. Only two screws are needed and supplied, as the screws are long enough to cover all headshell thicknesses. Because the inserts are also long and buried in the body the screws remain concealed, making for neat looking installation.

Weighing 9gms each, both will balance out in any arm and are therefore compatible. Only when cartridge weight exceeds 10gm does it become a possible issue, although most arms accept up to 12gms. I used both in our reference SME309 with removable headshell and there were no fixing or balance issues. Where most cartridges come with a set of fixing screws and matching nuts, often with and without flats (old Audio Technicas) Hana supply just the two screws mentioned and a stylus brush as accessories.

The Microline stylus is an advanced contact shape that perfectly replicates the cutting head of a lathe, Audio Technica explain

in their literature. I believe also Microlines are laser cut, where Shibatas are ground. Whatever, the Microline is a modern and advanced long contact shape with small minor radius that makes it able to read high frequencies with ease – and our measurements confirmed this clearly. Both Hanas were ruler flat to 20kHz – even on inner grooves. So the Microline stylus in both ML and MH fulfils its promise. These cartridges are better than most at getting information from the groove.

The nude stylus is attached to an aluminium cantilever. All the magnetic circuit parts are cryogenically treated (frozen close to absolute zero) to improve their magnetic properties by altering the crystalline structure of the permeable metals used.

Tracking force is 2gr for both models, with no variation suggested. The MH has a coil impedance of 130 Ohms whereas the ML is 7 Ohms due to its smaller number of turns. The MH suits 47k loads (MM) Hana say, and the ML the usual 100 Ohm load presented by an MC input.

**H**ana pickup cartridges, manufactured by the Excel Sound Corporation of Japan, have a wonderfully smooth sound, unaffected by the special build techniques and materials finding their way into some of today's hi-tech designs – boron cantilevers and diamond deposition coming to mind. No criticism of the latter, it's just to get into perspective what I'm reviewing here in their new and lovely ML & MH moving coil (MC) cartridges. And not only are they quietly sublime – but also affordable! Just £995 for either model, a low price for a quality MC.

What we have here are a pair of moving coil cartridges fitted with a Microline stylus. The ML is low output – hence the L suffix – the MH high output. The MH has just enough output for a normal moving magnet (MM) phono stage; you have to turn volume up though and hiss may be an issue if your MM input is a tad noisy in itself. Good modern ones are not, so the MH looks good for those who'd like to enjoy MC quality without having to upgrade to a specialised external MC phono stage.

But there's a drawback: more turns are needed on the signal coils,



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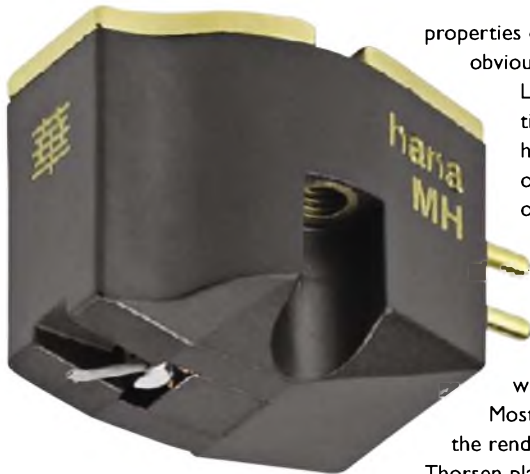
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**The MH has the same construction as the ML and higher output, but tracking suffers as a result.**

Output of the MH is quoted as 2mV where the ML is 0.4mV.

### SOUND QUALITY

The ML and MH were mounted, in turn, into our SME309 arm atop a Timestep Evo modified Technics SL-1210 MkII Direct Drive turntable. Phono stage was an Icon Audio PS3 MkII which has input transformers for MC, making it hiss free, feeding my preferred amplifier for electrostatic loudspeakers, an Icon Audio Stereo 30SE single-ended, in this case fitted with new and special KT150D valves developed by Icon Audio (see review in this issue). This amplifier fed our Martin Logan ESL-X hybrid electrostatic loudspeakers. An Isotek Evo 3 Mosaic Genesis regenerated mains power supply was also used.

I listened to the ML first, on the basis that it is the higher performance design, the MH being a compromise aimed at those without an MC phono stage. And particular

properties of the ML became obvious very quickly.

Like most long-contact tip shapes the ML makes higher frequencies obvious – no warmth or woolliness here. No blurred images either.

