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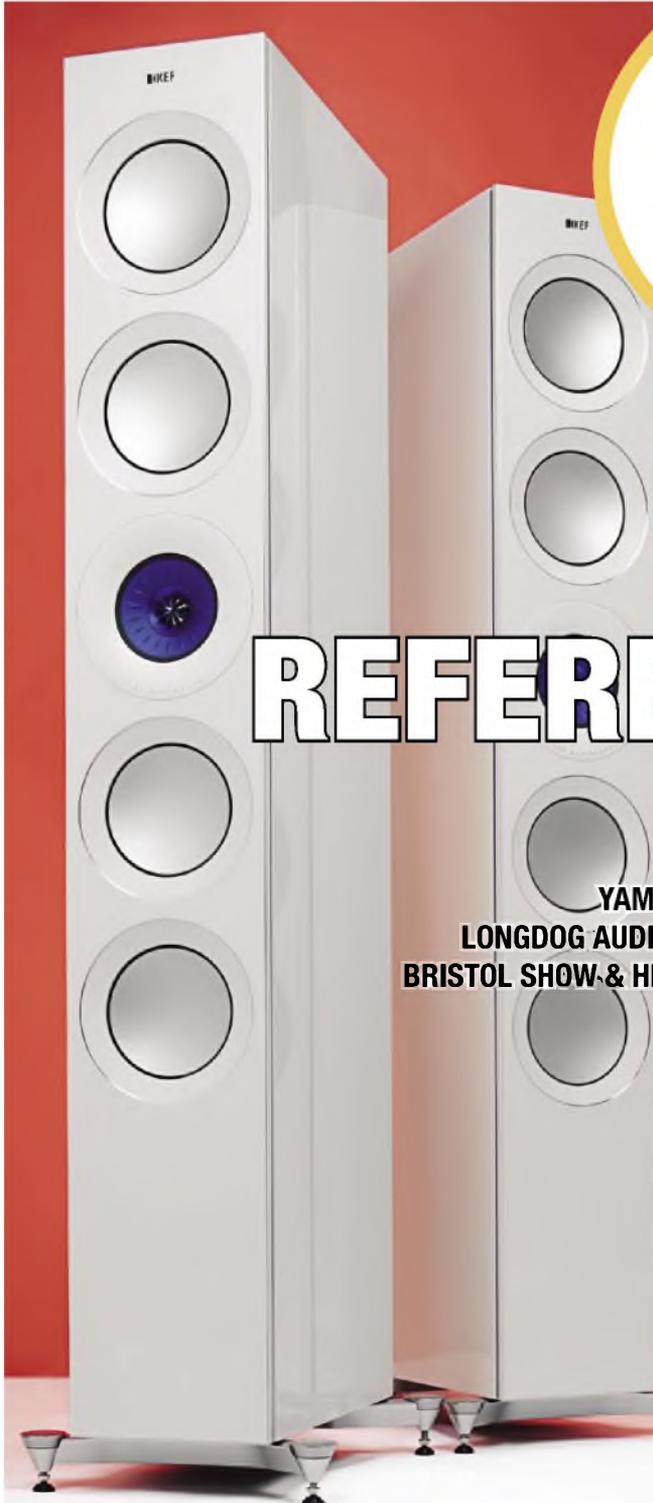


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Paul Rigby, Jon Myles, Martin Pipe



Oppo, we say, are based in the USA – sort of true. In fact, the company is Chinese but it has a base in Menlo Park, California – the heart of Silicon Valley. Silicon Valley does electronics like nowhere else on this planet, attracting the world's top companies, so Oppo have plenty of good company – and one of them is silicon chip maker ESS, based in Milpitas – a stone's throw away (by American distances!).

Their close co-operation with ESS told me that when the latter announced a new range of audio DAC chips in 2016 we would soon be seeing new products from Oppo based around them in 2017. I did my utmost to get their rumoured new Sonica DAC as soon as possible and am pleased it is reviewed by Jon Myles in this issue – see p55.

A product like the Sonica is a great complement to a portable hi-res player, especially one like the new FiiO X5 Mk3 we review on p15. Haul in from a long commute after work, collapse on the settee, wave your portable around and – presto! – you get music from the hi-fi, courtesy of the Bluetooth equipped Sonica. OK, Bluetooth is technically inferior to CD people like to point out, but listen and you'll find the novel compression system it uses has little influence. Optical and electrical connections are available for the full hi-res monty. But streaming is now the big thing – so both units also stream, showing us where hi-fi is heading. This is the cutting edge.

Why bother to quartz-lock your turntable when you can quartz-lock your mains? I never thought of that! But vinyl enthusiast Nick Gorham of Longdog Audio did – and has come up with an intriguing mains regenerator power supply. It holds frequency perfectly, locked to provide 50.004Hz I found. Bet your local power station can't do that, no matter how high the bills. It also stabilises voltage and reduces distortion. See p90 for what I found when using it. It made me a convert to the idea of mains purification and regeneration.

Interesting that audiophiles know all this in any case, as they write in to tell us. There's nothing quite as astute as Hi-Fi World's readers. At which point I'll thank all those that visited us at Bristol's Sound & Vision Show this year, to similarly give us their views. I hope you all enjoy this issue.

Noel Keywood
Editor



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verdicts

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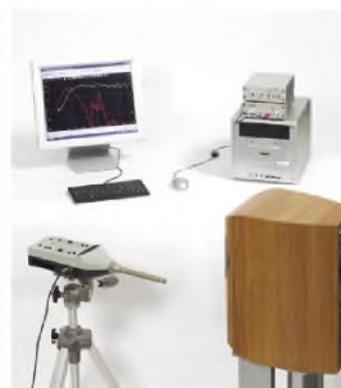
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To ensure the utmost accuracy in our product reviews, *Hi-Fi World* has extremely comprehensive in-house test facilities, and our test equipment - from big names like Rohde & Schwarz and Hewlett Packard - is amongst the most advanced in the world.

Loudspeakers are measured using a calibrated Bruel & Kjaer microphone feeding a Clio-based computer

analyser, using pulsed and gated sinewaves, in a large room to eliminate the room's influence. Pickup arm vibration is measured with a Bruel & Kjaer accelerometer.

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- We listen and measure products in depth, at our London offices.
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MCINTOSH MB50 NETWORK PLAYER

The MB50 is now available in the UK, introducing Wi-Fi music streaming with Spotify and TIDAL support to audio systems in the home, with full DTS Play-Fi app control.

Its compact form factor also makes it ideal for McIntosh's own MXA70 integrated audio system and MHA150 headphone amp.

Music collections stored on DLNA networked devices can be accessed, controlled and played back using the dedicated Play-Fi app, available for Android and Apple devices plus Windows desktop systems. In addition to accessing networked music collections, the app has built-in support for a variety of music streaming services including: Deezer; KKBox; Pandora; QQMusic; Rhapsody; SiriusXM and Songza.

The MB50 can also be used as a preamp. The device offers analogue and digital inputs, balanced and unbalanced analogue output, plus two digital outputs. With source components connected, the MB50 can stream audio to other DTS Play-Fi devices on the network, allowing music stored on physical media to be accessible in any room. Price is £2,750 Click www.jordanacoustics.co.uk or call 01202 911886 for more information.



THE BEATLES 1964 RECORD PLAYER

Pro-ject Audio Systems has teamed up with Universal Music Group to produce a new, Beatles-based, limited-edition turntable.

Based upon the Debut Carbon Esprit SB, it features an Ortofon 2M Red, an acrylic platter, carbon tone-arm, MDF chassis and built-in electronic speed control for switching between playback speeds.

The artwork for the 1964 Recordplayer shows copies of tickets and brochures from the band's world tour beginning in June 1964.

The print was reportedly hard to produce. It was, "...only possible with special techniques. Where multiple layers and surfaces are applied. After the distribution of the ink it is dried out instantly with special ultra-violet lights, to ensure perfectly displayed details and to offer ultimate durability" said the company.

Limited to 2500 pieces worldwide, it is priced at €650.

For more information contact www.henleydesigns.co.uk or call 01235 511166

DEVIALET GOLD PHANTOM

It's reportedly eight times more powerful than the company's Phantom speaker, that's 4,500W of power, 108dB of physical impact with lower frequencies reaching down to 14Hz and up to 27kHz

The Gold Phantom includes a new Titanium tweeter, made of the purest Titanium available – Grade 1. According to the company, "...it has a strength-density ratio among the highest in the metallic elements".

Also included is the Devialet-developed, ADH Intelligence which combines Class A amplification and Class D.

Supporting Bluetooth, AirPlay, Wi-Fi, Spotify Connect, optical and Ethernet, the Gold Phantom is available with an exclusive 22 carat Rose Gold-plated finish. Price is £2,190. You can mount the Gold Phantom on the Treepod (£259), an isostatic base, connected thermally to the Phantom. Watch out for the wall mounted Gecko (£TBA), coming soon. Watch out for our review coming soon. To learn more, click en.devialet.com



AK380: THE NEW STAINLESS STEEL PACKAGE

Astell&Kern has announced a new AK380 wrapper in stainless steel - "a strong, non-corrosive metal that does not easily bend or damage," said the company. Followed by, "a metal that can restore through polishing."

The new AK380 Stainless Steel Package includes both the AK380SS and the PAFI I amplifier in stainless steel as well as a carrying case.

The guts of the device remains the same. There's only 200 examples of this new "non-corrosive" device, though. The price is £4,800. To learn more, click www.unlimited.com



AVM IN THE UK

Based in Malsch, Germany, AVM is owned by managing director Udo Besser. The company has been developing and manufacturing electronic equipment for over 30 years.

The AVM product line-up is extensive, spanning three ranges: Inspiration, Evolution and Ovation.

It consists of pre, power and integrated amplifiers plus CD players, streamers, CD-receivers and all-in-one CD/streamer/amplifiers.

UK-based speaker outfit and independent distributor PMC will be stocking all the categories; from the Inspiration CS 2.2 Compact Streaming CD-Receiver with 165W of amplification and culminating in the Ovation range's SA B.2 stereo power amplifier. All the products feature a minimalist aesthetic design.

To learn more, click www.avm-audio-uk.com or call 01767 686300.



MOON'S NEO MIND

The Neo MiND (which stands for Moon Intelligent Network Device) is now available in the UK. It is constructed within the same casework as the Neo 230, has new features and a performance upgrade over the 180MiND.

Apple and Android smartphones or tablets can be used as a remote control for a Moon system, providing access to music from your computer(s), NAS, mobile devices and various internet-based music services which at launch include Tidal, Deezer and Quboz.

As well as Bluetooth aptX, the Neo MiND outputs a digital audio signal (Toslink, SPDIF, AES/EBU) intended as an input to any DAC.

The SimLink connection allows for control of any SimLink-equipped Moon system. The MiND App can adjust the volume control while front panel LED indicators note the current track's sampling rate and the active input type: network or bluetooth. Housed in a half-size chassis, the price is £1,699

To learn more click www.renaissanceaudio.co.uk or call 0131 555 3922



AMPHION ARGON7LS SPEAKER

The new Argon7LS from Finland's Amphion, incorporates the passive radiator design which is already present in the Argon3S and Argon3LS.

The passive radiator eliminates, says the company, "...the known problems associated with reflex cabinets, where the correct signal is always followed by an unwanted tail".

The Argon7LS uses the company's own crossover design, placed at 1600Hz, allowing the use of the tweeter in that area, "...where our hearing is most perceptive".

Price is €2,250 for standard colours and €2,400 for a Walnut veneer. To find a dealer or more information, visit www.amphion.fi



SOUNDMAGIC ANNOUNCES E10BT

The E10 earphones are now available in wireless form. The E10BT adds connectivity via Bluetooth v4.2 while being machined in one piece within an aluminium housing.

Also included is a Lithium battery, so that the E10BT allows for 10-12 hours of continuous playback.

A handy shirt clip makes the battery unobtrusive and improves the comfortable in-ear fit. You also receive a wide variety of ear tips.

Finally, the three large buttons make it easy to adjust the playback volume, start and stop playback, skip tracks and answer calls. Price is £70.

To learn more, click www.ksdistribution.co.uk or call 01903 768919.

PANASONIC SC-PMX152 AND SC-PMX82

Panasonic has unveiled its latest micro Hi-Fi systems – the all new SC-PMX152 and SC-PMX82.

The SC-PMX152 is the first of Panasonic's CD micro systems to include the new CD High-Res Re-Master function, which allows you to 'up-convert' CD audio to the equivalent of high-resolution audio.

The Bluetooth Re-Master also compensates for any audio signals that are lost due to data compression when streaming Bluetooth sounds.

Both the SC-PMX152 (£549) and SC-PMX82 (£TBA) feature aluminium electrolyte capacitors and metallised polyester film capacitors and a low-noise power supply regulator to reduce clock noise from DSP processing. The system also includes a power conditioner to minimise digital noise from the power supply.

To learn more, click www.panasonic.com/global.



TECHNICS GRAND CLASS SL-1210GR & SL1200GR

Technics has unveiled the new Grand Class SL-1210GR (black) Direct-Drive Turntable System, joining the SL1200GR (silver) edition.

Parts from the SL-1200G were newly developed to create the SL-1200GR and the SL-1210GR, such as the coreless direct-drive motor and motor control technology, platter and tonearm.

The SL-1200GR/SL-1210GR's rotation control, which verifies and corrects the precision of the motor, is the same as the SL-1200G. The aluminium platter sits on a BMC base and uses a two-layer construction with deadening rubber applied to the entire rear surface of the aluminium die-cast.

The SL-1200GR/SL-1210GR platter is 0.8kg heavier than that of the previous SL-1200 Mk5. For more information, click www.technics.com.



VERTERE ACOUSTICS LAUNCHES PHONO-1

Also built in Vertere's London-based workspace, Phono-1 uses hand-selected components to deliver "extreme accuracy" when tracking the RIAA curve.

Phono-1 has "over ten" gain settings for both moving magnet and moving coil cartridges. It also features fifteen resistance and nine capacitance settings for left and right channels, with seven of the latter noted settings designed especially for moving coils and their associated frequency lifts of above 10kHz.

Further key design features include a 3-way phono PCB Ground Management switch. The Vertere Phono-1 MC/MM preamplifier is available now at £1,000.

To learn more click www.vertereacoustics.com or call 0203 176 4888



B&O PLAY INTRODUCES BEOPLAY H4

B&O PLAY has introduced Beoplay H4 wireless headphones utilising lambskin ear cushions, as well as a lambskin covered headband.

The inside of the ear cushion is made of memory foam that adapts to the shapes and curves of the ear, creating passive noise isolation. The ear cup discs are made of aluminium which is stamped and anodised.

Beoplay H4 comes with a simple user interface comprised of three buttons, a micro USB connector and a 3.5mm jack. Press the centre button to answer/end calls, play/pause, press upper or lower button for volume control and to skip tracks, press upper and lower buttons simultaneously to pair your headphones through Bluetooth. Beoplay H4 launches in charcoal grey and is available for £249.

Contact www.beoplay.com/h4 for more details.



HARBETH IS CELEBRATING 40 YEARS

British loudspeaker company Harbeth is celebrating its 40th Anniversary with the launch of two limited editions.

Harbeth's SuperHL5plus speaker and brand flagship the M40.2 are now available in a walnut veneer with some added features including the latest WBT-nextgen binding posts, a new-look super-tweeter with protection bar and British-made audio-grade poly capacitors.

Each speaker will include the Harbeth 40th Anniversary limited edition front and back badges and a new magnetic anniversary grille badge.

To learn more click www.harbeth.co.uk

IDLE HANDS' VINYL STORAGE

The Jex Vinyl Stand (which holds 20 LPs at a time) stems from Kieran Meegan and Rickie-Lee Robbie. They are the creative minds behind Idle Hands a furniture and product design workshop based in Melbourne, Australia.

Idle Hands began as a creative experiment for the pair who sought to combine Kieran's boiler-making skills from years as a shipbuilder, with Rickie-Lee's command of space and line as a printmaker. Normally priced at \$120, the stand can be yours for a special limited price of \$89 (plus shipping). To learn more, click www.idlehands.design.



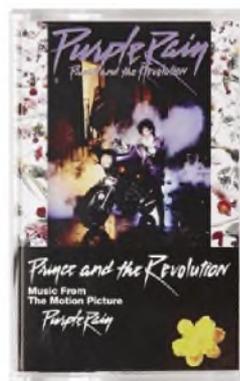
CASSETTE TAPE SALES SOAR

The real analogue story of this year (so far) is the growth in sales of the cassette tape.

Apparently, cassette album sales in the USA grew by 74% in 2016 with 129,000 copies sold (up from 74,000 in 2015) according to Nielsen Music.

So what's going on? Well, there's been several 'specialty' releases of late including cassette issues via Justin Bieber, The Weeknd, Eminem and Prince. The new cassettes typically come with a code for a digital download of the album. Twenty-five albums actually exceeded 1,000 cassettes sold last year which is good going while the 'Guardians of the Galaxy: Awesome Mix Vol. 1' soundtrack, actually reached 4,000.

Urban Outfitters (www.urbanoutfitters.com) has been a major force behind cassette releases (they're responsible for 21% of cassette sales alone) releasing a swathe of titles such as the soundtrack to 'Star Wars: The Force Awakens'.



SME

MODEL 15



Experience a New Dimension in Sound

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

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High Fives!



A point-source Uni-Q driver, four bass units and a 55-inch tall cabinet - KEF's Reference 5 loudspeakers demand attention. Jon Myles puts them to the test.

KEF's Reference series has a fair claim to be one of the most iconic brands in British loudspeakers. It's hard to believe that the first product actually arrived way back in 1973 with the Model 104 - which its engineers could proudly boast was the first transducer to have been designed with the then pioneering use of computer-aided design.

Look at a 104 now and it looks decidedly old-fashioned - but the Reference series lives on and is still a mainstay of KEF's range. Today it comprises three two-channel models - the Reference 1 standmount, Reference 3 floorstander and the flagship Reference 5 under review here.

Common to all three is the use of KEF's Uni-Q mid/high frequency driver. This places a 25mm vented aluminium dome tweeter in the centre of a 125mm midrange unit so together they act as a single source point - which, in theory, improves stereo imaging. In its latest iteration the Uni-Q also uses a proprietary Tangerine waveguide which sits in front of the tweeter and is aimed at controlling break-up modes, as well as providing an element of gain at certain frequencies to aid the integration between the mid and treble.

Where the trio differ, however, is in the size of their cabinets and the accompanying lower frequency drive units. The £10499 Reference 5 reviewed here is the largest,



The latest iteration of KEF's well-regarded Uni-Q driver places a 25mm vented aluminium dome tweeter in the centre of a 125mm midrange unit so together they act as a single source point.

measuring 55" x 13.7" x 18.5" (H/W/D) when on the plinths. There are four 165mm aluminium bass drivers, arranged in a D'Appolito configuration - two above the Uni-Q array and two below. All are fixed to an exceptionally rigid baffle, constructed from a laminated aluminium and resin composite.

Like all the Reference models the 5s use KEF's well-designed 'speaker cable binding system on the rear where instead of jumper links, two large, silver rotary controls are employed. Simply turn them fully to the left to accommodate bi-wiring or the right for single-wire. The only drawback is you cannot fit your own jumpers (as I often like to do as it can make a difference) but in terms of convenience it cannot be criticised.

Also on the rear are two bass reflex ports on each loudspeaker which can be tuned with KEF's supplied tubes. There's a long one which extracts deeper bass while the shorter alternative brings a faster sound with a little less low-end extension but better damping. It's a clever idea which helps with flexibility in terms of room positioning and individual listening tastes. I'd suggest the long ports are likely to be preferred with the 'speaker near rear walls with the short ones preferable when they are further out in the room.

Not surprisingly, the Reference

5s are also massively constructed with comprehensive bracing inside the cabinet and heavy steel outrigger platforms for the spiked feet. Fit and finish is superb, our review samples coming in a classy Ice White finish with a blue coloured Uni-Q driver. Other finishes include Piano Black, Satin American Walnut and Luxury Gloss Rosewood.

SOUND QUALITY

I'd been impressed by the £7499 KEF Reference 3 floorstander earlier this year (see Hi-Fi World January 2017 issue) - and the larger Reference 5 shares all of its attributes. It is clean,

clear and admirably accurate.

What the Reference 5 does, though, is add an extra element of punch to the sound - digging deeper in the bass without losing any of the sophistication of its smaller sibling.

They are large 'speakers but the slim front profile means they also manage to disappear sonically in the manner of smaller standmounts, music floating free of the cabinets.

Used with a McIntosh MC152 power amplifier I was immediately struck by the resolution they brought to Mitsuko Uchida's piano notes on Debussy's '12 Etudes'. There was a palpable sense of power to the lower notes, a lifelike impression of hearing a real instrument in the room. The flow was also natural, with no sense of any artifice being added.

This quality extended into vocal reproduction. On Johnny Cash's heart-rending rendition of 'Hurt' the age and emotion in his voice came through clearly while beneath that the acoustic guitar had resonance and body. What I was hearing was a rounded, measured presentation of this track - nothing added but certainly nothing taken away.

Moving on to something a little more complex and electronic-based with the pioneering techno classic of Juan Atkins' 'No UFOs' the Uni-Q driver came into its own. This track sprays studio effects left and right to create an enveloping soundstage but also features a deep bass which can overwhelm the definition with smaller loudspeakers. Not, though, with the KEFs.

Everything was exceptionally well-layered - drums, sampled vocals and synthesizers bursting from one side to the other to keep the attention gripped. And the low-end was controlled enabling the 'speakers to present the full panorama of the sound.

This was with the smaller, grey, tuning ports inserted. Switching to the longer black variants and listening to the same track again the bass took on a deeper nature but seemed a little more diffuse. That said, some might prefer this presentation so the option is nice to have.