My listening notes pick up the issue of an airy spaciousness and intense insight with intricate detailing. Most impressive of all was

the rendition of Marianne Thorsen playing Mozart violin concertos, from 2L of Norway. This DXD recording on 180gm vinyl was almost magically transcribed by the ML. It gave more insight into Marianne Thorsen's violin and better presented her wondrous playing than I have heard before. Not only was there insight into the instrument and space around it, but a firm sense of body too. It was the best I have heard from this 'difficult' LP – and a tribute to the ML's Microline stylus. The slight sense of shimmer I often hear was replaced by a steady confidence in transcription, full of life and vigour

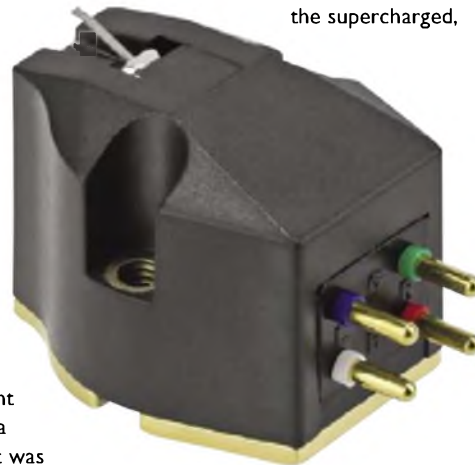
"time to sit back and enjoy the wonderful playing of a superb violinist".

but believably firm and steady too. Time to sit back and enjoy the wonderful playing of a superb

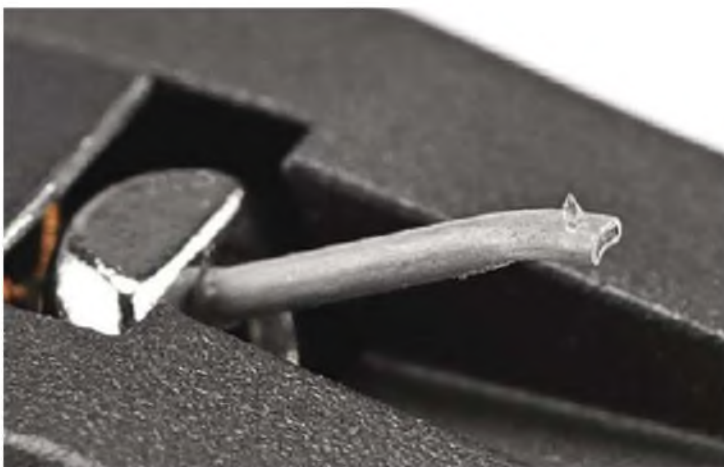
violinist, floating at the back of my mind that I've never heard such a good sound as this before.

Yep, that does count out digital, although possibly not DSD. The complaint that LP is no good for classical performance because of ticks, pops and background noise didn't enter my experience here at all. The instruments of the Trondheim Soloists backing her were all finely displayed across a wide and open sound stage. Beyond wonderful.

From the sublime to the supercharged,



**Connection is through colour coded pins, red/green right-channel +/- and white/blue left channel +/-.**



**The ML MC stylus cantilever is an aluminium tube and the stylus shank rectangular for accurate orientation on the tube.**

I had to – and wanted to! – spin some 12in 45rpm singles that have higher modulation amplitudes and velocities than 33s, to assess both tracking ability and bass impact. Alison Goldfrap's Ride A White Horse thundered out confidently, with firm and obvious bass from the backing drum synth. Not quite the grip of our Ortofon Cadenza Bronze but similar weight and close enough. Carol Kenyon's Dance With Me was similarly fast, impactful and better resolved than I have ever heard it; there was more insight and retrieval of fine detail, again a sense of open spaciousness yet no glare or edginess. It was as if the performance had been washed clean of slight murk, sent out in new pristine form. The strong background disco beat pounded out – and I

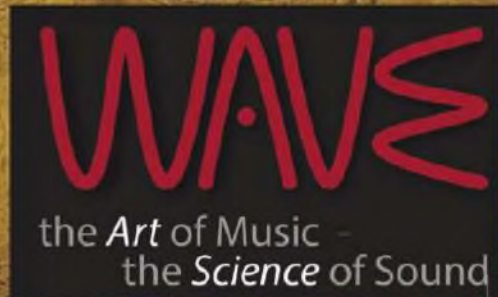
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*The ML has bonded-in brass sleeve-nuts for ease of attachment.*

"superb clarity and insight but without the cold mechanics of a boron cantilever"

smiled. No intermittent buzz from obvious mistracking, or the loss of confidence from weak groove contact. The ML showed it could both handle this single and resolve better than I have heard before, Carol Kenyon's vocals complete with added reverb being laid out with superb clarity and insight but without the cold mechanics of a boron cantilever, for example.

With Lyn Stanley's Moonlight Sessions LP, from a first generation

stamper (45rpm, 180gm) the MH tracked well, as it did with other 12in 45s cut at high level. It only mistracked obviously with the highest level Flute test on Shure's Audio Obstacle Course Era IV test disc (TTR115) – an extreme cut. It sounded a tad sharper and harsher than the ML though, the word 'wash' in a Lyn Stanley song sounding distinctly edgy for example. The MH did, all the same, have the revelation of the ML.

**CONCLUSION**

The Hanna ML was wonderfully insightful, had tonal poise and good, firm bass. Put together these properties made it an exciting yet deeply revealing cartridge, its advanced Microline stylus placing it ahead of most else. What I especially liked was its svelte delivery, free from obvious emphasis. At the price this is a great moving coil, well worth buying

The MH, purposed for moving magnet (MM) inputs, is a compromise – equally revealing but at times edgy. I wasn't so impressed.



*The black Delrin body weighs 9gms, a figure all arms can handle.*

**MEASURED PERFORMANCE**

Tracking at 2gms as recommended, both the ML and MH cleared all but the top tracking test of CBS-STR112 test disc (300Hz), failing the top 90µm cut – good, but rivals manage better.

With our B&K2010 test disc tracking in the midband (1kHz) was mediocre with both ML and MH, 16cms/sec being just cleared where 20cms/sec is expected and the top 25cms/sec track hoped for. Worse, the MH jumped out of the groove at 25cms/sec – drastic. It is rare for a cartridge to clear the top 25cm/sec track of B&K 2010, where low tip mass becomes important but even budget cartridges manage it nowadays. Overall then, tracking performance was mediocre.

Frequency response (JVC TRS-1007 test disc) of the ML was unusually flat right up to 20kHz our analysis shows. Even on inner grooves (red trace) the ML displayed little tracing loss due to the Microline stylus – impressive. Here the ML managed better than most

other cartridges tested to date. The MH was similar.

Output of the ML measured 0.37mV at 3.54cms/sec, a normal value. The Left channel measured 1dB higher than Right – not so good. Separation between channels was high at 30dB. The MH delivered 2.2mV at 3.54cms/sec as quoted and adequate for an MM input.

Distortion on lateral modulation was low at 1% second harmonic, and reasonably low too on vertical modulation at 3.3%, vertical tracking angle measuring 26 degrees, a small amount above the 22 degree ideal. The ML measured well in this area, the MH being similar. **NK**

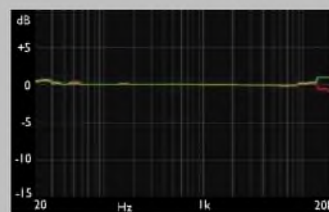
**Tracking force** 2gms  
**Weight** 9gms  
**Vertical tracking angle** 26 degrees  
**Frequency response** 20Hz - 20kHz  
**Channel separation** 30dB

**Tracking ability (300Hz) lateral** 63µm

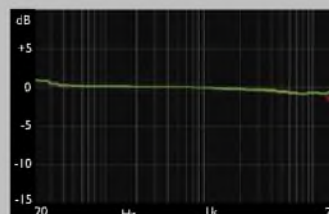
**vertical lateral (1kHz)** 45µm 16cms/sec.

**Distortion (45µm) lateral vertical** 1% 3.3%  
**Output (5cms/sec rms)** 0.5/2.2mV

**FREQUENCY RESPONSE ML**



**FREQUENCY RESPONSE MH**



**HANA ML £955.00**  
**HANA MH £995.00**



**OUTSTANDING - amongst the best (ML).**

**VALUE - keenly priced**

**VERDICT**  
 The ML is a smooth and svelte moving coil with deep insight, fabulous detailing and imagery. The MH is less impressive.