What the Reference 5s do demand, though, is careful auditioning. They are essentially neutral and free of artificial colouration which, compared to some other loudspeakers which are tuned differently and have colour, might initially make them sound a touch bland. So, if you want exaggerated



The rear of the KEF Reference 5s features two reflex ports which can be tuned for bass extension with supplied annular inserts.

bass or treble for an initially exciting sound perhaps look elsewhere.

But if you are in the market for a quality loudspeaker that presents music exactly as it is, then the KEF Reference 5s could be just what you are looking for.

CONCLUSION

The Reference 5s are an excellent pair of floorstanders with a sound

"Everything was exceptionally well-layered - drums, sampled vocals and synthesisers bursting from one side to the other to keep the attention gripped"

that repays long-term listening. Other loudspeakers may sound more exciting initially but can quickly tire you with exaggerated bass or treble. The KEFs, by contrast, give

an accurate portrayal of the music. Their sensitivity also means they will go loud with even low-powered valve amplifiers in big rooms. That Reference name is well deserved.

Different port inserts allow them to be tuned. The longer, black insert brings deeper bass while the shorter, grey alternative brings a faster sound with more damping.



The loudspeaker connection panel features KEF's innovative selection method - turn the centre controls to the left for bi-wiring or the right for single-wire. Clever and convenient.



MEASURED PERFORMANCE

Our third octave analysis of pink noise, shown here, reveals an unusually flat and smooth frequency response across the audio spectrum, from 30Hz to 20kHz. The flatness and – especially smooth treble free of peaking – mean the KEFs will come across as tonally neutral in their balance – neither bright nor warm in other words. A very slight roll down at the top end (above 10kHz) will ensure no attention is drawn to extreme highs, usually a sign of easy treble.

The smoothness of the trace comes from an absence of small local resonances that add colour; smoothness like this means a colour free sound.

Bass frequencies are not emphasised so the big KEFs may sound quite restrained relative to expectations. Output rolls off steeply below 30Hz but is well maintained above that point so deep bass is reproduced, but not sub-sonics below 20Hz, which I think is wise to avoid cone flap from LP (due to warps).

The port options give lowest bass (30Hz) from the long black insert tube,

and slightly different levels of damping from the grey tubes tuned to 40Hz. My choice is always best damping for cleanest time domain progression and this is supplied by the light grey tube.

As a load the Reference 5s are demanding. They are strict 4 Ohm loudspeakers, meaning they draw current from an amplifier, and this highlights amplifier differences. But there is no reactance; the load is resistive and will not return energy to the amplifier. All the same, amplifier matching is made more critical by current draw.

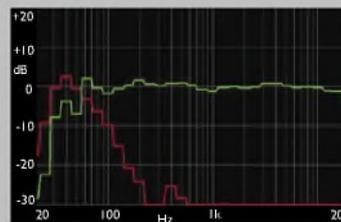
Sensitivity was a massive 91dB sound pressure level from one nominal Watt (2.8V) of input. So for any volume control position, the Reference 5s will be massively loud – as loud as Tannoys. They will suit valve amplifiers with 4 Ohm outputs especially, a 20 Watt amplifier being easily enough in most homes. Transistor amps of 20W-40W maximum are enough for huge levels in big rooms.

The KEF Reference 5s are sophisticated in measurement terms. Smooth,

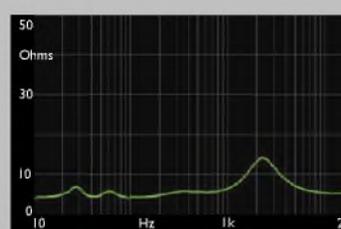
even and sensitive they tick all the boxes. Amplifier matching needs attention though. NK

FREQUENCY RESPONSE

Green - driver output
Red - port output



IMPEDANCE



KEF REFERENCE 5
£10499



OUTSTANDING - amongst the best.

VERDICT

Admirably accurate and neutral, these KEFs will suit those who like to hear their music as it should be.

FOR

- accuracy
- deep bass
- detail
- tuning options

AGAINST

-need careful amplifier matching

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The X Factor

FiiO has updated its X5 digital audio player – and it sets a new standard, says Jon Myles.

You have to hand it to FiiO. In the last few years they have virtually reigned supreme in the low cost/high performance sector of the portable high-resolution digital audio player (DAP) market.

I still regularly use one of its X1 units when out and about.

It's robust, easy to use and more importantly has exceptional sound for just £99.

However, the company has never rested on its laurels, regularly bringing out new models with updated specifications and extra features.

The latest is the new iteration of its mid-market player in the shape of the X5 Mk3 costing £390 and boasting an

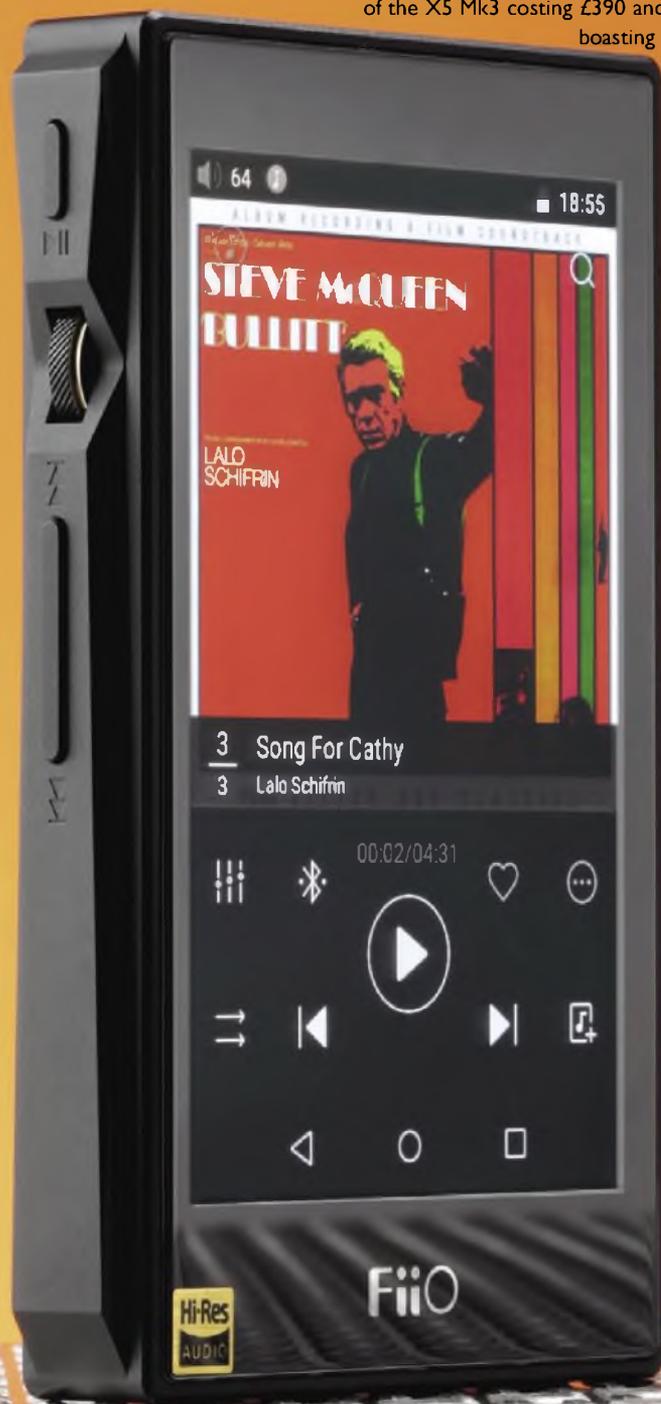
impressive specification. Inside it uses two AK4490EN DAC chips, supports DSD, file sizes up to 32 bit/384kHz and brings Bluetooth 4.0, Wi-Fi connectivity, DLNA compatibility and 32Gb in-built storage. That storage, though, can be boosted with microSD cards. There's two slots which are opened with the supplied tool in a similar fashion to the SIM card slot on an iPhone which means you can add 512Gb to the equation. Oh, and if you ever lose the tool a paper clip will do the job just as well.

On the outside it's a fairly stocky unit measuring 66.2mm x 114.2mm x 14.8mm and weighing in at 186g. The front is dominated by its touch screen display while all the inputs and outputs are on the bottom. These consist of a 3.5mm stereo unbalanced headphone output, micro-USB charging and data transfer connection, 3.5mm fixed line-out/digital coaxial output as well as a balanced headphone output in the form of an additional 2.5mm TRRS output beside the unbalanced port.

I'm still a little sceptical about the benefits of the latter as there are not a great number of commercially available cables in the UK to take advantage of the feature - but it is becoming a standard feature on many mid to high-end DAPs.

In another upgrade, FiiO has equipped the new X5 with Android 5.1 (Lollipop) software which allows users to download apps if desired. More conveniently, there's also a Pure Music mode which does just what it says - presenting you with albums, playlists, genres and all your other playback options in a simplified interface. This was how I used it for the majority of the review period.

One drawback with the use of Android 5.1 is that the boot time is fairly long - around 45 seconds on average (my X1 is up and running in half that). However, once launched the X5 Mk3 is fast and responsive



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John Myles, HiFi World

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

Jeff Dorgay, Tone Audio

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

Mono & Stereo



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with little delay switching between music files. The screen is also nicely vibrant giving a good rendition of album covers.

Buttons on the side allow access to play/pause and previous/next track and between them sits a knurled volume knob.

In terms of playback settings there's a 10 band equaliser covering a fairly broad range from 30Hz to 16kHz with a 6dB + or - in either direction in terms of dedicated band boosting. There is also the option to create custom presets or pick one of FiiO's own which include pop, rock,

'She's Lost Control' via the K10s the multi-tracking effects could be clearly heard - but also important was how this player punched the track along. It has a sense of timing not always heard in DAPs.

My K10 in-ear custom 'phones, with their 10 drivers per side, highlighting anomalies and can be ruthlessly revealing of lower-priced portable players. Yet, with even testing material such as Philip Glass's 'Koyaanisqatsi', there was little to criticise in terms of dynamics and clarity here. The choral elements, especially, came over with tremendous power, but every element of the piece was easy to track, individual instruments clearly picked out.

It's a measure of how rapidly the portable digital audio player market is evolving that not so long ago this sort of audio quality would have cost a good deal more.



Two SIM card slots allow for memory expansion. The trays are ejected with the supplied tool similar to the method used by Apple with the iPhone.

CONCLUSION

The FiiO Mk3 DAP sets a new benchmark in terms of sound quality for digital audio players at this price point. In sound quality it is detailed and assured, with excellent resolution, bringing a better sense of pace and rhythmic control than earlier FiiOs. It also has a wealth of features built into its Android Lollipop operating system. I found it good enough to be paired with the finest headphones you can afford: this is a high-end player at a reasonable price.



The side of the FiiO contains rocker switches for play/pause and previous/next track as well as the knurled volume cotton.

dance, blues, metal, vocals, classical and jazz. There's also the option to choose sharp or slow roll-off filters - although in practice the difference this makes is very subtle.

Do note there's also a software update which we loaded (FW1.1.2) that adds a number of features including customising the default album art image and improved auto-searching for lyrics or album art as well as some minor bug fixes.

SOUND QUALITY

FiiO DAPs have traditionally been warm, rich and smooth sounding. Added to that here is an added dose of dynamism which is similar to that of some of Astell&Kern's models.

Listening through both a pair of Noble Audio's custom-fit K10 in-ears and Focal Elear over-ears there was a fulsome low-end with natural-sounding mid-range and a treble that, while clear, was never too brightly etched or harsh.

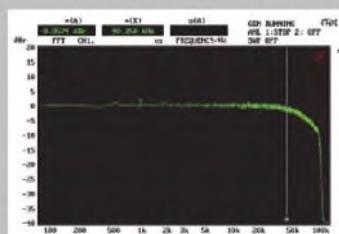
Playing Polar Bear's 'Held On The Tips Of Fingers' (24/96) the acoustic bass through the Elears was punchy but the notes stopped and started free of overhang. Saxophones also had a realistic tonality while there was nice crackle and snap to the snare drum.

I was struck by how much detail the FiiO could unearth from individual tracks. With Joy Division's

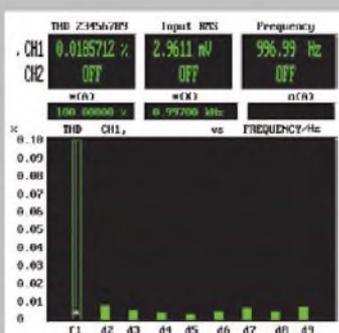
MEASURED PERFORMANCE

Frequency response of the FiiO X5 Mk3 measured flat to 40kHz with the wideband Sharp Roll-Off Filter, our analysis here shows. Selecting the Super Slow Roll-Off filter made little difference, reducing the -1dB bandwidth point to 35kHz. This is not enough to be audible in use and the time delay filters made little difference too. The audible impact of wide bandwidth is usually minimal, slower filtering commonly offering a better damped time domain impulse result.

FREQUENCY RESPONSE



DISTORTION



Headphone output measured 3V, more than enough to drive even insensitive headphones (magnetic planars) loud.

Dynamic range measured a high 117dB, not as high as the Cowon Plenue S (120dB) for example, but still very good in absolute terms.

Distortion measured 0.0017% at full output (0dB) and a low 0.018% at -60dB with 24bit, and 0.22% with 16bit - both very good figures. Our distortion analysis shows a complete absence of distortion products.

Line output delivers 2V fixed - the same as a CD player - and performance figures were identical to headphone output.

The Balanced output, via a 2.5mm 4-pole socket, gave 2.95V out and has volume control, so it is purposed for headphones. Performance figures were a little inferior to Headphone and Line however, with 0.04% distortion at -60dB and mediocre 111dB dynamic range.

The X5 Mk3 measured well in every area and - with high dynamic range and low distortion - will give fine sound quality. NK

Frequency response	5Hz-40Hz
Separation	102dB
Noise	-116dB
Distortion	0.018%
Dynamic range (24bit)	117dB
Output	3V

FIIO X5 MK3 £390
OUTSTANDING - amongst the best

VALUE - keenly priced

VERDICT
 Brilliantly musical DAP that sets the standard for portable players at its price.

FOR
 - sound quality
 - price
 - features

AGAINST
 - slow start-up

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This fruit's not forbidden

Martin Pipe samples the Raspberry - a quirky but good-sounding USB microphone from Blue

You might not have heard of Blue, unless you have some creative involvement with music or recording, as the Californian firm's key products – microphones – are unlikely to be encountered

during normal listening. Unless, that is, you enjoy some of the music that was captured with a Blue microphone in the recording studio or monitored with Blue headphones at the mixing desk. Among the artists using Blue gear are the Las Vegas

rockers Imagine Dragons (who apparently slept on the floor of Blue's own studio while working on demo recordings), percussionist Satnam Ramgotra, early '90s alt.rockers Art Alexakis, sound engineers Derek Steinman and Terry Jackson, singer/songwriter Gallant, mixer Ron Reese, producer BT and British junglist and EDM producer DJ Rap.

Some of the innovative and stylish Blue mics they use (notably the tube-preamplified Bottle, which is supplied with four capsules – 'Bottle tops' – of different characteristic) are rather expensive, as you might expect from equipment that's designed to withstand the rigours of professional use. It has to be robustly-

built, capable of high performance and utterly reliable. But one of Blue's most successful lines has been the cute (and affordable) 'Snowball' USB microphone, which was – with a little encouragement from Apple – designed with GarageBand-type home-recording in mind. A more recent addition to the range is the inexpensive Yeti, a stereo USB unit with a switchable pickup pattern. And now we have the Raspberry, a mono USB microphone that's aimed primarily at podcasters and amateur musicians. It's supplied with a stand that has soft feet to isolate it from the surface it's placed on. As an alternative, it can be screwed onto a standard stand.

The Raspberry has a distinctly 'retro' appearance. But rather than a fragile ribbon suspended between two heavy magnets, the Raspberry is based on modern technology. As with other Blue products, it relies on a condenser microphone capsule. Blue wouldn't give us details on this and there doesn't seem to be any easy way of opening up the Raspberry for inspection – and so its secrets remain safe! But ultimately the microphone's 37mm width is going to dictate the diameter of capsule that can be accommodated.

Blue claim that the Raspberry's capsule has been developed from its studio models. It works in conjunction with something called an 'internal acoustic diffuser (IAD)', which resembles the acoustic treatments you'll find in studios and concert halls – but on a much smaller scale. A Blue spokesperson explains its purpose: "By diffusing noise and reflections as they enter the microphone, IAD focuses your voice or instrument - while



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bowers-wilkins.com



Decoupled Double Dome tweeter



minimising the sound of the room". Clever stuff.

There's also a preamplifier, an analogue to digital converter (working at 24-bit resolution and a sampling rate of 48kHz, which is good enough for the likes of BBC Radio 3!) and the USB 2.0 interface. The preamp's gain can be adjusted with a knob on the right side of the case. But that's not all. Around the back is a headphone socket – yes, the Raspberry contains a USB DAC for playback of your ongoing recording project, and a headphone amp designed to work into a 32-ohm load. This should give much better results than the soundcard built into PCs and mobile devices. The signal from the microphone is also fed to the headphone amplifier, for 'no latency' monitoring purposes – if the audio from the microphone is intrusive, its level can be turned down to zero with the aforementioned knob. On which subject, a second knob on the opposite side of the case adjusts headphone level.

As regards compatibility, the Raspberry can be used directly with iPads and iPhones (a Lightning cable is supplied). A standard USB cable allows it to be used with conventional Macs (MacOS X 10.7.5 being the minimum requirement), and PCs running Windows 7 (or higher). It's 'plug and play', meaning that no drivers are supplied. It will however work with USB OTG (OnTheGo) compatible Android devices, although no OTG cable is supplied and no mention of it is made in the documentation. When pressed on this issue, the Blue team told me that "after comprehensive testing", they have "confirmed compatibility with Android devices and will be updating the web, packaging and manual to reflect this compatibility with an OTG cable".

On the front of the mic is a green LED to indicate that the Raspberry is powered up. It flickers amber to indicate peaks - handy for rough setting of the level control.

PERFORMANCE

It's easy to configure Audacity to work with the Raspberry – simply select the 'Raspberry' devices in 'Playback' and 'Recording' (as this is a mono device, set 'Channels' to '1 (Mono)'). Then recording can begin.

First of all, speech. Speaking at a distance of a foot or so (for 'close-miking', you'll need a 'pop' filter) and adjusting the sensitivity



The rear of the Blue Raspberry showing the headphone socket (centre) above the micro-USB port. On either side of the case the controls are microphone and headphone level controls. Note that the base can be unscrewed and replaced by a stand.

accordingly, I was rewarded with a clear, open and tonally-balanced presentation.

Indeed, in sound-quality terms it's comparable with the advertising voiceovers and continuity announcements that you hear every day on radio. Pretty good, considering we're talking about a microphone that sells for less than £200.

The cardioid response of the capsule (and, one assumes, the virtues of IAD) helps to minimise pick-up of unwanted background noise – furthermore, the preamp itself is quiet.

But ideally you should always record in the quietest environment available; the Raspberry could pick up fan noise from my desktop PC (about three feet away). Naturally, if you're using a fanless device – like an iPad – then this won't apply.

The telling 'jangling keys' test demonstrated a good high-frequency

response but some harshness could be heard. In all fairness, though, few recording chains emerge from that unscathed...

Acoustic guitar also fared very well, the Raspberry's neutral character again being evident. Plucked strings (and, for that matter, handclaps) revealed the Raspberry's dynamic potential and ability to deal with transients, while subtleties like 'chatter' are comfortably resolved. I then tried using the microphone outside, using a laptop, to investigate its sensitivity.

With the level turned up to maximum, the Raspberry did a reasonable job of picking up ambient sound like distant traffic, early-morning birdsong and passing airliners (admittedly a task it wasn't designed for) although pre-amp hiss can intrude during periods of quietness. Sometimes, you might need to work 'on location'; in any case, working outside has its advantages when conditions are right; the acoustics of an open-air environment may be preferable to those indoors. I'd recommend packing a windshield (one with inner dimensions of 38mmx38mm or so should fit) for outdoors use, though.

Playing music stored on the PC, the DAC/headphone amplifier is reasonably-detailed and tonally-balanced although it's lacking in terms of drive – well, it is limited by the 5-volt USB supply.

Bear in mind that £199 will also buy a self-contained 'sound camera', from the likes of Zoom or Tascam, which is capable of stereo or multichannel audio. These units record directly to SD cards, eliminating the need to cart around a computer, and also have inputs for more specialised microphones.

However, the Blue Raspberry is an easy-to-use and practical performer that succeeds exceedingly well in what it sets out to do.

CONCLUSION

On the whole, the Raspberry is an interesting and worthwhile device. If you send private 'audio letters' as e-mail attachments, regularly make podcasts or want to add narrations of close to professional standard to your home movies, it's worthy of consideration.

The Raspberry can also make more-than-acceptable recordings of acoustic instruments (certainly guitars).

**BLUE RASPBERRY,
£199**



OUTSTANDING - amongst the best.

VALUE - keenly priced.

VERDICT

A good-looking, easy-to-use, robust and well thought-out mono USB microphone that will add fidelity to your podcasts.

FOR

- very easy to use
- robust, compact and practical
- detailed and tonally-balanced sound

AGAINST

- DAC section rather quiet
- microphone is mono
- no control over pickup pattern

Blue Mic
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More The Merrier

Jon Myles goes on the road with a value-for-money in-ear headphone from Far East company 1MORE.

MORE may be a new name to many UK headphone enthusiasts but they have been making waves in America and on internet forums over the past two years.

The company was founded by Gary Hsieh – a former senior management figure at Foxconn, the Chinese giant which manufactures products for Apple amongst many others.

Their aim was to produce audiophile grade headphones that don't cost a fortune. I first came across the brand at last year's Indulgence hi-fi show in Hammersmith, West London. An (albeit brief) listen to some of their products plus a look at the prices was enough to request a thorough audition of the E1008 model.