**FOR**  
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 - easy to fit  
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**AGAINST**  
 - mediocre tracking ability

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# PRIMARY E

The Pro-Ject Primary E has been designed to offer a hi-fi friendly alternative to vinyl music lovers who are limited by their budget. Where the majority of affordable turntables are impacted by flimsy, plastic components or poor quality accessories, the Primary E is a reliable, made-in-Europe product designed by a leading analogue audio company. The overall aesthetic of the Primary E has a sleek, retro appeal thanks to its consistent matte black finish.

The Primary E turntable proves that hi-fi quality turntables don't need to be complicated. Simply install the belt and connect it to a system in order to enjoy vinyl playback on an affordable device that won't hurt your records.

\*Pro-Ject Primary E photographed with Pro-Ject Stream Box S2 BT

## FEATURES

- Instant playback with super-easy setup
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- Pre-mounted gold-plated RCA interconnect cable
- Special turntable feet for effective decoupling
- Acrylic lid included
- Primary E Phono available



# Pictures past

Paul Rigby reviews a book of pictures from the past, from a photographer there at the time.

## My Generation The Classic Rock Photos of Baron Wolman

Author: Baron Wolman

Publisher: Omnibus

Price: £20

**W**ith a name that sounds like a character in a fairy tale, Wolman's iconic photography is laid bare for all to see across the 255 pages of this well produced book. There are 150 of them here from what the book calls the "golden age of rock" by the man who was Rolling Stone magazine's very first staff photographer.

The book has an introduction by Wolman. It is here that we discover Wolman the social media fan. Well, more to the point, Wolman the Instagram fan. He talks about the platform and his admiration of many artists who inhabit it. The images in this book have also appeared on Instagram.

The photographs are ordered by year, starting 1967 through to 1979. Most of the images are black & white with a few colour shots inserted to reflect the march of time. While most of the images are of musicians, many are not. Jan Wenner, the launch editor of Rolling Stone is in there, as is Pamela Des Barres, 'Queen of the Groupies' and co-groupies Devon and Lacy, Beatles publicist, Derek Taylor and Janet Planet, ex-wife of Van Morrison.

Most are of legendary music figures, though, while many are legendary photographers. There's the

picture of Sun Ra in his ornamental regalia, Janis Joplin mid-song and the Grateful Dead on the steps of their house.

One shot of a street corner says a lot. It pictures the signs designating Haight/Ashbury back in 1967 seen, as Wolman noted, as ground zero for the so-called Summer of Love. An old lady in an overcoat, hat and handbag stands beside the signs, waiting to cross the road. This area was a family residential area. In the early sixties, counterculture people landed on the area and it changed dramatically. "Families were displaced and older folks like this woman were confused by the arriving hordes of noisy, colourful young people. I was lucky to have lived in the Haight during the 'revolution' and to have documented the area's ever-changing landscape". Now, the area has been invaded again, this time by gentrification and tech-rich Millennials. Which only adds irony to the current immigrant panic and scare stories. Do we ever learn from history?

The book is packed with legends, from Jimi Hendrix to Joni Mitchell, from Jim Morrison to The Rolling Stones, from Frank Zappa to Led Zeppelin. You name them, they're more than likely in this book.

Each image is tagged with an extended caption and, while not all captions hold the interest - some are



THE CLASSIC ROCK PHOTOS OF BARON WOLMAN  
**MY GENERATION**  
INSTAGRAM FOLLOWS BY ROLLING STONE'S FIRST PHOTOGRAPHER



downright bland - there are some that dig into the photo subject or provide interesting context. Whether it's Wolman's effort to drag a smile out of Joplin or Wolman's fascinating images of Jim Morrison actually smiling on stage (well, I'd never seen that before), there is often added nuance to the striking images.

There's even a tone of sadness and a note to the future via one 1968 photograph of Joan Baez: "As the concert began I heard the unmistakable clacking of the mirror from numerous single lens reflex cameras. Joan heard them too. She stopped singing and said something to the effect "I'm flattered that you want to photograph me but your cameras are quite noisy and folks are here for the music. Tell you what - for two songs feel free to take all the pictures you want. But after those two songs, please put your cameras down and enjoy the music". I think that may have begun what is now the standard for concert music photographers everywhere: two songs and then go home...In one sense understandable. In another, regrettable.

You won't regret buying this book. It's full of insight, reflection and joy. **PR**

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ORGANISED BY AUDIO T

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**BY TRAIN:** Temple Meads Station is a short distance from the Marriott.

**BY CAR:** From the M4 take J19 (M32 - Bristol). Follow signs for City Centre and RAC signs to the Show. For those using satellite navigation systems the hotel post code is BS1 3AD. Easy local parking in Cabot Circus car park and Broadmead and Bond Street NCPs.