It's an earbud that features two drivers – one multi-layer ceramic for high frequencies and the other metal for bass and midrange. The 1.25m cable is sleeved in Kevlar with an L-shaped 3.5mm plug for connection to devices and its in-line remote works with both Apple and Android devices. As in most dual drivers the high frequency unit sits in a housing straight in front of the mid/bass.

Quality of construction is excellent with the E1008s featuring sturdy connections that extend between the cable and the earpods themselves, so pulling them in and out of pockets will not strain the

connections. The cable also is tangle-free – another plus point – while the earbuds themselves have a classy gold-effect finish. For £89.99 it is impressive both in terms of drivers and build.

At 18.5g they're comfortable to wear and the cable was free of any microphony when walking about.

SOUND QUALITY

The E1008s benefit from some running in. Straight out of the box they were good but nothing exceptional. Highs, especially, seemed a little muted. Some two weeks on, though, they really came on song – revealing themselves as a sweet, balanced performer.

On the end of the new FiiO X5 Mk3 (see review this issue) there was a natural nature to their presentation. On The Killers' 'Mr Brightside' (24/96) the guitar has just the right amount of bite with the pounding bass and drums coming over forcefully. There's good instrumental separation to boot.

Creditably these earphones have been engineered for a fairly neutral balance so you don't get artificially boosted low-end or over-emphasised treble. The former may not please those who listen to a lot of bass-heavy dance or dub music but for everyone else it

means you get an accurate representation of exactly what's on your player. They are also detailed enough to reveal the quality differences between various devices. Playing The Smiths' 'The Queen Is Dead' through the FiiO there was more drive than with the same track on an iPhone 7 Plus, the layered guitar parts coming over with more clarity and Morrissey's voice having a richer, more growling quality to it.

CONCLUSION

At £89.99 the 1MORE E1008s are an impressive pair of in-ear headphones that could go head-to-head with many models costing up to £150. Smooth, detailed and neutrally balanced they are capable enough to be paired with up-market digital audio players. Add in their fine build quality and you have a svelte in-ear phone at an affordable price.



1MORE E1008
£89.99



OUTSTANDING - amongst the best

VALUE - keenly priced

VERDICT

Well-built and clean sounding with a detailed presentation that belies their price point makes the E1008s a bargain buy.

FOR

- balanced performance
- accurate bass and treble
- build quality
- price

AGAINST

- nothing at the price

1MORE
www.uk.1more.com

*'The REFERENCE 3s
were powerful and punchy,
detailed - and totally enjoyable.
Outstanding - amongst the best.'*

KEF REFERENCE 3,
Hi-Fi World,
January 2017



THE REFERENCE By name, by rights, by feats.

Once in a generation we design and hand build loudspeakers of such stunning quality they set the standard by which all others are measured for years to come. THE REFERENCE, for connoisseurs who demand uncompromisingly accurate yet musical sound, capturing the full emotional range, depth and detail of the original performance.

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SUPERB STANDMOUNT
LOUDSPEAKERS
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GIVEAWAY!**

Here's your chance to win the superb Epos K1 loudspeakers. Read the review excerpt below and answer the questions.

"The K1s are a two-way bass-reflex design housed in a 185 x 226 x 295mm (W/D/H) MDF cabinet.

The cabinet feels uncommonly rigid and inert – thanks mainly to a new internal bracing and damping arrangement aimed at reducing cabinet colourations to new lows for

Epos.

Secondly, there are no visible fixing points for the 25mm soft dome tweeter and 150mm polypropylene mid-bass driver. Instead they are clamped internally to the rear of the baffle which Epos claims helps reduce unwanted vibrations. It also gives the K1s an extremely clean look with the fascia smoothly encircling the two drivers to the edge of their surrounds.

In addition the K1s also use forward-firing high-velocity slot ports to give more flexibility with room

placement – especially for those who need to mount the 'speakers close to a rear wall.

There's also a removable rear baffle – which might not strike you as too important at first until you consider the K1s in-built upgrade option.

Twin sets of terminal binding posts allow for bi-wiring if you require, while both painted white or black finishes are available with a real wood veneer option on its way".

For a chance to win this great prize, just answer the four easy questions at right. Send your entries on a postcard only, by 11th May 2017 to:

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

QUESTIONS

[1] What bass system do they use?

- [a] bass-reflex
- [b] infinite baffle
- [c] isobarik
- [d] active powered

[2] The tweeter is –

- [a] a ribbon
- [b] a titanium panel
- [c] a 25mm soft dome
- [d] a beryllium hard dome

[3] Are the ports –

- [a] tubular
- [b] circumaural
- [c] square
- [d] forward firing slots

[4] The bass driver is –

- [a] 12in paper
- [b] 125mm alloy
- [c] 150mm polypropylene
- [d] 130mm flat panel

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- MULTIPLE ENTRIES WILL BE AUTOMATICALLY DISQUALIFIED
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LETTER OF THE MONTH PRIZE



QUADRAL MERIN

<http://www.quadral.com/en/loudspeaker/merin>

Visit our website at www.hi-fiworld.co.uk or send your emails to letters@hi-fiworld.co.uk. Letter of the month wins a pair of Quadral Merin loudspeakers.

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

For more advice see Letters from earlier issues at www.hi-fiworld.co.uk/letters

A pair of QUADRAL RHODIUM 200 loudspeakers are on their way to Paul Goodwin, Letter of the Month winner in our April 2017 issue.

Letter of the Month

MAINS MOVE

With two pages of the Feb 2017 issue open before me, it's time I finally wrote that letter of appreciation to HFW, which I have loved over the years. I can expect to see valve virtues being touted, old-fashioned sized speakers being regularly reviewed, and plenty of other useful digital and analogue reviews and information presented in an entertaining way!

I know that Tannoy's will almost always be appreciated (my largest are restored Ardens), valves and McIntosh being appreciated (an MC275 here), and a host of variously great ideas. The pages I mention are from your Letters section, and discuss two topics recently relevant to me: digital audio and power supply improvement

Your note about the AirLink Transformers power supply which, apart from its added noise filters, essentially moves the earth to symmetrically between the phase and neutral unlike our lopsided supplied mains, prompted me to finally bite the bullet and buy a unit. In my case I bought the 3kVA model which I think is the largest you can run off a standard wall socket. I got this model in mind of the possibility of higher power demand in the future, though I believe running a larger core



CHEVIOT

ARDEN

EATON

"Tannoy's will almost always be appreciated – my largest are restored Ardens" says Dr Richard Barton. Well, Tannoy are bringing back the 1970s Arden – that's it at centre, complete with 15in Dual-Concentric drive unit. We hope to review them soon.

well under peak power spec gives me leeway for peak demands without nearing flux clipping etc in the toroidal core.

I also thought the cost was reasonable, given the appalling prices charged for similar units both in the UK and the USA - naming no names! The price paid here is a slightly industrial look, but for under £500 rather than upwards of £3500, this is a more-than-

fair trade-off. Do be aware though that the AirLink website quotes all prices ex-VAT and its only at the final page you get to explicitly see the consequences of this.

I am still to properly assess the effects of this unit but as we are in the process of a house move and a top candidate house has 5kW of solar panels and a (surprisingly small) switching convertor present, so the

PSU could well be doing more work than I had anticipated and by the way, does anyone know about the audio consequences of these solar panel coupling switch-mode units being connected into your home power supply?

I am also guessing some system components being supplied by the balanced PSU and some not e.g. Quad speakers powered on normal mains, the rest balanced, or the player monitor powered direct from mains but the player supplied balanced - will be fine, as an earth is still an earth?

The other item on the same pair of open pages mainly related a method for quality ripping of CDs to e.g. FLAC, with error-correction and jitter-related reasons why this can often sound better than the CD itself, even on a top player. My epiphany on this was about 3



AirLink Transformers 3kVA balanced mains supply with noise filters. "A slightly industrial look, but under £500".

weeks ago, so let me explain. Over the Christmas sales I was watching various hi-fi items getting cheaper and in this case the Richer Sounds price for a Cambridge CXU player kept dropping from its original £900, such that by the end of the first week of January, after a very brief audition, I bought one for £500. It seems a great buy.

The reasons I bought this unit were that (1) everyone seemed to like the sound, and (2) - a big reason - it had a volume control on the remote! Yes I know it seems silly, but after several years of adjusting the volume using the 2 pots on my MC275 MkIV and the preamp pot on my custom Monaco-based home-made sub, I really wanted something more user-friendly for myself and others. This is because I drive the sub and main amp directly from a splitter on the player output with no preamp at all. My lovely Sony XA5400ES although it plays almost any format (but not HDCD) and sounds lovely, has no volume control - either analogue knob or remote.

I had considered the Oppo BDP-105EU for a while, but as I have a separate home theatre anyway, the large price break for the Oppo meant the Cambridge won the day (and if you want to play DVDs, the CXU still has Darbee, etc). Anyway, seeing the very useful notes from Mark Douglas on CD ripping, it suddenly occurred to me that as the CXU has a USB port on the front panel, I could join the 21st century at last and trial some non-CD digital recordings directly.

The space advantage was also a thought, as I have approaching 3000 CDs, and carrying a selection of these about would be far easier on a USB key. To cut to the chase, within a week I had ripped my first CDs per Mark's instructions, and bought my first high-res recordings online. Both FLAC and DSD were trialled, and later even an MP3, the somewhat bizarre Matt Mulholland Recorder by Candle Light version of My Heart Will Go On. The CXU cheerfully played all formats from the 2 USB keys I trialled and so I'm away, except I guess from audio lore, I should probably find USB keys which do not have LEDs to flash!

It's a bit disconcerting to see the size of the DSD files, one 10-track sampler was well over 2GB, but USB and SSD storage is cheaper and cheaper these days. An unexpected bonus of the CXU was that some Reference Recordings disks I have suddenly registered themselves in HDCD format and played as such, so finally, I am listening to the sound as RR originally intended! Many thanks for kicking me off on these two technologies.

My last thankfully shorter point relates to your Opinion page in the April edition, talking about SME, of which I still have a couple of their arms. I loved your Alastair Robertson-Aikman eccentricity notes, and by coincidence, at the Audicjumble last month, I was discussing with Alan Jones the configuration of AR-As stacked Quad ESL63s. What you didn't mention in your notes



The latest Triumph motorcycle is a stylish retro. Will old style loudspeakers become popular again?



The Emerald Physics KCII open baffle loudspeaker, one of many now appearing in the 'States.

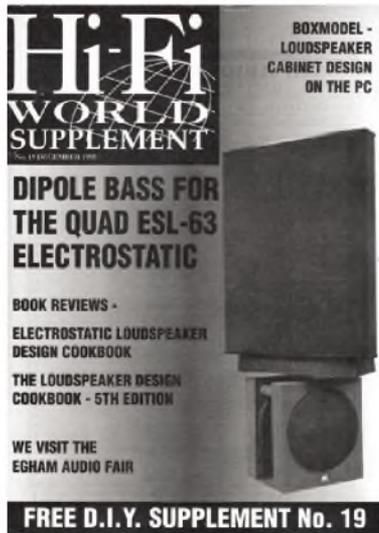
is that the top pair of the stack are placed at right angles to the lower pair, facing the side walls. Alan and I discussed possible reasons for this, mainly relating to the way dipoles drive rooms at lower frequencies, and we speculated, with doubts, as to what the phase relation was between top and bottom Quads. I know that Ken Kessler and Steve Harris have also visited the AR-A room, and I had meant to ask Ken at the Audicjumble, but he was busy. Steve does not know, so I wondered if you could cast any light on our question?!

Anyway, I look forward to yet more Hi-Fi World entertainment. Please keep up the great work.

Cheers,
Dr Richard H. Barton
Imperial College
London

Hi Richard. Thanks for the praise; nice to know readers appreciate some of the more - er - unusual products we come across, like Tannoys. I'm pleased to say Tannoy have always been gracious and accommodating in allowing us to review their biggest Prestige range





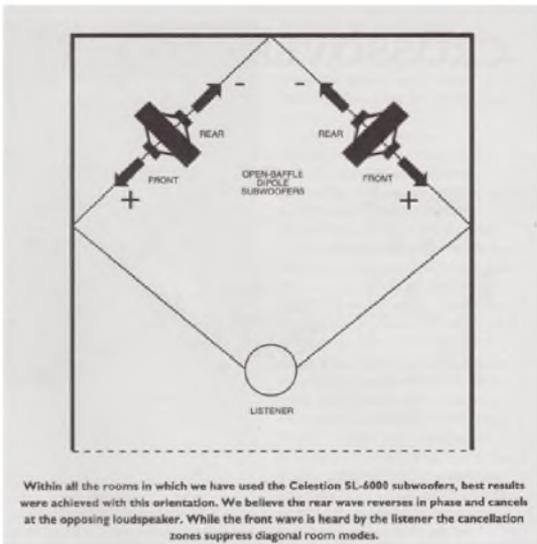
Our Quad ESL-63 & Celestion SL-6000 dipole subwoofer combo from 1995. The SL-6000 was steered for best sound. See explanation below.

loudspeakers, including the mighty Westminster Royals. As you know from using Ardens, and as the music business attests, Tannoys are always fun to hear. It would be a sad day if such loudspeakers were to disappear altogether. And we are negotiating for new Ardens right now!

Will big old bangers ever make a return I wonder? With young people now puttering around on uber-cool retro motorcycles I'm hoping big speakers will make a comeback as improbable style objects.

Let us know what improvement the AirLink balanced supply makes.

A balanced supply reduces earth currents in equipment, and filters remove high frequency rubbish from the incoming mains, so you have two separate and quite different



'cleaning mechanisms' in such a supply. A mains re-generated supply goes a step further by synthetically generating a mains voltage that is amplitude and frequency stable, noise and distortion free – or in other words, notionally perfect. As you say, they are expensive but are aimed at top flight systems. You can see more in my review in this issue of the Longdog Audio regenerated turntable supply.

As I recall, at the time I visited, ARA's stacked Quads were in line and not angled differently. However, I discussed steering dipoles with him (I ran Quad 63s on top of Celestion SL6000 dipole subwoofers that had to be steered) and, based on what Dr Graham Bank of Celestion had said about the interaction of a bass dipole with a room, and our own finding that best bass quality was achieved when the 'dead' side zone of the SL-6000 was aimed at a room's corners (December 1995 DIY Supplement), he may well have experimented with such an arrangement. The theory behind this I reproduce here, taken from the 1995 Supplement.

Bass dipoles are a fascinating idea with much potential – in a nutshell, you get bass without a box – super clean bass in other words. Fascinating then to see them appearing in the good 'ol US of A. They'll be over here soon! **NK**

SEARCH OVER

My search for a high def. audio player server is over. I have just purchased an Auralic Aries Mini from my local Audio T for £450 and it is a joy to use. I plugged a portable 2TB drive into the rear USB socket, connected it via USB to the Audiolab M DAC+, wired in the ethernet cable and plugged it in (it also recognised a new WD My Passport 4TB USB portable hard drive). Within half an hour of opening the box it had found my network, updated the firmware, found the DAC, loaded a large music library and was ready to go.

All this was achieved by a superb built in step-by-step installation guide. The unit is small and can be hidden away in a cupboard. It is controlled entirely from my iPad. It has an internal ESS Sabre DAC but I have not wired this up yet.

The best bit is that the excellent control software allows access to my music files via the usual album and

artist but it also allows access by file type so I can find my HD music files easily.

Finally, an internal hard drive can be fitted to make the unit a completely self contained audio server, except for a LAN connection for the controlling software.

The Aries Mini is everything I wish for in a digital music player server.

Best wishes,
Mike Tartaglia Kershaw

Thanks Mike. The man from Auralic is about to visit us at World Towers so Auralic reviews will follow soon. Since both you and top reviewer/classical violinist Rafael Todes agree on this, there must be something special going on here. **NK**

STREAM STORE

I have a slight problem and would very much appreciate your guidance. I currently play music from a MacBook Pro connected to a Mcjo via USB and using Focal Elear headphones, and it's great.

I have a reasonably large music library which was ripped (AIFF) using



Auralic Aries Mini. "It is a joy to use" says Mike Tartaglia Kershaw.

iTunes and stored on a 1TB hard drive that I plug into the MacBook. And I also stream Tidal. The libraries are controlled on the MacBook using Audirvana. And so this means that when I'm playing music I have a hard drive into one USB on the MacBook and the Mcjo into the other... and all three together (McJo, Drive, MacBook) make a rather cumbersome and not very portable package.

What I need is a single box to plug into the Mcjo that can store all my albums and support Tidal (44.1), Qobuz(44.1) and Spotify (320). I also have some hires files bought from Qobuz.

I've looked at the new Chord Poly but I'd still need a smartphone to control it hence not a single box.



The new FiiO X5 MK 3 runs Android so you can download the Spotify, Tidal and Qobuz apps for streaming, says Jon Myles.

I've tried an HTC M-One - good but not enough memory for music files and also really a challenge (that I've not mastered) to transfer music from iTunes on a Mac to the HTC. I've tried boosting the HTC memory using a mini-usb 32GB stick but then I can't use the Mcjo as there's only one mini-usb port. I've looked at an AK70 but I'm not sure if I can get a digital out for the Mcjo and even then it's duplicating what the Mcjo can do as I don't need another DAC or Headphone amp.

And so what I'm looking for is a portable storage device that can hold a large library of CDs and hi-res music downloads and also connect to wifi and runs Tidal, Qobuz and Spotify apps. As a final resort I'm pondering getting rid of the Mcjo and buying a higher end A&K... but I really like the Mcjo and it works a treat with my Focal Elears. Any help and guidance would be gratefully received.

**Greg White
Warwick**

Hi Greg. If you want to keep the Chord Mojo - and I don't blame you for doing so as it is an exceptional DAC - but do not want to replicate its DAC and headphone amplifier functions then I'm afraid that unfortunately there's nothing on the market at the moment that can fulfil all your needs, as far as I know.

However, for something portable that will work well with the Mojo and meet your requirements I'd recommend taking a look at the

FiiO X5 Mk3 reviewed in this issue. It has 32Gb of in-built memory and a further 512Gb can be added via two microSD card slots. It also has Wi-Fi and additionally runs the Android operating system so you can download the Spotify, Tidal and Qobuz apps for streaming their services. This will give you a versatile two box system of excellent quality for the Focal Elears.

I don't know how big your music collection is - but if it exceeds the FiiO's capacity you could always transfer the files to a few SD cards and swap them in and out of the X5 as needed. **JM**

BLACK SABBATH

I have just finished being informed by the BBC about the legendary rock 'n' roll band Black Sabbath. They are apparently, calling it a day. They are to play a final show and Ozzy Osbourne is being interviewed for his thoughts and emotions on the subject.

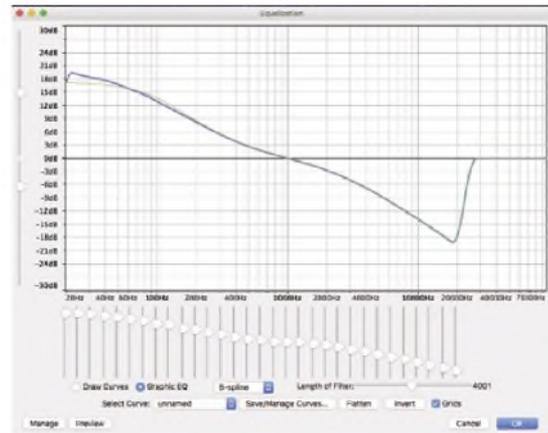
I can understand Ozzy being the centre of attention and the go-to member of Sabbath as far as the sometimes lacklustre BBC may be concerned but apart from their final album, released in 2013, Ozzy has not sung on a single Black Sabbath album since 1978.

That fact will surprise many people,



who will assume that Ozzy and the boys started out in about 1969 and went on happily releasing albums together every two or three years until after almost five decades they have decided to call it quits. This could not be further from the truth.

Not that the BBC was in any mood to let that bother them, as far as I could make out. Their history with lead singers is all over the place, their antics and attitudes to each other is very involved and most of their recorded output is nothing to write home about. If you are a serious fan, then I suppose the first six albums are a must. Apart from that, you will have to be very selective. Heaven and Hell is good for



You can apply RIAA correction of LP digitally using the free Audacity music editor.

example. I could grind on and on, but it is a shame that a lightning-fast overview by the mainstream TV channels will leave people (admittedly not fans) with a view that is not complete - and by a very long chalk.

Neil Porter.

DIGITAL LP

Martin Pipe discusses the possibilities of digital RIAA correction in the March issue. If you look at <http://www.channld.com/purevinyl/> you will find that this has been available for some time, with the same company providing a suitable phono amp. While I'm not a vinyl person myself, I have read very favourable reviews of Pure Vinyl and the Seta preamp over the years in other magazines.

James Atkinson.

Yes, the idea has been around for some time and I have heard digital RIAA correction in the past and been unimpressed. However, this could have been due to other factors, such as a poor phono stage, poor ADC etc - quite likely the latter. ADCs lag DACs in performance and there are (or were) plenty of thoroughly mediocre (but cheap) ones around.

However, the interesting point Martin made was that digital RIAA correction can be applied nowadays using Audacity, the free music editor software. I had a look and yes, indeed, under the Effect drop-down is an Equalization... option where you can select RIAA, or even inverse RIAA. Of course, you still need an unequalised phono preamp followed by an ADC, so it isn't easy. Moreover, RIAA can be applied in hardware using just a few resistors and capacitors, so the value of digital correction is unclear. **NK**



Bose QC3 noise cancelling headphones.

HISSEY HEADPHONES

I've recently bought an AK70 and am very pleased and use it with a small pair of KEF headphones that I've borrowed. My main headphones are the Bose QC3 (iPhone version) and I have used them for several years with an iPhone both on the Tube and flights as well as at home.

Unfortunately when I use the Bose QC3s with the AK70 I get a loud hiss from both earcups. It's a permanent hiss and not affected by the volume control. Can you suggest what the cause is and how I might fix it? The Bose QC3s were quite expensive and I'd like to use them if I can. And they continue to work perfectly with the iPhone.