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Meet the Editor and publisher Noel Keywood on Saturday at 2pm in room 411. We hope to have both Guy Hayden (VP International at Universal Strategic Marketing) and Miles Showell, Abbey Road Senior Cutting Engineer. Just turn up and ask!

For Show details including ticket prices, click on [www.bristolshow.co.uk](http://www.bristolshow.co.uk) It is held at the Marriott City Centre hotel, 2 Lower Castle Street, Old Market, Bristol, England BS1 3AD.

# BRISTOL HI-FI SHOW See you There!

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**H**ere's your chance to win a superb Rupert Neve RNHP headphone amplifier with Russ Andrews Supplier power supply we reviewed in the December 2018 issue. Read the review excerpt below and answer the questions.

"The Rupert Neve RNHP headphone amplifier has a robust metal enclosure with VESA-compliant mounting holes on its base. What's inside is interesting too. Input selection is electronic, using high-quality DG413 analogue switches that won't wear out and

go noisy. The selected signals are passed, via an excellent-quality ALPS pot, to the headphone amp proper. This is a Texas Instruments TPA6120 Class-AB device with current feedback.

Supplied with our review sample of the RNHP were a couple of 'goodies' from the unit's importer Russ Andrews. One is the £449 'Supplier' mains unit, which is designed to replace the inexpensive wall-wart supplied with the RNHP. It's rated at 60 watts – more than four times the capacity of the bundled unit. Like the latter, the Supplier is a switched-mode design. I had a lengthy chat

with Russ Andrews, who told me that the Supplier's internal supply module, in its standard form, was the best sounding of the many he had evaluated. Even then, many of the components – among them, electrolytic capacitors – are replaced for improved performance. There is also additional mains-side filtering, mounted on a separate circuit board, to remove line noise and other nasties. To connect the Supplier to the mains, Russ Andrews sent us a 1 metre Yello IEC mains lead, constructed from Kimber Kable".

For a chance to win this great prize, just answer the four easy questions at right. Send your entries on a postcard only, by 8th March 2019 to:

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## QUESTIONS

**[1] DG413 analogue switches won't -**

- [a] go on holiday
- [b] wear out
- [c] fall asleep
- [d] go on strike

**[2] The Supplier is -**

- [a] linear
- [b] steam powered
- [c] switched-mode
- [d] driven by hamsters

**[3] What is 'mains side' -**

- [a] a tap
- [b] filtering
- [c] broken wire
- [d] gold plated fuse

**[4] The Yello is how long -**

- [a] 1 mile
- [b] 1 millimetre
- [c] 1 micron
- [d] 1 metre

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**PLEASE ENSURE YOU PUT A TELEPHONE CONTACT NUMBER ON YOUR ENTRY**

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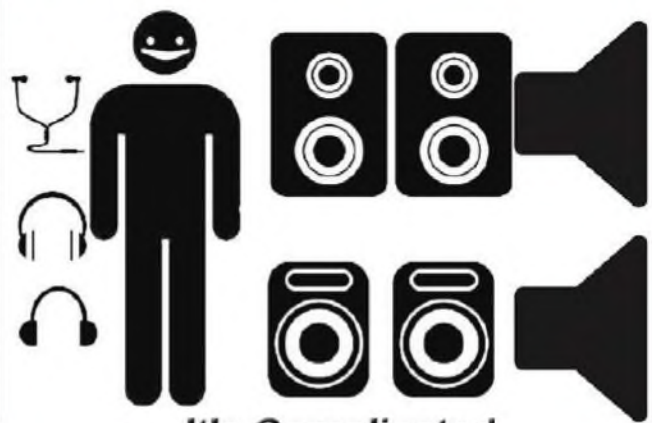
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VINTAGE VERY rare Audio Research SP6A valve pre-amp (not hybrid) which used to be mentioned regularly in Absolute Sounds advertising. £995 ono also Meridian rare black 101pre, 104 tuner, 105 (2xmono amps each with power supply) so stacked 3 high in pairs £695. Southport 01704 628968 or 07968769595

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# NEXT MONTH APRIL 2019 ISSUE



## KEF R5 LOUDSPEAKERS

Next month we bring you KEF's new R5 Reference model floor standing loudspeaker. A three-way design, it has at its core their focussed and accurate Uni-Q drive unit with aluminium cone and – centrally mounted – aluminium dome tweeter with Tangerine waveguide.