Best regards,

Edward Martin

Hi Edward. We have no experience of these 'phones but you'll find Bose users discussing this issue on the 'net, for example at Reddit.com (Google

controls on the QC3s, to turn off ANC for example, you will have to replace them. If you get another set of noise cancellers, make sure they have an ANC off switch. However, noise cancellers have limitations and are viewed warily by the hi-fi fraternity.

Personally, I'm looking forward to hearing the new in-ear magnetic planars from Audeze, since Audeze are as good as it gets in my experience. I suggest you take a listen; it might be a better place to park your cash. **NK**

FLAC FREE

I'm hoping you can give me some advice on mobile hi-fi as my sterling Sony Walkman NWZ-X1050 16GB does not support FLAC and since I took your advice and upgraded my digital front end to the Chord DAVE, which has been a revelation, I want to store my music in as high an uncompromised format as possible, thus have ripped my CDs to FLAC. If My Walkman supported FLAC I'd stick with it as the sound quality is great and the small bullet-proof design perfect for portable use.

Alas with the Sony Walkman not supporting FLAC I have to convert the files to WMA. I use my Walkman every day on the commute to and from work, so have resorted to using my Motorola Moto G mobile to play FLAC which surprisingly on my Sonus faber Pryma 'phones sounds pretty decent. I realise my Walkman is an antique, but feel its the FLAC that is making the sound difference through the Prymas

My thoughts are the Pioneer XDP-100R-K 350, or Motorola G Plus 220 plus AudioQuest DragonFly Red 170, which come in at roughly the same price. The Pioneer is bulky compared to my Walkman, not a selling point unless you want to use it to fend off a mugger. Which do you think would have the

better sound quality, as they support pretty much the same file formats including MQA? I like the ability to upgrade the phone independent of the DAC, albeit with extra cables, but ultimately I want the best sound?

Regards

David Waterman

Hi David. Your Sony will play WAV (basic, uncompressed digital) and you should use this rather than WMA



Sony Walkman NWZ-X1050 "does not support FLAC" says David Waterman.

(Windows Media Audio, compressed), unless you insist on accompanying metadata and artwork that FLAC supports. FLAC is basically losslessly compressed WAV, with added tiddly bits; differences are otherwise minimal. FLAC will not improve sound quality against WAV, only ensure it isn't degraded.

The Pioneer has a great sound but is heavy, overly complicated and has no S/PDIF digital output, all things to bear in mind; it wasn't a brilliant user experience I found. I would suggest you take a look at one of the latest FiiOs, such as the X5 3rd Gen. we review in this issue, or even the simpler X3 II. **NK**

UNIVERSAL QUESTION

I read with interest Noel Keywood's review of the Tannoy GRF90 loudspeaker which was tested using the Oppo BDP-105D universal player as the source (HI-FI World, February 2017 issue).

I checked out HI-FI World review of the Oppo BDP-105D and I can understand the pairing even with the large price difference. I don't like to quote because I do not want to place it out of context, however the review states the Oppo can drive any power amplifier in a stereo system so can be used as a high-quality stereo source, as well as an equally able Blu-ray player, or just a high-quality CD player.

My understanding is that the universal disc player uses better digital processing systems with finer tolerances and would therefore be more accurate for CD replay. Compared to a multipurpose CD-ROM/DVD-ROM drive equipped computer with their insufficient error-correction system leading to incorrect data retrieval

When looking for an upgrade for my Quad 99 CDP2 (using Quad's own CD drive) should I be moving sideways and auditioning a multi-tool Blu Ray/DVD (Universal Player). Or with technology cascading down from the top tier players to the more reachable units



Magnetic Planar in-ear phones from Audeze. The next big thing?

'Bose QC35 hiss'). None would seem to quite fit your situation and your QC3s, where an iPhone works but an AK70 does not, seemingly eliminating the usual suspect: noise cancellation and the residue of high frequency noise it cannot, by nature, cancel.

Use the standard audio cable to avoid having a microphone in line, as this will hiss, some Bose owners warn.

Otherwise, because there are no



The new Oppo UDP-205 Universal player, a replacement for the outgoing BDP-105D – popular worldwide. The UDP-205 uses the latest ESS Pro Sabre DAC.

a lower price range.

Or should I be looking at a dedicated CD transport/player using a dedicated CD drive unit for reading CD and the occasional hybrid SACD and HDCD.

Your comments would be appreciated. Keep up the excellent reviews.

Steve Brunson
Suffolk

Hi Steve. You have little choice these days because CD transports are becoming rare. I would suggest you connect your Quad 99 CDP2 to a more advanced external DAC, via its S/PDIF optical digital output. An Audiolab M-DAC+ is the go-to choice as an upgrade or Chord Electronics DACs from Mojo up to Dave.

Oppo's BDP-105D plays video discs as well as audio discs, hence its title: Universal Player. The distinguishing feature of this player was – and remains – its unsurpassed audio processing. Oppo decided to use an ESS ES9018 Sabre32 DAC chip when no one else would go close, due to its cost. But they backed a future winner, due perhaps to their own grip on sound quality and audio engineering principles. It's a great player and surpasses the CD/DVD-ROM discussion you raise, where data retrieval and error rates were held responsible for bad digital sound, with no allusion to the basic but vital digital to analogue conversion process hidden away in a silicon chip.

Since Oppo have just replaced the BDP-105D with a new UDP-205 using the latest ESS Pro chip, you have the option of a new player, or perhaps an original at a bargain price.

Alluding to your comment about using a £1000 player to feed £17,000 loudspeakers, hi-fi components do not have to be rigidly price matched. The Tannoys cost that amount because of their huge,

hand-built cabinets and specialist Dual Concentric drive units, giving a unique sound. As a source, the BDP-105D is plenty good enough, especially when acting as a DAC fed by high-resolution digital rather than Ye Olde 16-bit from CD.

The BDP-105D can drive power amplifiers direct simply because it has a volume control. All CD players have enough output to do the same but few have a volume control that bestows such flexibility – or at least, that used to be so.

You could of course search out a CD transport and pair it with a DAC, but I think you should move on to one of the two solutions I have proposed, neither of which is exorbitantly expensive. **NK**

B&W OR BENCHMARK

I'm a new subscriber to the magazine. In the current issue (March) you talk about Quadral Chromium Style 8 as a benchmark loudspeaker. So my question is: would it be a real and worthy upgrade over my current B&W CM8s paired with Elac 2030 subwoofer? In which respects?

In my opinion CM8s have really stunning midrange and amazing imaging. My room is around 13x13ft so I'm not sure due to the double 18 cm woofer that they would suit it at their best (overdrive?).

My rack is: Magnat RV3 Hybrid integrated/Audiolab 8200 CDQ/ Tellurium Q blue interconnects and TQ ultrablue speaker cables.

Thanks in advance
Roberto Bini
Italy

Hi Roberto. The Quadral offer a similar experience, but with better treble from a refined ribbon tweeter. This is the most obvious difference you will hear.

You are using a subwoofer in a small room, so like strong bass. The Quadral have a bass balance like the

B&Ws, so you must keep the Elac 2030 subwoofers.

You have a good system and are happy with it, so I worry that you may not feel the improvements worth the cost. Try to find a dealer where you can listen to the Quadral, or ask for a demonstration at home so you can hear the differences and decide whether it is worthwhile to upgrade. **NK**

BEST PROFILE

I have a number of vinyl albums that, shall we say, are not in the best of condition, but I can't replace. They



"B&W CM8s have really stunning midrange and amazing imaging" says Roberto Bini.

play without clicks or jumping, but on some tracks do sound a bit "fuzzy". I have cleaned them and do find some improvement but the fuzzy tracks still do not sound as good as the other tracks. I do realise it could be duff pressings but I'm sure I remember they sounded better previously.

Most of these have been played over the years with Spherical, Elliptical, etc styli profiles as I have updated/ improved my equipment.

Over the years I have upgraded my phono set-up to my current - VPI Scout, Benz Micro Ace (Low Output) Moving Coil and a Trichard Diablo and I am happy with the sound I obtain.

My question is on the cartridge/ stylus design. I understand that my Benz Micro Ace has a Micro Ridge stylus profile. After reading many articles it seems that the Shibata profile tracks the grooves on a record better than most others.

Would I hear a significant improvement if I changed my cartridge to one with a Shibata profile? There are a few around (Ortofon - 2m Black to the Cadenza Black, Audio Technica AT33sa, and the Hanas), all cost a reasonable price and I don't want to

spend £500+ if I won't get a audible difference over my Ace.

What is your opinion on the profile difference between a Micro Ridge and a Shibata?

Thanks

Andrew Burtchaell

Hi Andrew. The Shibata stylus profile was developed for four-channel Quadraphonic CD-4 LPs, way back in the 1970s. It could read up to 30kHz. It has seen resurrection in a number of modern cartridges, those that you list – and modern Shibatas work well these products tell us.

But then, other profiles also work well (Fine Line, Micro Ridge, Fritz Geiger etc) and they also measure well, it is important to note, reading the inner grooves of an LP (short wavelengths) as well as outer grooves, measurement shows.

The buzzing and haziness come from groove damage imposed by previous cartridges. Your history haunts you! A new and better cartridge will just play the physically imprinted distortion better. Your Benz Micro Ace is an excellent moving coil cartridge and I don't think you should worry unduly about its stylus profile. **NK**

OPEN REEL ISSUES

Just a few notes on the saga of acquiring a reel to reel tape deck. As my customers spread from the music performance end of the spectrum to private and public recording studios and rehearsal rooms, as well as hi-fi, I have over the years seen a lot of tape decks. I actually own four of them, an Akai GX600D, Studer PR99 half track with varispeed and 15ips capability, and a pair of Fostex – an old and worn out A8 and a B16.

So if you buy one or want to buy one, what should you look out for? Rubber failure is an obvious first point. A gentle squeeze of the pinch roller will tell you if it has gone. If it compresses and doesn't come back you need a new one. So add anything between £30 and £180 each, plus fitting as they are either new old stock or made to order.

Hard and cracked pinch rollers are also a replacement issue. I had a Pioneer RT909 with both rollers just black treacle like glue and the resulting mess has to be seen to be believed. Nothing removes it!

Belts and clutches with similar rubber fails the same. The Yamaha KX-200 cassette had the problem but only with the tape counter belt. Why just that one?

Next is actually down to poor manufacture, more than anything else. Surfaces designed to rub together need to be lubricated or made in such a way that they don't jam up. Witness the number of decks where bent steel wrapped around shafts of more steel do braking or clutch lifting services – and are so well rusted together that they cannot be moved. With electronically controlled mechanisms the electronics then suffer as the jam raises the current demand until something goes bang.

Rust isn't necessarily just when something goes in the garage or the attic. Even in the average home a little condensation can be enough to cause this sort of failure and it is pretty much invisible from the outside. I used to have turning and milling facilities to rebuild this sort of thing but unfortunately I no longer have access to the machines – and of course this sort of work is a full blown renovation or redesign, not a running repair, so think £120 plus for a single part.

With open reel recorders you are looking at something with so many potential pitfalls that it is possible to buy half a dozen machines before you get a working one. Machines such as a 60-year-old Brenell had motor insulation failure on all three motors and head failure. A Revox like the A700 may need all its op-amps replaced, all of which are obsolete, plus a source of Phifer slider pots. A Teac can be mechanically jammed due to rust, as well as other



varied electronic issues. You might just wish you hadn't bothered.

When you get one that works, what will it sound like? Well, unless you buy an Akai from the GX range, the tape heads of all the rest will be worn out. So soft and mellow is very likely in the latter cases.

The Akai scores very highly here as you will see on eBay. A full size semi pro machine, say a GX630/650 will be fetching in excess of £650 as they sound the same today as they did when new some 30 plus years ago. That is some testament to the longevity of this brand but only those with GX in the name and the large three-motor mechanisms for 10.5 inch reels. I wouldn't go for the GX4000 series that is really something of a toy machine compared to its bigger brothers, even though when fully working is likely to run rings around a Revox A77 as it's brighter in its sound and makes better recordings on Japanese tapes from the likes of TDK and Maxell.



The Akai GX630 open reel tape recorder. Its glass crystal ferrite heads do not wear, says Dave Tutt.

Others to avoid? Philips, as they all have rubber rot no matter which model. Single motor Tandberg, lots of mechanics that needs lots of servicing and the stereo ones are few and far between now.

You have to appreciate that a well used and looked after machine may need £300 to get it up to standard and if it needs new heads you may have to pay half of that for the parts alone— if you can find any. You should only really be looking at machines that were over £280 when new, but expect to pay probably not less than half that for a working machine.

Many of my customers are looking for machines to ripple through their mix-down tracks to add a touch of analogue audio into their music to add some warmth and ditch some of the digital nasties in the recording chain, so if you want a machine the time might just be now! Let the fun begin!

Regards

Dave Tutt

Maunder's Close

Chatham

Kent ME5 0AU

07759 105932

CUT THE CRACKLE

I own a Primaluna Prologue 2 valve amplifier that I bought in 2005. It has performed wonderfully, especially with a set of Svetlana KT88 Winged C power valves, which are no longer available. I now need to replace the existing Gold Lion valves (which are not as smooth) and get the input selector repaired, as one channel sometimes crackles and drops when CD input is chosen.

So I am wondering if I should spend maybe £450 on my current amp, or put the money to a newer valve amp that will give me equally long service. Having read your glowing review of the Icon Audio Stereo 30SE, I have to admit I am tempted, and it would give me a remote control!

Or would the Creek 100A amp sound sufficiently valve-like to keep me in sonic heaven?

Last year I purchased the wonderfully sounding Quadral Chromium Style 8 loudspeakers that allowed me to hear and see into so much more detail than I had ever experienced before — thanks for that recommendation!

The rest of my kit: LP12/Adikt/Akito record deck, Project Tubebox phono stage (any thoughts on replacement?), Arcam CD23 player, Audiolab M-Dac, Audioquest speaker cables, and Tellurium Ultra Black interconnects.

I have a wide range of musical tastes: Classical, Prog Rock, Blues, Paul



Primaluna Prologue 2 valve amplifier, running four KT88 power output tubes. "It performs wonderfully, but one channel sometimes crackles and drops" says Martin Trevers.

Simon, Melody Gardot, simple Acoustic, but not Heavy Metal! So I want to build on the revealing nature of the speakers, with an amp that will see me into my old age with a smile on my face. Your thoughts please.

Many thanks

Martin Trevers

Hi Martin. The Primaluna Prologue 2 is a good amplifier, as you know. I wonder whether a squirt of switch cleaner may remove the input switch problem. Rotary switches tarnish, but also have contacts that over time can, due to repeated bending of the contact wipers, lose their springiness and fail to make assured contact.

When this happens switch cleaner barely helps and replacement is the only answer. You are best advised to contact either the original supplier of the amplifier for a quote of the cost of clean and/or repair, or speak to an independent expert with experience of such things: phone Dave Tutt — see the preceding letter. A valve amp should last longer than 10 years!

Icon Audio's Stereo 30SE offers a step up in sophistication — plus remote control. It suits the Quadral Chromium Style 8 loudspeakers too. A Creek 100A offers a bit more visceral bass impact but not the delicious open sound of a good valve amplifier, especially a specialised

Single Ended like the Icon Audio. As transistor amplifiers go, however, the Creek is a great choice.

If your Adikt cartridge has seen a lot of use I would suggest you consider replacing it with an Ortofon 2M Black. As MMs go, it is outstanding and will lift LP replay an appreciable step up in sound quality. After this move you are starting to look at an Icon Audio PS3 phono stage and perhaps an MC cartridge later on, as the PS3 accepts both. I hope these suggestions help. **NK**

BRIGHT B&W?

I read with interest Lisa Jackson's letter regarding her B&W 804s sounding bright at low levels. I have owned a pair of 804s for nigh on 13 years now and believe me they are not a bright loudspeaker. Even at low levels the sound is well-balanced, with a good amount of mid-range and bass. I admit the overall sound beefs up with volume, but I'm wondering if there is another issue going on with her set up.

Granted the 804s are now a bit long in the tooth, but to say they are bright is untrue. Mine are fed via a Primare Pre30 and a pair of Primare A34.2 power amps in bridged mode. I do not own a CD player as my system is vinyl based using a Gyrodec SE, SME IV, and Ortofon Cadenza Black. Connects are all Chord reference and speaker cable is QED Genesis Biwire.



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"I have owned a pair of B&W 804s for nigh on 13 years now and believe me they are not a bright loudspeaker" says Neville Octon.

With regards to turntable reviews, all turntables, to some degree, benefit from an arm or cartridge upgrade. How many times have I read that the sound of a turntable improves with a better cartridge. Surely this is not the turntable sounding better, but the cartridge sounding better.

The same with an arm upgrade: it is the arm that is better not the turntable. Never has a platter been replaced or a rubber mat on a review. I know there are obvious reasons for this, but how many platter upgrades are there, not many, maybe Rega, Project, Michell to name a few.

On that point, in our house there has never been a vinyl revival as it has never gone away in the first place. Long live vinyl and radio.

Regards

**Neville Octon
Newcastle upon Tyne.**

Thanks for your observations Neville. But the mystery of why a system sounds brighter at low levels remains, contrary to common experience where both bass and treble become less obvious at low levels due to the ear's loss of sensitivity at frequency extremes.

You have an all-analogue system and a very svelte sounding moving coil cartridge, the Ortofon Cadenza Black,

where Lisa has an Arcam CD192 CD player, so your experience will be different to hers. Based on what you say, perhaps in retrospect we should have paid more attention to her digital source; an Audiolab M-DAC+ with Optimal Transient filters offers a warm but very smooth balance, but this still doesn't easily explain why her problem existed only at low levels.

Readers want to know whether a turntable can accept a better cartridge in a mechanical sense – are its arm bearings friction free for example – and whether there is an overall improvement in sound quality as a result. This is why we commonly swap out the budget MM (£20 or so) that comes with low cost packages. **NK**

ON THE FLY

I have been following all this digital stuff as best I can. However when it all gets even slightly technical my brain involuntarily shuts down, I turn to the review of the latest phono stage and think; put another record on.

My main system is down stairs and as I can't get the Missus to turn off the TV very easily. I've put together a small near-field system upstairs in the back bedroom over my PC – Rega Brio, Project speakers and my first CD player, a Rega Planet, so not too bad.

I like to listen to You Tube occasionally,

especially the video stuff as you can't beat actually seeing the people play. As an audiophile and lifelong musician it's very satisfying except for the awful sound quality using the laptop's mini jack into the amp's phono sockets.

I've been thinking of getting an Audioquest Dragonfly for a while. Seems like a good solution at a good price (this doubles when you put a decent cable with it however). I finally bought one last week. Got it up and running on Friday evening. You Tube underwhelming – probably down to the quality of what's been uploaded. Internet radio not so bad. I started to think about what it maybe could do. DSD I thought – people seem to rate this as the best and most natural to listen to.

After a bit of browsing for free DSD samples I came across a web site called Blue Coast. Vocals and guitar. Very well recorded. The results? staggering even on this little system. It's like putting on a record without the vagaries of quality of the cut, wear, warp etc.

As yet I've not taken the laptop downstairs to plug into the main system. Pro-Ject Xtension 10 Evolution turntable with Benz Micro Ace Low output cartridge, Icon Audio PSI (David's just down the road from me), Icon CDX1 signature, Sugden a21 with Sugden speakers, Isotech conditioner. So quite good. I plan to do this later today and expect to be possibly blown away (assuming I can bribe the wife to turn off the EastEnders omnibus.) I'll let you know.

P.S. I don't get the bit in the Dragonfly instruction book about sample rate settings. I've got it set to the highest although it talks about multiplying the original rate by 2? does this matter?

Best regards.

**John Sutcliffe
Leicester**

Hi John. The broad view is that DSD gives an analogue-like sound that is easy and enjoyable. Blue Coast Records promote it and Sony – who came up with DSD – help them. I had the pleasure of meeting Blue Coast founder Cookie Morenco and attending a Sony demo at the San Francisco audio show, 2015, that was impressive. This show is on again in 2017 so take the missus and leave her to watch Real Wives of San Francisco in the hotel, whilst you get to hear DSD from Blue Coast and Sony.

I believe the Dragonfly works to 96kHz and over-samples to 192kHz; you will hear little difference between the two. A Chord Mojo accepts up to 352kHz sample rate and also handles DSD. **NK**

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Awards 2016



One of the highlights of this year's Bristol Sound And Vision Show was the annual Hi-Fi World Awards ceremony - honouring the manufacturers and distributors of some of the best products we have listened to over the past 12 months. The ceremony - sponsored by Rohde & Schwarz - was hosted by Richard Stevenson and Hi-Fi World publisher Noel Keywood who presented the coveted Hi-Fi World Globes to the winners.



Maximilian Ramp from Quadral is all smiles as he accepts the Best Loudspeaker award for the company's Chromium Style 8 floorstander.



Decent Audio's Simon Griffin receives the Best Cartridge award for the Transfiguration Proteus.



Noel Keywood presents Tony Sallis from Nu Nu Distribution with the Best Headphones award for the excellent Kennerton Magister over-ears.



Dave Cawley of Sound Hi-Fi is presented with the Best Turntable award for the Timestep Evoke SL-1200GAE.



The Best Loudspeaker Cable category was won by Derby-based Black Rhodium's Quickstep - with its designer Graham Nalty proudly receiving the award.



Another award for Leicester! Icon Audio's David Shaw gets his hands on the Best Valve Amplifier for the Icon Audio Stereo 30SE.

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Decent Audio's Simon Griffin, Dan George from Dan George Communications and Colin Pratt from Chord Electronics.



The Black Rhodium team of Alan Johnson, Daniel Fryer and Graham Nalty with Hi-Fi World reviewer Jon Myles.



Best of buddies: Cambridge Audio's Dominic Baker with Dan George.



Hi-Fi World's Jon Myles with Steve Harris from AudioPlus.



Chord Electronics' Colin Pratt is presented with the award for Best DAC for the company's groundbreaking Chord Dave.



Steve Harris is handed the Best Wireless Loudspeaker award for Naim's Mu-so Qb.



The Icon Audio team tucking into their food.



A delighted Dominic Baker from Cambridge Audio accepts the Best Network Player award for the Cambridge CXN.



Peter Woodard of IAG is handed the Best Amplifier award for the Luxman L-590AX MkII.



All anticipation: The audience prepares for the start of the awards.



Naim MD Dr Trevor Wilson shares his knowledge with Hi-Fi World's Jon Myles.



Jon Myles with CMC PR's Andrew Burslem.



Tony Sallis and Anne Duhi-Reader from Nu Nu Distribution take a break to enjoy some food.



Jill and Dave Cawley from Sound Hi-Fi with IAG's Rob Flain and Peter Woodard.

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Sound & Vision Show Bristol 2017

The Bristol Sound & Vision Show has become the UK's de facto national event; running for 30 years, it attracts almost all UK manufacturers. This year's show was no exception, booked out as always it was full of interesting new products as a result.

Our stand in the Bristol Suite, run in conjunction with German technology company Rohde&Schwarz, was thronging. Our thanks to all the readers who came up to



ask questions, challenge us on what we do (!) or just have a chat: it was great to see you.

A generous promotion where we gave away a Blue Aura WS30i or WS10i loudspeakers with a subscription was understandably popular and Blue Aura

(Cambridge, UK) were on the stand to explain all to everyone.

Meanwhile, the 2017 Show wound up to its usual busy pace as the UK industry did its best to entertain all who came. Here's a selection of what we saw, touring the show.

Released one week before the show, on display was the new Technics SL-1210GR Direct Drive turntable, price £1299, a spiritual successor to the SL-1210 Mk2. It uses a simpler single-rotor version of the motor within the recently released high-end SL-1200GA but otherwise facilities are much the same, including three speeds (33,45 and 78rpm), quartz crystal speed lock or speed adjustment. This is the turntable a worldwide petition pleaded for.

Timestep of the UK – also at the show – told us they will be releasing a tuned version with Michell Techno arm and external linear power supply.



The rear of Acoustic Energy's AE1 Active loud-speaker. The two-way standmount features class A/B amplification rated at 2 x 50 Watts per speaker, bass and treble adjustments as well as RCA and balanced XLR inputs. They cost £999.95 and should be shipping soon.



Vinyl lovers were well catered for with a number of stalls selling high-quality pressings.

SHOW REPORT



Sendor's D9, top of the range floorstanding loudspeaker. It uses a 180mm EP77 polymer cone midrange unit (top) together with two Kevlar bass drivers and an unusual Linear Pressure Zone tweeter. At £6500 it took pride of place in the Sendor room.



Germany's Canton was displaying its full range of loudspeakers - including (foreground) the new Chrono SL 596 floor standers featuring titanium membranes for the bass/mid-range drivers and an aluminium/manganese tweeter in a monocoque cabinet.



Unison Research's Triode 25 valve amplifier - a push-pull design utilising EL34 tubes and giving a maximum 45 Watts per channel output into 6 Ohms. The wooden fascia adds an air of sophistication.



This is the eye-catching LA6 TX preamplifier from Icon Audio. It looks like a power amplifier because of all the transformers, the big ones at left and right rear being balanced output transformers. A separate power supply is decorated by a tall 274B rectifier valve with bright heater (filament) array. The main preamp chassis uses 'onion bulb' Western Electric 205D direct heated triodes working with 6SN7 double triodes.



Auralic Vega digital audio processor (below) and Auralic Aries wireless streaming bridge. Auralic is a Chinese company with an American base – and now with UK distribution. Definitely a company to watch out for, since violinist and reviewer Rafael Todes rates them highly. We hope to run a review soon.



Melco unveiled its new range of audiophile high-resolution network storage devices - which feature upgraded components and software. This is the range-topping N1AH60/2 which costs £2099. Watch out for our forthcoming review.



A new amplifier from Ming Da – the Campana. It has adjustable bias to accommodate a variety of valves from KT66 up to KT120 (not KT150). Bias meter and adjusters are all externally accessible – no need to poke around inside. Power up to 55 Watts (KT120s). For further amusement an EM84 magic eye sits on the front panel.



Is this the next big thing in personal listening? Audeze have packaged magnetic planar drive units into in-ear phones. Wow! Magnetic planar drivers deliver fabulous sound quality so their new iSine 20 is likely to – well – wow!



Rega sponsored Record Store Day 2016 and built a batch of 500 RP1 turntables to celebrate it. Here's one we caught spinning away in their room with its eye-catching livery.



A Convert (Entotem) Plato streamer Class A in upgraded form and with Burr Walnut effect case-work looked opulent. The Plato does it all, including ripping LP to digital and retrieving on-line cover artwork. Close by sat another Plato with a woven carbon fibre finish.



The Creek stand looked attractive, featuring two newly updated Evolution 50A amplifiers. The 50A was substantially a discrete design giving a big but smooth sound that we always admire. Its thick, machined alloy front panel and smooth matching control knobs stand out in this shot. Behind lies a big toroidal mains transformer, gold-contact, sealed relay switching of signal lines, and 15A Sanken power transistors in a Creek output stage.



Astin Trew were running a fascinating comparison between open reel tape and LP. A Teac A-3300SX recorder was playing STS 15 ips Master Tapes (£249; half speed masters £179) through an Astin Trew amplifier and Pearl Acoustics loudspeakers. The master tape sounded wonderfully smooth, even and atmospheric whilst LP was a tad more coloured but still engaging.



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Black Rhodium take to the skies with their new Breeze cable. Jon Myles listens in.

It's A Breeze

Spend any significant amount of time with Graham Nalty and you quickly realise this is a man who is passionate about the benefits of cables in an audio system.

With more than 30 years experience in the hi-fi industry, the founder, owner and chief designer of Black Rhodium is still looking to improve his products - be it via terminations, materials or geometry.

Perhaps that's the reason the Derby-based company is never shy at introducing new products - one of the latest being the Breeze loudspeaker cable.

In essence it is similar to the excellent Tempest cables I reviewed earlier this year (Hi-Fi World, March 2017) - except comes in at a lower price point. The Tempest costs £2400 for a 3-metre pair while a similar length of Breeze is £1500.

The difference in price is explained by the fact that the Breeze uses slightly thinner cores with a similarly reduced silicone rubber insulation.

The thinking and design behind the Breeze and Tempest are the same though. Two silver-plated copper cores connected in opposite directions are used, while these are twisted along the length of the

cable to help reject RFI and EMI interference.

The Breeze conductors also undergo deep cryogenic treatment to give a more uniform molecular structure - as well as Black Rhodium's proprietary Crystal Sound Process which it says refocuses the outermost skin of the conductor to aid conduction properties.

Rhodium-plated banana plugs are fitted while each cable also benefits from the attachment of a pair of Legacy VS-4 vibration stabilisers - 55g metal weights designed to reduce vibrations travelling through the conductor wires.

Finally, the Breeze is coated in a black outer nylon woven braid which gives it an attractive appearance. Also, although the vibration stabilisers do add some weight, the cable itself is extremely flexible so is easy to install even if room is tight.

SOUND QUALITY

There's an open quality to the Breeze that means it brings extra resolution to all frequencies. Plugging them in between a Naim Supernait 2 and a pair of Spondor A6 loudspeakers it was evident how they brought out the bass notes on Led Zeppelin's 'Dazed And Confused'.

The impact was more forceful

- the 'speakers seeming to dig a little lower. Mid-range and treble also came over as clean and detailed - Nigel Kennedy's violin on Elgar's 'Violin Concerto' having tremendous resonance. There's no sense of music being veiled or notes possessing a smeared quality. Instead everything is crystal clear.

Compared to the Tempest cables there is just a little less absolute definition - but then for the price difference that is to be expected.

The Breeze is, though, an excellent cable that brings the best out of amplifier and 'speakers.

It also does an excellent job of highlighting differences in components - something lesser cables can mask. Switching from the Supernait 2 to a pair of Quad QMP monoblocks the silkier nature of the latter was evident on the smooth jazz of Tommy Smith's Azure. Smith's saxophone was anchored firmly in the soundstage while the bass and drums timed impressively. Moving on to a McIntosh MC152 and the power and propulsive nature of this amplifier came through.

As such, the Breeze is an excellent, reasonably-priced cable for letting you hear just what your equipment is doing. Definitely one to hear.

**BLACK RHODIUM
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VERDICT

Clean, clear and open - the Breeze has many of the attributes of the higher-end Tempest cable but at a lower price.

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Ace Of Bass

Yamaha's new budget NS-F330 floorstander packs a powerful low-end punch, says Jon Myles.



Among quality audio companies few have the depth and breadth of products of Japan's Yamaha. The company produces A/V components, amplifiers, Blu-ray players, wireless streamers and headphones. For those who like to play as well as listen, its pro-audio division manufactures synthesisers, electronic keyboards, grand pianos, percussion instruments and guitars.

Then, of course, there's loudspeakers - which it has been building for more than half a century. Top of its range is the Soavo series and the likes of the excellent £3000 NS-F901 (see review *Hi-Fi World* September 2014) - a floorstander that has a sound to match its luxurious build.

But Yamaha also has a strong presence at the more budget end of the market - epitomised by the NS-F330 on test here. For £449 you get a lot of loudspeaker for your money. It's a traditional two-way, bass-reflex ported design measuring 950mm x 202mm x 297mm (H/W/D). The cabinet itself features curved side panels to minimise internal standing waves and unwanted resonance while the front baffle has a double structure for extra rigidity and features a mirror-like piano gloss finish (black or white available).

The twin 5" mid/bass drivers use a polymer-injected mica diaphragm (dubbed PMD by Yamaha) and operate down to a claimed 40Hz (see Measured Performance for our detailed specifications). Above them sits a 1" aluminium dome tweeter which is housed in its own horn-like waveguide which Yamaha says is derived from studio monitors and helps aid directivity.

At the back the rear-firing reflex port sits low down just above a twin pair of 'speaker binding posts for those who want to go down the bi-wiring route.

Construction is excellent for the price with that mirror-finish baffle giving the whole package a touch of class well above its modest price tag.

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SOUND QUALITY

With an 89dB sensitivity the Yamahas do not need massive amplifier power to generate high sound pressure levels - the 80 Watts of my Naim Supernait 2 being more than enough.

Positioned well away from the rear wall with a slight toe-in, the NS-F330 threw out a deep, wide soundstage with imaging quality somewhat better than you'd expect for such a relatively large speaker at this price point.

The panning sound effects on Kraftwerk's classic 'Autobahn' from the live 'Minimum-Maximum' collection shift seamlessly from side to side with a deliciously expansive feel. There was an excellent sense of



The 1" aluminium tweeter sits in its own waveguide which Yamaha says is derived from studio technology and aids directivity.

scale to the presentation with the sound pushed well forward into the room.

Bass quality is commendably good - those twin drivers operating together to produce a firm, fulsome low-end with little evidence of significant cabinet colouration. They dig deep too - imbuing Jah Wobble's descending bass line at the start of PIL's 'Public Image' with the requisite power and punch.

This provided a rock-solid foundation for Keith Levene's chiming guitar and John Lydon's snarling vocals - the whole thing pushed along with a good sense of timing.

There's decent detail on offer through the midband - although the Yamahas do sacrifice some outright clarity in favour of a softer, and undeniably safer, sonic signature. This is evidenced on Tom Waits' 'Swordfishtrombones' where the piano and Hammond organ parts have a diffuse air to the leading edge of their notes.

Up top the tweeter has good extension and projects well but lacks some air and atmosphere - especially on female vocals where an element of harshness can creep in. Listening to Sinead O'Connor's 'The Lion And The Cobra' (24/96) I'm hankering for the sort of definition and delicacy some - not all that much more expensive - designs can offer (Wharfedale's Diamond 230s and JBL's Arena 180s spring to mind).

All this needs to be taken in context, however. The NS-F330s cost just £449 and offer a great deal of real estate for your money. At that price they are liable to be partnered with relatively budget CD players and amplifiers where their softer nature will likely mask the strident nature of some of these components.

More importantly, they do have a solidly big sound with excellent rhythm and timing and the ability to fill even large rooms with ease. Playing Mahler's 'Symphony No 8' (Sir Georg Solti/Chicago Symphony) the Yamahas convey the scale and power of the massed orchestral and choral forces at work - simply demanding me to turn the volume up to hear the full majesty of the performance.

Admittedly, the brass sections were perhaps not quite as hard-edged as they should be, but importantly the dynamism of the performance came through in a thoroughly satisfying way.

CONCLUSION

Big, budget loudspeakers will always involve some compromises - and the Yamaha NS-F330s are no different. They trade outright detail and definition for a warmer presentation that could be welcome if your partnering equipment is on the bright side. They also offer firm, controlled bass and an excellent soundstage - all for less than £450.



Twin loud-speaker binding posts sit below the rear-firing port and allow for bi-wiring if required.

MEASURED PERFORMANCE

The NS-F330 bass/midrange units and cabinet in combination measure flat across much of the audio band. However, there is a big suckout at crossover between these units and the tweeter, seen by the wide dip around 3kHz in our analysis. Nowadays, this classic problem is easily corrected and modern loudspeakers lack such a dip, which makes me think it is has been

knowingly put there to give a soft sound that is both "classic" in nature and ameliorate harsh digital MP3 recordings, cheap CD players etc. Output from the treble unit was ragged by today's standards; even as budget loudspeakers go the tweeter is unimpressive and will sound less than couth.

Bass output is strong down to 40Hz, with a small peak; the rear port (red trace) applies broad damping. This will produce obvious bass, of good (well damped) quality.

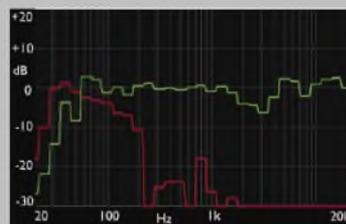
Generating a very high 89dB sound pressure level (SPL) from one nominal Watt (2.8V) of input, these Yamahas will go very loud with any amplifier, around 50 Watts is the most needed - or usable.

The impedance curve sits neatly at 5 Ohms minimum, measurement with pink noise returning a 7 Ohm overall value. The impedance curve is typical of a conventionally engineered two-way design, and it also confirms good bass damping in the width of the port's influence around 50Hz.

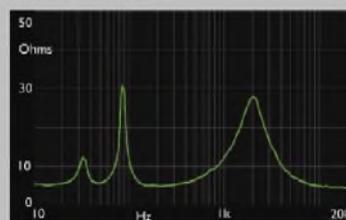
The NS F-330 is well engineered but it will sound 'soft' and treble a little ragged. NK

FREQUENCY RESPONSE

Green - driver output
Red - port output



IMPEDANCE



YAMAHA NS-F330
£449



GOOD - worth auditioning

VALUE - keenly priced

VERDICT

A budget floorstander with a powerful low-end and soft midband. Treble could be smoother but at £449 represents decent value for money.

FOR

- powerful, tuneful bass
- good soundstage
- easy to drive
- build quality

AGAINST

- soft midband
- treble could be better
- strong competition

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Sonica Sound

Oppo makes its first foray into streaming – with the Sonica combined DAC and network player. Jon Myles likes what he hears.

Oppo first forged its audiophile reputation with its range of Blu-ray players which utilised the outstanding ESS Sabre DAC for exceptional sound quality. Indeed, we still use its BDP-105D for CD replay in the Hi-Fi World office.

Since then the US-based manufacturer has branched out into headphones and portable headphone DAC/amplifiers. Now it's entered the world of streaming with the new Sonica – a digital-to-analogue convertor and network streamer costing £799.

It's been a hotly-anticipated product with rumours and speculation about its specifications circulating on the internet for months. Little wonder, then, that we were determined to get our hands on one of the first review samples.

Housed in a half-width case, the Sonica is a compact unit measuring 76mm x 254mm x 360mm. Despite the relatively small size, in typical Oppo fashion there's a host of features packed inside. Chief amongst them is the use of an ES9038PRO

32-bit HyperStream DAC chip from ESS Technology – the flagship of that firm's Sabre Pro series and capable of handling files up to 32bit/768kHz and DSD512 over USB.

There's also Bluetooth and Apple AirPlay for streaming from tablets and 'phones and the Sonica is also DLNA compliant so it can find music stored on all NAS drives, servers or computers on a home network and play them back in up to 24bit/192kHz resolution (either wired or wirelessly).

Additionally there are two USB type A inputs (one on the front, one on the rear), a USB B socket, coaxial and optical digital as well as a single set of RCAs for analogue input. With the latter, though, Oppo advises that the signal passes through analogue-to-digital and then digital-to-analogue conversion – so it does not recommend using the Sonica as a replacement for a traditional pre-amp for analogue sources.

The rear panel has both balanced XLRs and unbalanced RCA outputs with Oppo saying the DAC's audio output path is fully balanced from the DAC chip all the way to the

XLR outputs while the RCA signal is converted from the balanced output. All the audio circuitry is powered by a linear supply using a toroidal transformer.

At the front there are rotary controls for volume and source selection which flank a 2.8-inch OLED display which gives read out of the sound levels and information on the audio signal.

For full control, though, you'll need to download the free Sonica app (iOS and Android). It's a well-designed piece of software which gives full access to all the streaming services and has the usual features such as album artwork, creating playlists etc.

Finally, the unit will also connect to Oppo's soon to be released range of wireless loudspeakers – allowing multi-room streaming. The only thing missing, really, is a headphone output – but then Oppo does make its own headphone amplifier.

SOUND QUALITY

The Oppo is obviously positioned for high-resolution replay – so that's how I started out. Suffice to say it



quickly became apparent that this is a DAC with the ability to dig deep into recordings to retrieve essential musical details.

Streaming a 24bit/96kHz file of The Pogues 'If I Should Fall From Grace With God' the Sonica did an exceptional job of rendering the distinctive sound of each instrument in the band - tin whistle, mandolin, accordion, dulcimer, banjo, horns and more - with precise placement. On the frantic 'Fiesta' there was a superb tempo to the sound but the leading edge of notes were never blurred.

The lower registers are taut and focussed so on A Certain Ratio's 'I Feel Light' the bass line had bounce and presence, sounding realistic and lifelike. Soundstaging is excellent, so the studio effect at the start of the track where the guitar rapidly switches from one speaker to the other was thrown wide into the room - but when the vocals came in they were anchored firmly in-between the 'speakers'.

Moving on to DSD via a MacBook Air with 'Mahler's Symphony No. 1' (Michael Tilson Thomas and the San Francisco Symphony), the Sonica revealed the benefits of this format. The quiet, almost ethereal string opening can sound muted on some DACs but positively shimmered here.

I tried it with a CD player, connected via an optical digital link. Spinning the Trip Hop of Portishead's 'Dummy', the Oppo extracted all the atmosphere of the recording, bringing extra breadth to the sound by highlighting little musical nuances; it could make a very good upgrade to any existing silver disc spinner.

The only caveat to all this is that the Sonica probably won't be for those who prefer a warmer sound with the edges softened. It instead errs towards the neutral with the emphasis on extracting as much musical information as possible. But if you want to hear how your discs or digital files sound than I'd recommend it.

CONCLUSION

Oppo's reputation goes before them. With network streaming, Bluetooth, USB and digital inputs this DAC can form the hub of any system. More importantly it also sounds superb and considering its capabilities is a bit of a steal at £799.



The rear has digital and analogue inputs, an RJ45 for Local Area Network and both XLR and RCA analogue outputs.



Inside the Oppo uses a linear power supply for the audio circuits with a toroidal transformer and is built around ESS Technology's top ES9038PRO 32-bit Hyperstream DAC chip.

MEASURED PERFORMANCE

Frequency response of the Oppo Sonica measured flat to 91kHz our analysis shows – very wide and likely using the fastest (brightest sounding) filter of the eight available on the new ES9038Pro DAC chip.

Output measured 4.5V from the balanced XLR output and 2.2V from the Phono socket (unbalanced) outputs, in line with current standards.

Dynamic range was very high at 124dB, in front of most competitors, if below the 130dB expected for the new ES9038Pro used in stereo mode (Oppo quote 140dB but that is an ESS mono mode figure).

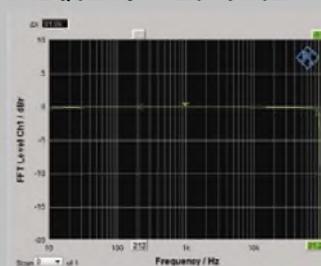
Distortion measured 0.013% at -60dB with 24bit, and 0.21% with 16bit – both very good figures. Our distortion analysis shows a complete absence of distortion products, being a summation of noise.

The Oppo Sonica measured well in every area and – with high dynamic range and low distortion – will give fine sound quality. **NK**

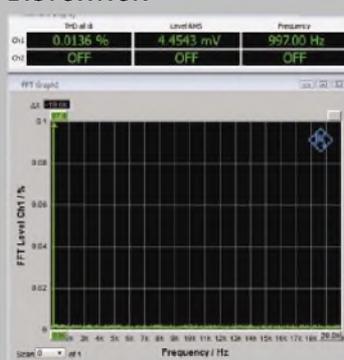
Frequency response 4Hz-91Hz
Separation 112dB

Noise	-123dB
Distortion	0.013%
Dynamic range (24bit)	124dB
Output (XLR/Phono)	4.5/2.2V

FREQUENCY RESPONSE



DISTORTION



OPPO SONICA
£799



OUTSTANDING - amongst the best.

VALUE - keenly priced.

VERDICT
A delightfully detailed and compelling-sounding DAC with the added advantage of network streaming and Bluetooth built in.