Highly developed, the Uni-Q sets KEF loudspeakers apart in performance and sound quality. So don't miss our in-depth review in the next issue, with measurement and sound quality expertly covered.

Also, we hope to bring you –  
CHORD ELECTRONICS NEW HUGO TT2 DAC AND HUGO M SCALER  
MUSICAL FIDELITY M2SCD CD PLAYER  
MUSICAL FIDELITY M2SI INTEGRATED AMP  
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DUAL CS-460 TURNTABLE  
...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 APRIL 2019 ISSUE OF *HI-FI WORLD* ON SALE FEBRUARY 28TH 2019,  
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MAY 2019 - 6TH MARCH

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# CYBOTRON

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CRAFT



"this LP was a major influence on the wider subject of electronic dance music".

**T**he reissue of this classic album was one of the least expected and most welcome to slide across my desk. Pressed at the Third Man label, this disc is, without any doubt, seminal. Produced by Juan Atkins and Rik

Davis it provided the keys to what would become techno as a genre. Atkins would become the godfather of the same and would then be seen as part of techno's holy trinity alongside Derrick May and Kevin Saunderson.

This particular LP was released in 1983 on Fantasy and was initially a major influence on the wider subject of electronic dance music.

Getting to that point was a journey in itself, though. After a formative history surrounded by disco and funk, Atkins' early group forays were modified when his family moved to Belleville, part of St. Clair County, Illinois. "My grandmother owned an organ, this hammered old B3 thing" said Atkins in an interview with Red Bull Music Academy. "She'd go into the music shop Brunel's for this organ. And right at this time they'd introduced the MiniKorg-700S and the Korg MS10. These were small, smart, monophonic synthesisers. I'd go into the back room and play these synthesisers and eventually I was able to talk her into buying me one. And the rest was kinda history".

Experimentation lead to full blown demos which he passed around friends and colleagues at college. Rik Davis, part of the Cybotron band, was a Vietnam veteran (older than Atkins by all of ten years). The pair met during Atkins' first year at community college, in a music course. Davis heard Atkins' demos and, being an electronic musician himself, proposed a hook up. Davis was a man who had seen life and horrors of death in Vietnam. With Atkins own father in jail at the time, Davis become a father-figure.

They paired, well trio'd actually because guitarist Jon 5 also entered the fray and collaborated on the album, as Atkins explained to Bleep43. "Mainly we were right there together but sometimes there were a couple of tracks like Clear where I did most of the track. I had [key]boards and stuff at home so I more or less made that whole track. When I brought it in we did a version and he [Rik]

added a little top keyboard line to it and that was it, then we went into the studio and recorded it".

'Clear' became a smash hit from an album inspired by both George Clinton and Kraftwerk. It was an inspirational creation for future artists. What made it special was that it was original. It didn't follow the crowd and Atkins created it without keeping one eye on dollar signs. "When you're making stuff that's not really commercial that's the sacrifice that you've got to make" he said. "If you ask me, really good stuff is not the popular stuff, so do you really want to be in that arena? Especially now, it's perfect for guys like me because I can go direct to my public. I don't have to sit there and hope the radio station adds it to the playlist, go and ask them and beg and be nice to the programme director, 'why ain't you playing my record?' You don't have to worry about that now".

Hence, Cybotron music was hardly heard on the radio at the time, it fell to club live DJs to spread the word. Other tracks would receive attention from the album such as 'Alleys Of Your Mind', 'Cosmic Cars' and 'R-9'.

In terms of the sound quality from this new pressing? It's good, very good. There's nothing nasty about the basic sonic qualities of the recording.

Compression is largely absent with upper mids and treble pretty open and clear while bass is punchy and compact in nature. The bass on 'Clear' is nicely dry and clipped while the secondary Kraftwerk-esque percussion offers an attractive layer to the lower frequencies. The soundstage is wide and spacious while the treated vocals provide a welcome complexity to the arrangement.

On 'Alleys of Your Mind' there is sufficient clarity to enhance the staccato percussive effect. Here, the brief silences are as important as the music as they provide punctuation through the track.

"People drop thousands of dollars into records" said Atkins, "but nothing sells a record like a good record. You don't have to do promotion, if it's in the grooves and it's good it's going to sell itself". A simplification perhaps but 'Enter' certainly proved the point.

**PR**



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