FOR
- detail
- flexibility
- network streaming
- Bluetooth

AGAINST
- nothing at the price

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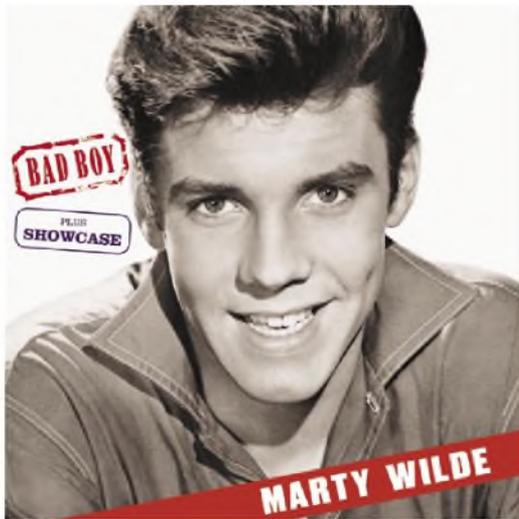
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MARTY WILDE

Bad Boy/Showcase
HooDoo

Three years ago, I had the pleasure of interviewing English rock'n'roll pioneer Marty Wilde. I quizzed him about the accepted UK perception that this country disappointed in terms of producing quality early rock'n'roll performers and songs and the presentation of the same via the media.

Interestingly, Wilde was more than bullish in how America received these much derided UK artists. "I think that we surprised them" he said. "There may have been a sneer early on but that changed. We were learning and they realised that. When I went across to America when the single, 'Bad Boy', was a hit, I did the Dick Clark TV show. It was their biggest show at the time but it was awful. It was amateur compared to us. Taking the biggest stars aside, a lot of the US singers were no better than we were. We had some good instrumentalists too. It took time for our guys to get up to speed, yes but the

likes of Hank Marvin, for example, learnt fast".

You can hear that 'Bad Boy' single here, within the original 1960 album along with another 1960 release 'Showcase'. The one tweak is that the duplicate take of Bad Boy on 'Showcase' has been removed. Instead, apart from benefitting from remastering, the package adds seven bonus tracks. Yes, there is some contemporary inherent compression surrounding the arrangements but the remastering aids instrumental separation as well as clarity in terms of the backing instruments.

Also look out for 'The Gerry Goffin & Carole King Songbook' (SoulJam), remastered and with thirty tracks; Conway Twitty's 'Rock House (Hoodoo), his 1956-1962 recordings, thirty hard-edged tracks and Sam Cooke's 'Win Your Love For Me' (SoulJam), his complete A and B-sides from 1956-1962 over sixty tracks and The Ventures' 'Collection' from 1960-1962.

AUDIOPHILE CD



T.REX

Bolan's Zip-Gun + Futuristic Dragon
(Deluxe Edition)
Edsel

Edsel continue to dig into the Bolan treasure chest to reveal more goodies for the dedicated fans; and there's plenty of them out there.

Presented in a book-type container, you can find both 1975's 'Bolans Zip Gun' and 1976's 'Futuristic Dragon'. 'Bolans Zip Gun' features the hit singles 'Light Of Love' and 'Zip Gun Boogie' while 'Futuristic Dragon' features 'Dreamy Lady' and 'New York City'. This deluxe media book edition includes twenty-one bonus outtakes and demos from the two albums, seven of which have been mastered from original first generation tapes in the possession of two dedicated fans. You can also find a book within including lyrics, ephemera and many press clippings.

These albums are intriguing because they show Bolan searching for new sounds, new genres, new favours and rhythms. More than

that, as his widow Gloria Jones stated, "A lot of people didn't understand the period between 1974 and 1975 when Marc gained the weight. He had worked ten years without a holiday. He was finally living". New ideas flowed from this rest period.

'Zip-Gun' retains a touch of the funky approach that Bolan adopted within 'Zinc Alloy' but the production has been stripped back which adds to the inherent musicality of this album. The mastering of this album is lively with plenty of air and space over the broad soundstage.

'Futuristic Dragon', although harking back to trademark Bolan boogie on occasion, is also gloriously pompous with an epic, grand vision that struts with egotistical stomp, nasty guitars, heady backing vocals and a sense. Mastering here is solid with the emphasis on midrange detail extraction.

This deluxe box set comprises three CDs plus a Blu-ray audio disc that arrives in a gatefold sleeve within a rigid slipcase and includes a 64-page hardback book, featuring new sleeve notes by Rolling Stone writer David Fricke. The set comprises various alternative and new stereo mixes plus several, previously unreleased BBC sessions.

Specifically, the first disc provides the mono master plus the A- and B-sides of the mono singles, mono French EPs plus a session recording of 'The Coffee Song'. The second disc offers the stereo version of the album plus seven previously unreleased stereo mixes and three session recordings of 'I Feel Free', 'Wrapping Paper' and 'The Coffee Song'.

The third disc looks at early versions, out-takes and alternative mixes of the songs, plus BBC sessions from November 1966 to January 1967 for 'The Saturday Club', 'Guitar Club' and 'R&B Club'. The

Blu-ray disc includes the US stereo version of the album, bonus stereo tracks, plus the US mono version of the album. The Blu-ray disc files are sampled at 24bit/96kHz. In all, nineteen tracks within this box set, of one form or another, are previously unreleased.

The CD masters are excellent in that they are relatively quiet while retaining and open and informative nature. The mids are smoothly implemented with enough elbow room in between instruments to enable the music to flow with ease. There's never any sense that frequencies are falling over each other to reach your ear. The sonics flow with ease although they tend to flow more successfully via the mono mixes rather than the 'novelty' stereo version whose mix sounds rather forced and clunky to these ears.

An informative, detailed and extremely well constructed set that should have something for every Cream fan.



CREAM

Fresh Cream
Polydor

AUDIOPHILE CD

The Doors used to be the house band at the small London Fog bar (L.A.), before they found fame. This newly-released box set features unearthed audio recorded at the club in May 1966. Previously unreleased and not even known to exist until recently, it marks the earliest recordings of the band.

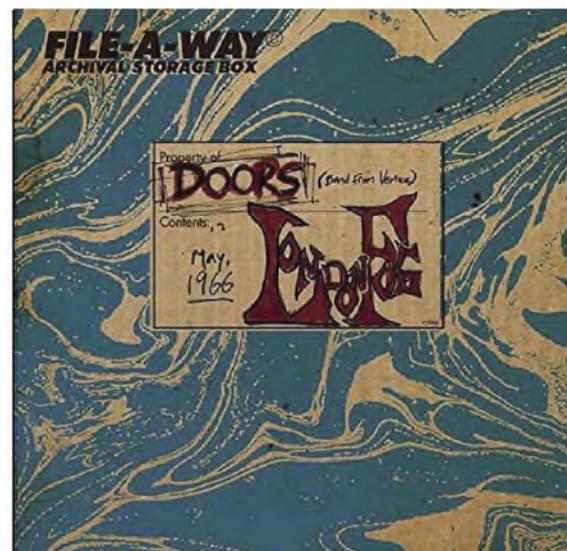
Presented in a lift-top box, the set features seven songs on both CD and a 10" record that's made to resemble a test pressing and remastered by Bruce Botnick who was interviewed in the last issue.

Apart from the liner notes the box includes a poster, the set list handwritten by John Densmore, a program for the Royce Hall UCLA student film screening plus a London Fog coaster. There are also liner notes included from Ronnie Haran-Mellen, who was the talent booker at the Whisky A Go Go. Haran-Mellen saw The Doors live

for the first time at the London Fog and then booked them as the permanent house band at the Whisky.

Also contributing liner notes is Nettie Peña, one of the lucky few to be in attendance at the London Fog for this fabled show. It was she who captured the audio on a 1/4" reel-to-reel recorder, as well as photographing the band that evening. Five black and white 8x10 re-prints of these unpublished photos are included here.

The point of this set is the rarity, archive value. Don't buy it looking for an audiophile treat. You'll be disappointed. This is a live performance with distant vocals, blooming bass, an unbalanced soundstage and audience chatter. Yet, Doors fans will adore it. Catching the band on the cusp of stardom, you can hear the confidence, the swagger, the sleaze, the dreamy, drunken delivery. A time capsule akin to The Beatles' Hamburg recordings.



THE DOORS

London Fog 1966
Rhino/Bright Midnight Archives



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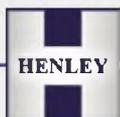
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Silver Jumbilee!

Martin Pipe goes bargain hunting amongst the crowds at the latest Audiojumble



Now in its 25th year, February's Audiojumble in Tonbridge's Angel Leisure Centre was well-attended – its organisers reported that it was the "busiest event to date". I was told by one incredulous stallholder that he sold three Garrard 301s, for £1000 each, within 10 minutes of the event's 9.30 'early-bird' opening, to overseas buyers presumably taking advantage of the weak pound.

Although in a rural UK location, a variety of different languages were heard on the day, European as well as Asian. Attendees were buying up practically everything vintage they could lay their hands on and loading it onto trolleys, trundled to transport in the car park. Whether they planned to use their acquisitions for home listening or merely sell them on for a tidy profit is unknown.

Nevertheless, lots of bargains were left for the rest of us – and a good few rarities were evident. My favourite stall was in the second (smaller) hall. It was packed with a huge array of non-working gear of varying vintage – judging by the labels, they were faulty items that had been dropped off at a repair

shop for an estimate. The quotes were presumably rejected, and the equipment left for the repairer to dispose of. Amps, tape decks, tuners, receivers and CD players were stacked vertically on tables.

By the end of the day, unsold items were practically being given away. A four channel Yamaha Portastudio (ideal for quad use) for £2? All it needed was a couple of drive belts. Similar attention was needed to fix a Yamaha 3-head cassette deck that was flogged for a fiver. This 1992 model, which was in great shape cosmetically, had a 'play-trim' pre-Dolby HF cut/boost facility for taming overly 'bright' recordings or restoring 'sparkle' to pre-recorded cassettes.

At the end of the event, a Philips dual-tray CD/MP3 player and CD recorder from the late 1990s sold for a quid. So too did an ingenious 2010-vintage Teac contraption that combined a basic cassette deck, USB MP3 recorder and MP3-compatible CD player. The cassette section, a poor-quality item that disgraces the Teac legacy, didn't work and wasn't worth repairing. But the unit's remaining two-thirds was fully-functional.

The best bargain was probably

a Sony TC366 open-reel deck – unbelievably, this too could have been yours for a pound!

Faulty gear not to your taste? With careful selection of products from different stalls, the listener on a tight budget could have built up a more than competent playback system (CD or vinyl) for less than £100. Musically-speaking, this would have trounced iPod docks and other modern devices selling new for twice the money.

Add to this the equipment demonstrations, the music stalls covering a multitude of tastes and the chance to chat with like-minded enthusiasts and the result is a most enjoyable day out.

Words and pictures: Martin Pipe

The next Audiojumble takes place on Sunday 1st October 2017 at the Angel Leisure Centre, Tonbridge, Kent TN9 1SF. www.audiojumble.co.uk Hope to see you there!



Way back in 1992 Maplin Electronics were the importers of Dutch firm Velleman's K4000 amp, a fixed-bias ultra-linear design using two pairs of EL34s in parallel push pull for each channel. This is the 1999 K4040 revision, which sold for £700 in kit form. Here it's built, seasoned by use and on sale for £850.

FEATURE

A classic Type 634 Philips valve radio from 1933. Quite a few antique radios spanning radio's golden age were being offered at this Audiojumble but none had the classic appeal of the medium/long-wave 634. Beautifully-made inside with its

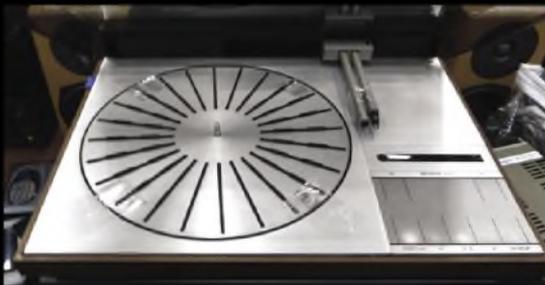


Litz-wire 'superinductance' coils wound around glass formers, this restored one was in good physical condition and working order and selling for £350.

For a mere £135, you could have acquired these unusual 1970s-vintage B+N Radford Monitor 180s speakers. They were the brainchild of Arthur H. Radford and the fruit of his research into the interaction of room, air and speaker. It featured a 30cm



woofer, two pairs of 6cm dome midrange drivers and a 3cm dome tweeter mounted on baffles angled with respect to each other.



The belt-driven Beogram 4002 linear-tracker was one of the coolest looking turntables of the 1970s. The second arm contains a sensor that detected the type of record being played. With the proprietary Bang and Olufsen MMC20EN cartridge, a well-maintained model can sound good for a hassle-free automatic. This £300 specimen was in full working order.



A 682ZX 'discrete head' Nakamichi cassette deck from the early 1980s. It featured automatic azimuth-adjustment for the recording head, Dolby B/C noise reduction, pitch control, fluorescent metering, DC amplifiers, dual-capstan transport and a test-tone generator for tape optimisation. Restored with new belts, this 682ZX could have been yours for £300.

A 1988 Naim NAC32 was being offered for £300. According to the label, it's populated with an NA322/3 NA324/6 tape-output buffers, NA321/4 output drive cards, NA328/1 variable-level line inputs and a NA325/4 switch-on relay.



These Altec 605A coaxial drivers from the 1960s comprise electrically-independent 15in. woofers with 2.5-pound Alnico magnets and field-replaceable multicell horn tweeters. The

seller, who wanted £600 for this pair, pointed out that The Beatles used Altec 605As to monitor nearly every recording they made at Abbey Road Studios.



During the early 1980s Nytech's CTA252 receiver proved to be a home-grown alternative to Japanese budget receivers. The CTA252 is still supported with service kits (nytechaudio.com/) but the seller of this £100 specimen reckoned that no such attention was necessary.

This Garrard Zero 100 from the early 1970s used a mechanical linkage on the tonearm to gradually alter the orientation of the cartridge in an effort to minimise distortion. Other features include idler drive from a synchronous AC motor, pitch control and automatic operation. This one could have been yours for a bargain £30.



A fully-functional Philips CD104 CD player was being offered for £195. Introduced originally in 1984, this robustly-built machine featured the classic CDM1 transport, 14-bit DACs and 4x oversampling.



Here's something unusual - Sharp's RT-811E 8-track cartridge recorder, dating from 1974, for those looking to record their own albums. Suitable blank carts were available from a number of vendors (among them Maxell, Scotch and BASF). On sale for just £50.

The Pioneer PL-L1000 linear-tracking turntable was introduced in 1981. It featured a quartz-locked motor



and was built into a cabinet with 3mm die-cast aluminium plinth. Particularly noteworthy is the arm-traverse dial, which allows you to select the desired track even when the lid is closed. Well-preserved and in full working order, this one was going for £395.

A magnificent Tascam 32-2 reel-to-reel recorder. The 20kg 32-2 is a 3-head half-track deck with a transport that offers two speeds. This one was being offered for a mere £75. The empty Revox reels were for show and not included in the price.



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“Cables do make a difference for a wide variety of reasons”



Noel Keywood

I'm writing this column after returning from the Sound & Vision Show, Bristol and – perhaps surprisingly – it's about cables, the difficulties of dealing with them and, most importantly, the science. Yes, there is one!

If you read our Letters pages regularly, you will see a steady stream of letters praising the benefits of using good cables, most controversially mains cables. But there has always been a hard core of objectors who insist special cables make little or no difference and are, in effect, a scam. Worse, they have proof, whilst those that insist better and inevitably more expensive cables make a difference struggle to explain how they can do so. This leaves me, as an engineer, perplexed. I know cables do make a difference but trying to find technically plausible reasons that can be proven through measurement is difficult.

At the Show, reviewer Martin Colloms, publisher of *Hi-Fi Critic*, gave me a long and enthusiastic lecture on what he had found when measuring the vibrational behaviour of cables. In a nutshell, he has proof that cables are microphonic, producing a measurable signal when subject to vibration. He also spoke about using an accelerometer to measure vibration reaching the rear panel of an amplifier – the point being that vibration was there in measurably large form.

I found this fascinating. At shows I've seen huge cables sitting on wooden blocks to suspend them above the floor and been sceptical, but now it would seem there is good reason. Using blocks isn't very practical in the home and the cable is still prone – even more prone – to air borne sound pressure waves I would have thought. Martin made the point however that twisted and damped cable constructions were

effective in reducing vibrational sensitivity and quoted QED's top loudspeaker cable as a good example. It was good to learn that hard proof is obtainable about this phenomenon.

Now on to another way in which cables can influence the sound: radio frequency interference, or RFI. Cables are good aerials: they pick up radio. A high frequency spectrum analyser, or modern oscilloscope with FFT, can show what is being received. The point here being radio pickup by aerials is a big subject, well known about and easily measured. It is not conjecture.

How do radio signals affect a hi-fi after entering it? One mechanism I have dealt with is overload and rectification in a phono stage, cured by using bypass capacitors across the first transistor's base/emitter junction. Hi-fi systems close to South London's Crystal Palace TV transmitter can suffer from frame buzz which would rasp from the loudspeakers.

Nowadays, we are all surrounded by wi-fi transmitters so the RFI environment has become worse, not better. Whether wi-fi affects sound quality is an interesting question: it is certainly possible. One solution is to use screened loudspeaker cables and they are becoming ever more popular. Balanced screened interconnects are worth considering too.

And finally the politics of cables, as it affects me and you. A single objector managed to persuade the Advertising Standards Authority (ASA) that claims for cable differences were misleading to the general public. His argument rested solely upon lumped electrical parameters of cables (resistance, capacitance, inductance), not the outside influences I have mentioned here. Both *What Hi-Fi?* magazine and Russ Andrews were then challenged and spent much time and effort defending themselves to an

unbelieving ASA who, in *What Hi-Fi's* case, cleared them only to re-open the case later.

Superficially it was in the public interest; actually it was against it by attempting to stifle open and honest debate on observable phenomena behind actual experience. The problem here is that few cable manufacturers have the knowledge or means to defend their products through measurement. Happily, no one took much notice of the inquisitorial panel and kept on buying cables for their obvious sonic benefits.

To continue on this theme of simplistic models invoking simplistic responses, digital cables were once thought to have no influence on sound, being totally transparent. Then professionals began to notice that long cable runs (in studios) were degrading sound quality. Jitter was the found to be the cause, introduced by zero crossing indeterminacy, imposed by limited bandwidth.

That issue affected copper electrical cables. But exactly the same problem of limited bandwidth also affects cheap plastic optical cables; they introduce not only loss but also have limited bandwidth and add jitter. Glass has greater bandwidth, less jitter and less loss. That's why I use a QED glass optical cable when DAC testing to ensure it is not the test cable limiting data rate to the device under test, adversely affecting results.

I find hard core tech talk about cables fascinating – which is why I enjoyed hearing about microphony from Martin at this year's Sound & Vision Show. Cables do make a difference, for a wide variety of reasons. Exactly how much difference they make depends upon the equipment being used and local conditions. The suggestion is then, borrow cables first for demo at home, before buying. ●

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"The talented guitar picker is a wonder to behold"



Paul Rigby

come over all 'Grumpy Old Man' whenever I see a leaf blower. The leaf blower has to be one of the most inefficient, downright wasteful and completely pointless instruments of garden torture ever invented by humanity.

Recently I walked, relatively slowly, early one morning, down one road while, on the other side, an engrossed council 'worker', employed to actually pick up litter (well, I assume), blasted a tiny piece of paper with a leaf blower in the corner of a shop doorway for a long two minutes, in an effort to redirect it into the gutter where it would be a target for a large and very expensive road-sweeping machine. Thousands of pounds worth of kit for this obviously hazardous and dangerous job of moving a piece of paper all of three feet. I walked past the man. Eventually, I had to turn my head to look at him. He still hadn't moved the small piece of paper.

Another occasion. Another early morning start. Slurping coffee in a Neros coffee bar. I sleepily stared through the window and watched a similar performance by two more council workers. While one checked his texts on the phone before he entered his large road-sweeping machine, the other offered the same pathetic paper-pursuing progress. He chased a few pieces of paper around the High Street like a five year old child might pursue a butterfly in a sun-lit field. Until the leaf blower coughed and died, that is. Then the man spent fifteen minutes locating an oil-based fuel can and refilled the leaf blower. The blower coughed into action again (polluting the air in the meantime) allowing the farce to begin once more. Whatever happened to the Mk. I brush?

And the musical connection to the above? A contrast. Compared to your £250-worth of leaf blower, I offer you a hundred quid's worth of acoustic guitar (maybe less), a man and a chair. This combination is one of the most efficient combinations known to man. Containing the right talent, of course. The guitar is perched upon the knee and the man remains relatively stable. Not a great deal of effort is detected. We're not talking ego-centric axeman here. Just zoom into the hands, though. That is where the magic occurs. The talented guitar picker is a wonder to behold. He can produce a symphony of notes. Music that sounds like it emanates from ten men. He can, alternatively, exude devastating emotions, his guitar ripping you apart in terms of despair or vehemence or, indeed, he can lift your spirit to unheard of heights, making you feel happy just to be alive. All of this from a man, sitting in a chair with a simple guitar.

Examples? Leo Kottke ('6 - and 12-String Guitar', Takoma) provides an avalanche of melodies and rhythms of an enviable complexity from the off. His finger-picking work is simply glorious, daring your foot not to tap. Incidentally, try and grab an album of Kottke's where the great man sings: he sounds like the lost son of Johnny Cash. Lovely.

Peter Walker is another one. His 'Rainy Day Raga' (Vanguard) was a visionary album from 1966, before ragas were fashionable. His modal guitar styles flow with ease while simultaneously being adventurous and boundary-breaking.

Doc Watson is an artist that is sometimes forgotten when guitar picking is concerned. Anyone who has heard him playing with his brother Merle Watson on 'Beaumont Rag'

or 'Billy in the Low Ground' on 'Treasures Untold' (Vanguard) will nod and realise that Watson (and his brother!) was another premier acoustic guitarist. The fingers fly and the strings collide.

Richard Thompson could sit in the chair but you'd need to electrify his guitar. On 'Strict Tempo!' (Ace), Thompson shows how wide is his view of guitar-based music and how successfully he can tackle even traditional material which can sometimes sound a little restricted in terms of stylistic reach.

Other individuals like to spread themselves about a bit, bringing in other instruments to enhance the variety.

Blues man, Dr Ross, was a Detroit-born great who influenced the likes of Cream. He was also a one-man band so his guitar joined additional accompaniment. But what efficiency! A gamut of sound from this blues powerhouse. You can hear more on 'One Man Band' (Takoma).

Brother of legendary folkie Pete Seeger, Mike Seeger was a multi-talented guy playing the likes of guitar, banjo, dulcimer, fiddle, autoharp and French harp. His vocals are earthy but the quality of his instrumental playing (on 'Mike Seeger', Vanguard) is breathtaking in both its intricacy but also the ease with which he applies himself to the task.

Of course, the performance of the finger-picking guitar player is conjoined with the audience. The latter rides along his string-borne sonic waves offering enthusiastic applause and approving comments. The only comment I wanted to offer the leaf blowing council workers were: "Just bend down and pick up the damn piece of paper, for god's sake!" ●

Annual Clearance

	Retail	Clearance
ATC SCM-11 (cherry)	£1,200	£1,019
Bel Canto REF500M power amplifier (pair)	£3,998	£2,199
Bel Canto REF1000M MK2 power amplifier (pair)	£7,000	£2,499
Bryston 283 SST2 1000W power amplifier (pair)	£19,000	£7,599
Burson Audio Timekeeper	£1,950	£1,199
Burson Audio Conductor SL3018	£1,199	£999
Burson Audio Soloist	£799	£679
Chord Chordette Maxx amplifier	£989	£799
Chord Sarum speaker cable (3.5m pair)	£3,850	£2,999
Clearaudio Performance DC turntable	£2,495	£1,999
Cyrus 82 DAC QX (Quartz Silver)	£1,970	£1,549
Cyrus SmartPower	£699	£349
Danon AVP-A1HD processor	£6,799	£1,499
Danon DVD-A1UD universal player	£4,500	£1,199
Devialet 200	£5,490	£4,399
Devialet 250 Companion	£7,990	£5,499
Devialet 400	£9,890	£6,999
Dynaudio Focus 220	£2,600	£799
Focal Diablo Utopia + stands (White Carrara)	£9,898	£6,499
Focal Scala Utopia V2 (Black Lacquer)	£21,399	£12,749
Grace M903 headphone amplifier	£2,150	£1,599
KEF Reference 1 (Gloss Rosewood)	£5,000	£4,249
KEF Reference 3 (Walnut)	£7,500	£6,399
KEF Reference 5 (Gloss Black)	£10,500	£8,899
KEF R500 (Walnut)	£1,500	£1,149
KEF R700 (Rosewood)	£2,000	£1,549
Lavry AD122-95 MKIII (analogue to digital converter)	£6,300	£3,199
Lavry 3000S (sample rate/bit depth converter)	£4,248	£2,099
Linn Akurate 212 (Rosenut)	£4,380	£3,299
Linn Akurate 4200 (Silver)	£5,270	£3,849
Linn LP12 Akurate (Walnut, no cartridge)	£5,270	£4,449
Linn Majik 4100 (Black)	£2,410	£1,899
Mark Levinson No32 Reference preamp	£15,000	£7,499
Moon 130 MiND streamer	£799	£499
Moon 330D MiND DAC streamer	£4,500	£2,999
Musical Fidelity E20 and E30	£900	£649
Naim CDS3	£6,795	£2,295
Pass Labs XP-25 phono stage	£12,000	£6,499
Plinius SA-Reference power amplifier	£17,000	£13,599
PMC Fact 12 (Tiger Ebony)	£12,995	£9,749
Proac D30R (Cherry)	£4,750	£3,749
Quad PA One headphone amplifier	£1,200	£999
Raidho D1 + stands (Walnut Burl)	£15,125	£10,599
Sennheiser HD800 headphones	£1,099	£799
Sennheiser IE800 headphones	£599	£499
Sim2 HT5000 projector	£42,500	£7,499
Sonus Faber Olympica II (Graphite)	£6,398	£5,049
Sonus Faber Olympica III (Walnut)	£8,998	£6,799
Sonus Faber Venere 1.5 + stands (Gloss Black)	£1,298	£999
Spendor ASR (Walnut)	£1,995	£1,399
Torus RM15 power conditioner	£7,900	£1,999
Vitus RCD-101 (Black)	£9,700	£7,249
Vitus RI-100 (Black)	£9,900	£6,999
YG Acoustics Carmel (Silver)	£20,000	£14,999

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“A single bot managed to buy 1000 tickets for a U2 concert in just one minute”



Jon Myles

In a recent column (Hi-Fi World December 2016) I bemoaned problem of on-line ticket reselling sites being used by touts to rip off music and sports fans – and the lack of government action to tackle the problem.

As you may know, these so-called secondary ticketing sites offer fans the chance to sell tickets they can't use to others – and also give the chance for those who've missed out on sold-out gigs the chance to attend. Look through the likes of StubHub, Viagogo and Seatwave and you'll soon find you can obtain tickets for just about any forthcoming concert in the UK, as well as a host of other events – as long as you are prepared to pay the asking price.

The problem is the system has been hijacked by sophisticated touts that use bots – automated computer programmes – to buy tickets in bulk and then sell them at vastly inflated prices on the reselling sites. Viagogo, for example, was recently criticised for selling tickets to an Ed Sheeran Teenage Cancer Trust gig for up to £5,000 while an £85 ticket to see Adele at the O2 in London last year was reportedly on offer for £24,840.

But despite a report published last year by Warwick University Professor Mike Waterson which recommended a raft of proposals to protect consumers, there's been little action by the authorities – until now, that is.

The good news is that the government is finally proposing action, including unlimited fines for on-line touts who bulk buy tickets and sell them for inflated prices.

Under a proposed amendment

to the Digital Economy Bill it will be illegal to use bots to by-pass limits on the maximum number of tickets that can be purchased by a single buyer.

The government has also warned it wants the big companies in the secondary ticket market to do more to identify touts and differentiate them from individual fans who want to sell tickets for events they can no longer go to. If they don't, they have been told further action could be taken.

The move has been welcomed by the music industry. Jo Dipple, chief executive of music industry representatives UK Music, said “Banning bots is a step towards ensuring the ticketing market for live events works more fairly for gig-goers”. “Massive profit is made by people who are taking value out of the music industry and putting tickets out of the reach of music fans”.

However, it's tempting to wonder whether the measures will go far enough. New York, for example, has taken a tougher line by recently passing a law making the use of bots to buy tickets illegal, offenders facing the threat of a jail term of up to 51 weeks. The legislation was brought in after it was revealed a single bot managed to buy 1000 tickets for a U2 concert at Madison Square Garden in just one minute.

Then there's the Australian state of Queensland, which has banned the resale of any tickets for events in its main stadiums for more than 10 per cent of its original price. The only exception is for non-profit organisations who are selling for fundraising purposes.

This seems an eminently more

sensible idea. It means purchasers are still able to sell tickets to events they cannot attend while recouping the money they've paid out, plus any additional costs associated with the resale (postage, commission etcetera).

It is also eminently more enforceable, as anyone can see what the tickets are being sold for when they log-on to the re-selling websites and any breaches of the law can be reported.

A similar nationwide law in this country would almost immediately wipeout the problem of on-line touts fleecing fans. It would also eliminate one of the main problems of the government's current proposals; just how are they to be enforced?

While the use of bots can be detected by the agencies selling the original tickets it puts the onus on them to do so and then report the offence to the police - something which may or may not happen.

There's also the question of how seriously the authorities will take the matter. There's all likelihood that an already overstretched police force will put a relatively low priority on chasing offenders, no matter what the penalties.

In contrast a nationwide ban on reselling tickets to any live event at more than 10 per cent of their face value on the lines of the Queensland initiative would virtually wipe out the problem at a stroke and go a long way to stop ordinary fans being fleeced, or priced out of seeing their favourite artists.

Barring that, don't expect to see those sky-high prices disappearing from the secondary ticketing sites any time soon. ●

"My cassettes could have been a fascinating record of late-1970s life"



Martin Pipe

As a primary-school lad, the one object I desired above all else was my very own radio-cassette recorder – something like the big Sony that belonged to my dad. I can still remember the model I was given for my 11th birthday, a monophonic Jones RC6003 bought at the local Argos. A Japanese OEM product, it was more affordable than 'branded' equivalents from the likes of Sony, Hitachi, Sanyo, Philips and (National) Panasonic. The £29.95 unit had a 3-band radio tuner so I could record, as well as listen to, broadcast music. Better still, it could be powered from batteries (an unwieldy collection of 'C' cells) as well as mains, meaning that portable operation wasn't out of the question.

It had an inbuilt condenser microphone enabling me to tape family, friends and surroundings – the beginnings of my lifelong fascination with recording. The school playground, lessons, my younger sister's singing, dinnertime at home and a trip to the park could be captured and then played back.

Unfortunately, it was equally adept at picking up noise from the deck's motor. I subsequently found at a jumble sale a pre-war carbon-granule microphone in a Bakelite case, which I connected up to the external microphone input of the Jones. It was audibly inferior to the integral mic with a restricted frequency response, little sensitivity to speak of and an unpleasant harshness.

But I could place the mic some distance away for clandestine taping (one of the doll's tea-parties organised by my sister was captured by this arrangement!). I then discovered the 'remote' socket – basically a 2.5mm jack, inserted in

the motor supply circuit. It enabled the motor, and thus recording or playback, to be engaged or disengaged using a switch wired across the plug terminals. The socket was positioned next to the microphone input for the benefit of transducers that had a remote switch built into the handle. I got up to plenty of mischief with that too! My cassettes could have been a fascinating record of late-1970s life. Most, alas, were repeatedly reused though.

The Jones had outputs as well as inputs. I can remember connecting its DIN socket to my dad's Amstrad 5050 receiver and Audiokraft speakers. Entry-level 'hi-fi' the latter may have been, but they were far more revealing than the Jones's audio system. I couldn't help noticing how much hiss was polluting my recordings! There was an earphone socket too, and I appreciated 'on-the-move' enjoyment of the era's hits, captured from the Top 40 run-down with adept use of my remote control (the budget Jones lacked a mechanical pause button!) The Police, Queen, Gary Numan, ELO, Supertramp... they all shaped my embryonic tastes, even though that tinny white plastic earpiece hardly did justice to music. With an adaptor I could however connect full-sized headphones for a 'fuller' sound.

Others had evidently been thinking on similar lines. The same year (1979) I took delivery of my modest radio-cassette, Sony launched its Walkman (then called the 'Stowaway'). It was thrice as expensive as my Jones and, although remarkably compact and capable of stereo reproduction, couldn't record.

I had to wait five years before I got a 'personal stereo' of my own. It was a cheap Walkman knock-off, complete with two headphone sockets. Battery life was poor but

I could listen to taped LPs, 45s and radio in stereo through lightweight headphones.

Over the years that followed I went through a succession of cassette personals. Then came the digital age. I never really got on with personal CD players, although I did flirt with DCC and Minidisc (both of which allowed recording).

Next was one of the first hard-drive MP3 players, the 6GB Creative DAP Jukebox circa 2000. Battery life was atrocious while sound quality wasn't anything special. But it paved the way for the iPod and solid-state devices.

For the past three years, my portable listening was via one of the latter, Cowon's 32GB D20, a clever little device that also incorporated recording, a calendar, photo-viewer, note-taking and FM radio. It supported numerous formats but its ability to drive headphones left much to be desired. Unfortunately my D20's crucial touch-screen stopped working just before Christmas, and as a result became useless!

Its replacement is a second-hand FiiO X3. This hi-res capable player lacks the D20's gadgets, meaning that the focus is on music playback – which it does extraordinarily well. Headphone output is strong, and there's a digital output for offboard DACs. And best of all? In terms of musical involvement, the X3 is comparable to my Walkman Pro (fed with metal tapes recorded from virgin vinyl) but without wow, flutter or tape-changes to worry about.

There's an obvious improvement in imaging too. Switch to better 'phones (Oppo PM3s), and the listening experience is close to what I'm used to at home. FiiO's range has since expanded and now it's time to discover how its higher-end models sound! ●

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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 Koda 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.

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

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

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

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

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

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



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

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

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

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

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

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



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

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

ARISTON 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 GL75 1970 £15.6S
Simple, well engineered motor unit with soft, sweet sound and reasonable tonearm. Good spares and servicing support even today.

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



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

TOPEARMS

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 Stryx PJ3 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 TECNODARM A 2003 £442
Clever reworking of the Reza 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-integrateds.

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

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

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

MCINTOSH MA6800 1995 £3,735
Effortlessly sweet, strong and powerful with semi-styling to match.

DELTEC 1987 £1,900
Fast, dry and with excellent transients, this first DPA integrated is the real deal for eighties obsessives. Ridiculously punchy 80W per channel from a tiny, half-size box. Radical, cool and more than a little strange.

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



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

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

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

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



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

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

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

ROTEL RA-820BX 1983 £139
Lively and clean budget integrated that arguably started the move to minimalism.

NAD 3020 1979 £69
Brilliantly smooth, sweet and punchy at the price and even has a better phono stage than you'd expect. The archetypal budget super-amp.

ROGERS A75 1978 £220
Lots of sensible facilities, a goodly power output and nice sound in one box. The later A75II and A100 versions offered improved sonics and were seriously sweet.

A&R A60 1977 £115
Sweet and musical feature-packed integrated; the Audiolab 8000A remains a classic.



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

SUGDEN A21 1969 £ N/A
Class A transistor integrated with an eminently likeable smoothness and musicality. Limited inputs via DIN sockets.

ROGERS CADET III 1965 £34
Sweet sounding valve integrated, uses ECL86 output valves, even has a half useable phono stage, sweet, warm a good introduction to valves

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

POWER AMPLIFIERS

ELECTROCOMPANIET NEMO 2009 £4,995 (EACH)

Norwegian power station as cool as a glacier tonally, yet impresses with sheer physicality and fleetness of foot. 600W per channel.

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

QUAD II-80 2005 £6,000 PER PAIR

Quad's best ever power amplifier. Dramatic performer with silky but dark tonality, blistering dynamics, serious power and compellingly musical sound.



QUAD 909 2001 £900
Current-dumper has a smooth and expansive character with enough wallop to drive most loads. Not the most musical, but superb value all the same.

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

MARANTZ MODEL 9 1997 £8000
Authentic reproduction monoblocks still more than cut the sonic mustard. Highly expensive and highly sought after.

MICHELL ALECTO 1997 £1989
Crisp, clean and beautifully controlled with gorgeous styling. Partnered with the £1650 Orca this sounds delicious!



MUSICAL FIDELITY XA200 1996 £1000
200W of sweet smooth transistor stomp in a grooved tube! Under-rated oddity.

PIONEER M-73 1988 £1,200
Monster stomp from this seminal Japanese power amplifier, complete with switchable Class A and Class B operation. Clean, open and assured sounding, albeit a tad behind the pace on high speed dance music. Rosewood side cheeks and black brushed aluminium completes the experience.

KRELL KMA100 II 1987 £5,750
Monoblock version of the giant KSA-100 is one of the seminal 80s transistor power amplifiers. Massive wallop allied to clean and open Class A sound makes this one of the best amplifiers of its type.

RADFORD STA25 RENAISSANCE 1986 £977
This reworking of Radford's original late sixties design was possessed of a wonderfully rich, old school valve sound with enough power (25W) and lots of subtlety.

QUAD 405 1978 £115
The first of the current dumpers is a capable design with smooth, effortless power and a decently musical sound. 606 and 707 continue the theme with greater detail and incision.

HH ELECTRONICS TPA-50D AMPLIFIERS 1973 £110
Simple design with easily available components, solid build quality and fine sound make for a surprisingly overlooked bargain

LECSON AP1 1973 £ N/A
Madcap cylindrical styling alluded to its 'tower of power' pretensions, but it wasn't. Poor build, but decently clean sounding when working.

QUAD 303 1968 £55
Bullet proof build, but woolly sound. Off the pace, but endearing nonetheless. Some pipe smoking slipper wearers swear by them!

LEAK STEREO 20 1958 £31
Excellent workaday classic valve amplifier with decent power and drive. Surprisingly modern sounding if rebuilt sympathetically. Irrepressibly musical and fluid.



LEAK STEREO 60 1958 £N/A
Leak's biggest valve power amp offers 35 Watts per channel and more low end welly than the smaller Stereo 20. Despite concerns over reliability rarity value means high price.

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



LEAK POINT ONE, TL10, TL12.1, TL12 PLUS 1949 £28
Early classics that are getting expensive. Overhauling is de rigueur before use, using original parts if possible. Surprisingly crisp and musical. Deeply impressive in fine fettle.

PRE AMPLIFIERS

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



CROFT MICRO 1986 £150
Budget valve pre-amp with exceptionally transparent performance.

CONRAD JOHNSON MOTIV MC-8 1986 £2,500
Minimalist FET-based preamplifier is brilliantly neutral and smooth with a 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 mono-blocks - cloudy and vague sound means it's for anacrophiles only.

LOUDSPEAKERS

WHARFEDALE DIAMOND 10.3 2010 £290
Great small standmounters for audiophiles on a budget; dry punchy sound with impressive sound-staging at the price.



YAMAHA SOAVO 1.1 2009 £3,000
Musical, transparent with impressive dynamics and cohesion. Excellent build and finish.

USHER BE-10 2009 £10,500
Clever high end moving coil design with immense speed and dizzying clarity allied to epic punch. Needs the best ancillaries to fly, though...



SPENDOR A5 2009 £1,695
Multi-talented floorstanders with generous scale and punch and Spendor's classic mid-range detail. Deliver a sound that thoroughly engages whatever you care to play.

MONITOR AUDIO PL100 2008 £2,300
The flagship 'Platinum' series standmounter has a lovely warm and delicate sound with superlative treble.



MARTIN LOGAN SOURCE 2008 £1,600
Brilliant entry level electrostatics, giving a taste of loudspeaker esoterica for the price of most moving coil boxes. Tremendous clarity, evenness and delicacy, although not the world's most powerful sound.

PMC OB11 2008 £2,950
Cleverly updated floorstanders give scale and solidity in slim and well finished package.

ISOPHON GALILEO 2007 £2,100
Big standmounters that really grip the music and offer quite startling dynamics and grip.

ONE THING AUDIO ESL57 2007 £1,450
One Thing Audio's modifications keep the good old ESL57 at the very top of the game.

MOWGAN AUDIO MARON 2007 £3,995
Massively capable loudspeakers that offer dynamics, scale and clarity in an elegantly simple package. Wide range of finishes, too.

B&O BEOLAB 9 2007 £5,000
Technically impressive and visually striking loudspeakers with sound quality that more than matches their looks.



ISOPHON CASSIANO 2007 £12,900
Drive units featuring exotic materials allied to superlative build quality result in an immensely capable loudspeaker. Not an easy load to drive, however.

B&W 686 2007 £299
Baby standmounters offer a sophisticated and mature performance that belies both their dimensions and price tag.

QUAD ESL-2905 2006 £5,995
The old 989 with all the bugs taken out, this gives a brilliantly neutral and open sound like only a top electrostatic can; still not a natural rock loudspeaker, though.

B&W 801D 2006 £10,500
In many respects, the ultimate studio monitor; dazzling clarity and speed with commanding scale and dynamics.



REVOLVER CYGNIS 2006 £5,999
Revolver pull out all the stops and show what they can do with this magnificent flagship loudspeaker. A superb monitor that is like a mini B&W 801D in many ways.

USHER BE-718 2007 £1,600
Beryllium tweeters work superbly, allied to a fast and punchy bass driver. The result is subtle, smooth and emotive.

USHER S-520 2006 £350
Astoundingly capable budget standmounters that offer detail and dynamics well beyond their price and dimensions.

ACOUSTIC ENERGY AE1 CLASSIC 2006 £845
Brilliantly successful remake of an iconic design; not flawless, but surely one of the most musical loudspeakers ever made.



MISSION X-SPACE 1999 £499
The first mass production sub and sat system using NXT panels is a sure-fire future classic - not flawless, but a tantalisingly unboxy sound nevertheless!

MISSION 752 1995 £495
Cracking Henry Azima-designed floorstanders combined HDA drive units and metal dome tweeters with surprisingly warm results. Benign load characteristics makes them great for valves.

TANNOY WESTMINSTER 1985 £4500
Folded horn monsters which sound good if you have the space. Not the last word in tautness but can drive large rooms and image like few others.



CELESTION SL6 1984 £350
Smallest two way design complete with aluminium dome tweeter and plastic mid-bass unit set the blueprint for nineteen eighties loudspeakers. Very open and clean sounding, albeit course at high frequencies and limp in the bass. Speakers would never be the same again...

HEYBROOK HB1 1982 £130
Peter Comeau-designed standmounters with an amazingly lyrical yet decently refined sound. Good enough to partner with very high end ancillaries, yet great with budget kit too. A classic.



QUAD ESL63 1980 £1200
An update of the ESL57, with stiffer cabinets. Until the 989, the best of the Quad electrostatics.

MISSION 770 1980 £375
Rank 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 Rextrene-based floorstander gave a truly wideband listen and massive (500W) power handling. A very neutral, spacious and polite sounding design, but rhythmically well off the pace.

SPENDOR BC1 1976 £240

Celestion HF1300 tweeter meets bespoke Spendor Bextrene mid-bass unit. The result is a beautifully warm yet focussed sound. A little bass bloom necessitates careful low-stand mounting.



IMF TLS80 1976 £550
Warm and powerful 1970s behemoth with transmission loading and a mixture of KEF and Celestion drive units. Impressively physical wideband sound but rhythms not a forte.

HH ELECTRONICS TPA-50D AMPLIFIERS 1973 £110

Simple design with easily available components, solid build quality and fine sound make for a surprisingly overlooked bargain. Not exactly stylish, however.

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

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

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

SYSTEMS

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



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

ARCAM SOLO MINI 2008 £650
Half the size and two-thirds the price of a full-sized Solo, the Mini gives very little away in terms of performance to it bigger brother.

MERIDIAN F80 2007 £1,500
Fantastically built and versatile DVD/CD/DAB/FM/AM unit, designed in conjunction with Ferrari. Ignore nay-sayers who sneer that it isn't a 'proper' hi-fi product. Just listen.

SHANLING MC-30 2007 £650

Quite possibly the cutest all-in-one around with fine performance from the CD player, tuner and MP3 player input. Very low power, though.



AURA NOTE PREMIER 2007 £1,500
Lovely shiny CD/tuner/amplifier with fine sound quality and dynamic abilities.



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

ARCAM SOLO NEO 2006 £1,100
Excellent all-in-one system, with a warm, smooth and balanced sound to match the features and style.

PEACHTREE AUDIO IDECCO £1,000
Excellent sounding iPod dock, impressive DAC and fine amplifier section make this an excellent one box style system.



TUNERS

ARCAM FMJ T32 2009 £600
Excellent hybrid FM/DAB+ tuner with a smooth, engaging sound. Factor in its fine build and it's a super value package.



MAGNUM DYNALAB MD-100T 2006 £1,895
One of the best ways to hear FM that we know; superbly open and musical sound in a quirky but characterful package.

MYRYAD MXT4000 2005 £1,000
Sumptuous sound and top-notch build quality make for a tempting AM/FM package. Warm and richly detailed on good-quality music broadcasts

NAIM NAT03 1993 £595
The warm, atmospheric sound is further proof of Naim's proficiency with tuners.

CREEK CAS3140 1985 £199

Excellent detail, separation and dynamics - brilliantly musical at the price. T40 continued the theme...

QUAD FM4 1983 £240
Supreme ergonomics allied to a pleasingly lyrical sound with plenty of sweetness and detail made this one of the best tuners around upon its launch.



NAD 4040 1979 £79
Tremendously smooth and natural sound allied to low prices and good availability make this budget analogue esoterica

MARANTZ ST-8 1978 £353
Marantz's finest radio moment. Warm, organic sound plus an oscilloscope for checking the signal strength and multipath.

YAMAHA CT7000 1977 £444
Combines sleek ergonomics, high sensitivity and an explicit, detailed sound

SONY ST-5950 1977 £222
One of the first Dolby FM-equipped tuners, a format that came to nought. Still, it was Sony's most expensive tuner to date, and boasted good sound quality with brilliant ergonomics.



ROGERS T75 1977 £125
Superb mid-price British audiophile design, complete with understated black fascia. Smooth and sweet with fine dimensionality.

SANSUI TU-9900 1976 £300
A flagship Japanese tuner. It boasts superlative RF performance and an extremely smooth and lucid sound.



TECHNICS ST-8080 1976 £180
Superb FM stage makes for a clean and smooth listen.

REVOX B760 1975 £520
The Revox offers superlative measured performance although the sound isn't quite as staggering as the numbers. Fine nonetheless, and surely the most durable tuner here?

SEQUERRA MODEL 1 1973 £1300
Possibly the ultimate FM tuner. Massive in terms of technology, size and features dedicated to extracting every ounce of performance from radio, including impressive multi-purpose oscilloscope display

LEAK TROUGHLINE 1956 £25
Series I an interesting ornament but limited to 88-100MHz only. II and III are arguably the best-sounding tuners ever. Adaptation for stereo easy via phono multiplex socket. Deliciously lucid with true dimensionality.

HEADPHONE AMPLIFIERS

GRAHAM SLEE NOVO 2009 £255
Dynamic headphone amplifier with a great sense of timing. Crisp, clear treble and warm midrange gives an involving sound.



MUSICAL FIDELITY X-CAN V8 2008 £350
Open and explicitly detailed sound plus serious bass wallop. A great partner for most mid-to-high end headphones.

CD PLAYER/RECORDERS

MUSICAL FIDELITY TRIVISTA 2002 £4000
When playing SACDs, the sweetest, most lucid and lyrical digital disc spinner we've heard. Old school stereo, pure DSD design. CD sound is up in the £1000 class, too! Future classic.

MARANTZ SA-1 2000 £5,000
The greatest argument for SACD. This sublime Ken Ishiwata design is utterly musically convincing with both CD and SACD, beating most audiophile CD spinners hands down.



SONY MDS-JE555ES 2000 £900
The best sounding MD deck ever, thanks to awesome build and heroic ATRAC-DSP Type R coding.

PIONEER PDR-555RW 1999 £480
For a moment, this was the CD recorder to have. Clean and detailed.

MARANTZ DR-17 1999 £1100
Probably the best sounding CD recorder made, built like a brick with a true audiophile sound and HDCD compatibility.



CAMBRIDGE AUDIO CD4SE 1998 £200
A touch soft in the treble and tonally light, but outstanding in every other respect.

SONY TCD-8 DATMAN 1996 £599
Super clean sound makes this an amazing portable, but fragile.

LINN KARIK III 1995 £1775
The final Karik was a gem. Superb transport gives a brilliantly tight, grippy dynamic sound, albeit tonally dry.

NAI/M CDS 1990 £ N/A
Classic Philips 16x4 chipset with serious attention to power supplies equals grin-inducing sonics.

MARANTZ CD73 1983 £700
A lot of gold brushed aluminium and LEDs, this distinctive machine squeezed every last ounce from its 14x4 DAC -super musical.



MERIDIAN 207 1988 £995
Beautifully-built two-box with pre-amp stage. Very musical although not as refined as modern Bitstream gear. No digital output.

SONY CDP-R1/DAS-R1 1987 £3,000
Sony's first two boxer was right first time. Tonally lean, but probably the most detailed and architectural sounding machine of the eighties.

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



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

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

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

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



ANALOGUE RECORDERS

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

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



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

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

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

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

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

COMPACT DISC TRANSPORTS

ESOTERIC PD 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 DACAPD 1993 £ N/A
Exquisite, the warmest and most lyrical 16bit digital audio we have ever heard.

QED DIGIT 1991 £90
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WIREWORLD DASIS 5 2003 £99/M
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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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MAY 2017

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news

STATUS QUO TRIO

Demon (www.demonmusicgroup.co.uk) has released three Quo LPs of recent vintage. 'Don't Stop' (1996) is a patchy LP of covers with a selection of highlights; 'Under the Influence' (1999) is a superb original LP. Any budding fan would do well to begin his Quo collection with this one. Finally, 'The Party Ain't Over Yet' (2005) is another cracker, featuring prog, psychedelic and country rock.



MUNSTER MUSIC

From 1972, the final album from Graham Bond and his release with Pete Brown plus a strong supporting cast. 'Two Heads Are Better Than One' (Vinilissimo) is a mixture of jazz, blues and pop. The pair spark off each other, incorporating gospel and R&B. A warming LP that shows how at ease these two friends were, pushing the creative flow to joyous heights.

Knocker Jungle ([Munster; munster-records.com](http://munster-records.com)) released only one LP, in 1970 via Ember. A self-titled album, it offered hippified blues and folk via vocal harmonies with immaculate diction, the lead vocal a slightly fractured fragility in a Bolan direction without copying the great man.

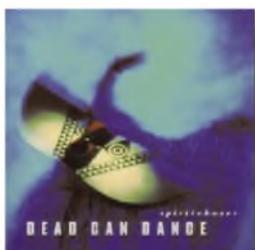
Also look out for Brazilian Octopus's self-titled and only LP ([Munster; 1969](http://munster-records.com)) mixing pop with bossa nova, jazz and Cuban rhythms.



FOUR FROM 4AD

Three new re-issues from 4AD stalwarts, Dead Can Dance (www.4ad.com): 'The Serpent's Egg' (1988), 'Aion' (1990) and 'Spiritchaser' (1996). All top quality, all highly recommended.

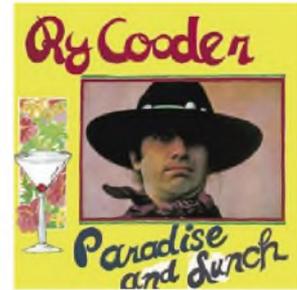
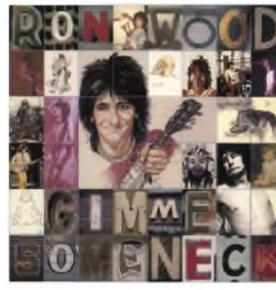
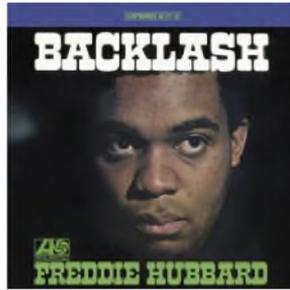
Also from 4AD is Methyl Ethel's 'Everything is Forgotten' on limited-edition magenta vinyl a melodic pop outing with rock edges and harmonic streaks.



MODERN HARMONIC

From the Sundazed imprint (www.modernharmonic.com), a country-based concept album based on the US oil industry? Bizarre? You betcha. 'Texas Oil Patch Songs' (1959) from Slim Willet included songs like 'Off Shore Drilling Rig', 'Boom Town Man' and 'Johnny Don't Drill Here Any More'. Willet never worked in the oil industry but he certainly offered a microcosm of the oil culture. Oddly fascinating.

George Barnes was a respected guitarist employing a 30s-type style throughout his life (which ended in 1977) and was present on thousands of recordings, largely uncredited. One of the first to record an electric guitar he worked both in the blues and jazz spheres. 'Country Jazz' jazzes up country-folk standards - a fun album with outrageous guitar licks.



SPEAKERS CORNER

From the German audiophile outfit (www.speakerscornerrecords.com), Donovan's brilliant, brisk and breezy 'Wear Your Love Like Heaven' (1967). Superb throughout, even the nostalgic folkie outings are worthy.

Also superb and also 1967, Freddie Hubbard's excellent avant/hard bop jazz piece 'Backlash' is brief but packs a creative punch.

Ron Wood's 'Gimme Some Neck' (1979), arguably his best solo outing, includes Rolling Stones men Charlie Watts, Mick Jagger and Keith Richards plus Dave Mason and Mick Fleetwood. A rollicking time is had by all.

Also look out for the sublime Ry Cooder's 'Paradise and Lunch' which mixes and matches genres but ties the lot together with Cooder's excellent guitar.

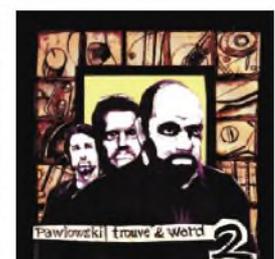
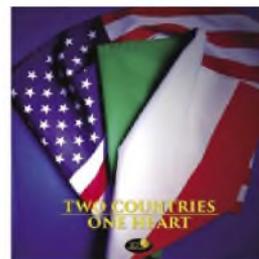
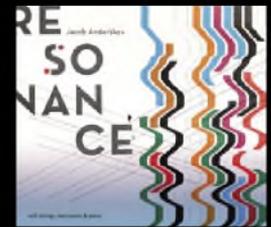
NOW YOU HAS JAZZ

From UK distributor, Discovery (www.discovery-records.com) comes 'Jazz for Relaxation' (1956) via Marty Paich (as pianist, not arranger) in bop-like mood, offering mainly standards but also a couple of originals and in the company of the likes of Howard Roberts (guitar) and Frank Capp (drums). Entertaining.



Jacob Anderskov's new album, 'Resonance' (Stunt) with strings is melancholic and almost atonal. The strings add a skewed romance to the LP.

Also watch out for the classic Dave Brubeck Quartet's 'Time Out' in stereo and mono (1959; Jazz Classics), Oscar Peterson's 'Plays the Duke Ellington Songbook' (1960; Jazz Time) and Bill Evans Trio's 'Waltz for Debby' (1965; Jazz Images)



...AND FINALLY

From Scott Bradlee's Postmodern Jukebox (Concord; www.concordmusic.com) is 'The Essentials'. Offering quite bizarre and often eyebrow-raising versions of contemporary hits sung through vintage musical genres. There's a huge variety of singers and band members involved. Startling. Bizarre. Slightly unsettling.

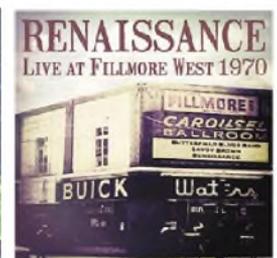
'Wild by the Side of the Road' from Police Dog Hogan (Major Tom; www.policedoghogan.com) takes the gruffly voiced, indie folk genre and bends it in the direction of Pogues but retains a smoothness and a polish.

Mastered from analogue tape 'Two Countries One Heart' (HiFi Direct; www.velutluna.it) combines American and Italian classical sensibilities while infusing both gospel and Broadway-esque deliveries and featuring works from both countries, backed by an orchestra stuffed with younger talent.

The music from Sweet Gumtree's 'Sustain the Illusion' (Dreamy Bird; www.sweetgumtree.tv) is more implied than in your face. Subtle rather than overstated. One to get to know over time.

Pawlowski, Trouve & Ward (www.jesusfactory.com) are better known for their roles in the band dEUS. Also featuring a CD version within, this sometimes moody, sometimes avant, sometimes angular LP lulls you in and then challenges.

From O.R.k (including members of Porcupine Tree and King Crimson) comes 'Soul of an Octopus' (Rare Noise; www.rarenoiserecords.com) which aspires to be meaningful, portentous and filled with gravitas. It's pleasant power pop, though.



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More Than Chic?

Promising a Gallic solution to the budget turntable question, Paul Rigby reviews the French-made Elipson Omega 100.

Yes there are exceptions with designs emanating from Audio-Technica, Dual and the like but, in general terms, the budget turntable market is dominated by just two companies: Rega and Project. Each has a range of turntable variants for just about every customer and every time of day, it seems.

So it is great to see a relatively new entrant into the sector from the French outfit Elipson, which has made its name from its rather avant-garde designed speaker cabinet shapes and has been in business from 1938 (not the greatest time to start a business in France, but still...)

The company made a bit of a splash during its analogue launch and

already has a selection of turntables in its range, largely focusing on the lower cost Alpha range and this slightly more up market Omega line. Within the line-up you can find turntables with integrated phono amps and others with Bluetooth support. This particular sub-type has none of that, stripping away both the phono amp and the Bluetooth

VINYL SECTION

choices to present a vanilla, bog-standard turntable to be teamed up with separate components. A purer source for any budget chain, in fact. Arguably, in sonic terms, an ultimately more attractive option.

More to the point, the French-made Elipson Omega 100 is pure Elipson, there is no technology borrowed from any other established hi-fi turntable manufacturer brand. The only familiar item on the Omega 100 is the free Ortofon OM10 moving magnet cartridge that hangs off the arm.

The Omega 100 sits on a lacquered PMAA plinth. A 100% recyclable material, Polymethyl methacrylate is a form of acrylic



The auto-speeding control helps to maintain a steady platter RPM.

or acrylic glass, which is very hard for a thermoplastic and, in theory, supports unlimited colour options (Elipson offers black, white and red for now). It supports the turntable's platter which is fixed to the spindle, supported by a bronze bearing. The platter is constructed from forged steel that is tough but also presents a



The anti-skate wheel is neat but lacks a numerical gauge.



The Omega 100 turntable utilises a carbon fibre arm, rare for this price point.

uniform grain size to offer a measure of sonic predictability throughout the part. As an aside, it's also quicker to finish than many other metals and is comparatively cheap to knock out.

The company also developed its own power source based upon Direct Digital Synthesis, which can handle any voltage and so makes more economic sense when you're thinking about world sales. But, says the company, this source also provides speed accuracy that is apparently aided by the company's own ASD (Auto-Speeding Control).

The motor itself has a distinct performance aspect to it. Its quirky operation appears when you turn the deck on. There is a pause while the motor decides what to do next and then the platter moves.

One advantage of this motor is that the turntable can switch between 33 and 45rpm which is instigated via a firm metal toggle. This is something that many European-made designs cannot offer. That is, many of the latter, at this price point, demand that you manually change the belt position to alter speed type.

The Orbital Tension Tonearm is carbon-based, unusual for the price, while the headshell is a single moulding that integrates a finger lift into the design. The twin bearing arm features a tonearm-mounted, anti-skating wheel. It applies torsion directly above the bearing. The problem with this anti-skate wheel is that there is no visual aid gauge to indicate just how much force you have applied. You must, therefore, 'suck it and see' by experimenting and listening. This one irritant does belie the 'plug and play' promise of the unit just a tad.

On the up-side, the neat and integrated nature of the anti-skate means no flailing about with

bits of fishing line and bendy bits of metal positioned at crazy angles – a comparative relief to the nervous beginner, the prime customer target.

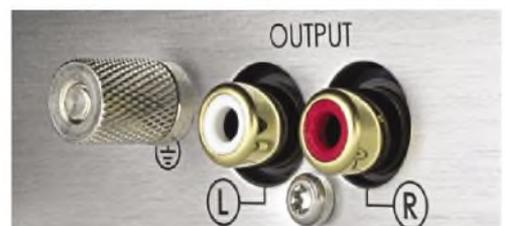
Roaming your eye over the design, you will see no damped arm lift. I'm all for this. Simple is best in my book as is removing the included lid during play, to reduce noise. Finally, the entire plinth rests on four, rather dinky, isolation feet.



Elipson's unique Orbital Tension Tonearm ring is a signature aspect of the design.

IN USE

Often ignored in terms of design, I was impressed by the latch that secured the arm to the turntable. It is all too easy for the beginner to knock a poorly secured arm off its perch which can threaten the life of



Basic output ports allow you to plug the source into a phono amplifier of your choice.

the stylus. The Omega's latch snaps shut with a firm click to prevent silly accidents.

Mooching around the turntable before the sound tests, I was taken aback by the down-force figure of the factory-fitted Ortofon OM10. My sample was set at 1.75g so I set it low to 1.5g. From that point, I had license to tweak up or down a tad. Raw beginners would be recommended to leave well alone and get on with playing vinyl – and I was about to be bitten in the bottom.

SOUND QUALITY

Tests began with Stevie Wonder's 'Love in Need of Love Today' from

admirable and, because the soundstage retained a measure of air, there was space for Wonder's voice to convert detail into emotion.

Treble-infused cymbals and tingling secondary percussion were tonally acceptable - well as much as they could be for the price - with relatively extended reverb tails. As reflected in the head shell tests, bass was slightly vague with a lack of focus and body but had a playful bounce and a characterful weight, driving the music along at a steady pace.

Moving to more dynamic fare and Hawkwind's 'Space Ritual Sundown V.2' and the tracks 'Space' and 'Orgone Accumulator'. At the best of times, 'Space' spews disorder and some rhythmic confusion so any turntable has to really have its act together to get the best out of it. The Omega did struggle in terms of the lower suite of frequencies, lacking a sense of left

and precision. The midrange offered an admirable performance with a measure of insight and clarity before the rocking 'Orgone' saw a sonic guitar and drum attack that showed that the Elipson had the ability to rock with the best of them in musicality terms.

The lack of blooming was a compliment to how the Epsilon structured the music and kept a wary eye on potentially messy and untidy frequencies.

CONCLUSION

The bass was rather woolly during its presentation but there was still plenty to like in terms of relative midrange accuracy and overall design. Despite the confusing anti-skate wheel, the Omega 100 has a number of thoughtful design additions that will provide the beginner with an easy-to-use and stylish analogue source, but lack of a lift/lower platform does mean a steady hand is needed to use this deck – and that alone will be a sticking point for many.



An Ortofon OM10 is bundled with the turntable.

his seminal LP 'Songs in the Key of Life'. Initial impressions were good. The mids provided an open and relatively spacious midrange performance that allowed plenty of room for the vocals. There was a real issue here, though: sibilance. Then it hit me: the tracking of the cartridge was wrong. So I 'returned' the downforce figure of the OM10 to the high 1.75g figure which solved the problem instantly.

Back in a sonically-balanced mode, the midrange was rather disciplined with a slight warming in tone that was highlighted during the lead organ riffs. Despite some restrictions in dynamics, Wonder's lead vocal nuances remained



The useful instant speed select is preferable than moving a belt across a pulley as seen on many competing designs.

REFERENCE SYSTEM

- Rega RP1 turntable
- Trichord Dino phono amplifier
- Rega Brio-R amplifier
- Spendor S3/5R2 speakers
- Tellurium Q cables

MEASURED PERFORMANCE

Reading unweighted Wow & Flutter the needle of our Kenwood FL-180A meter swung cyclically between 0.1% and 0.2%, giving an average figure of 0.15% quoted here. The spectrum analysis shows basic rate (33rpm/0.55Hz) variation dominated as usual (platter/bearing eccentricity and play), but little flutter (variations above 10Hz). Speed accuracy of our sample was perfect, the 3150Hz test tone being reproduced at

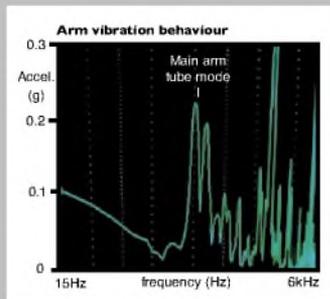
almost exactly that frequency.

Total DIN weighted Wow & Flutter measured 0.15% on peaks, as the Elipson was a bit erratic – but all the same these are respectable figures. In use it will sound accurate in pitch and quite stable too, with little obvious slurring or watery-ness of pitch that budget belt drives classically suffer.

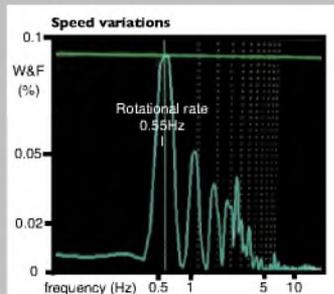
Although the arm looks rigid, our analysis shows it is livelier than most, suffering a spectrum of resonances detected by a Bruel&Kjaer accelerometer attached to the headshell. The strength of high frequency components indicated a resonant headshell was the cause. It physically flexed and lacks an inner strengthening web – explaining the poor result. By current standards this is a poor design in need of improvement.

Turntable speed stability was good. The arm's flexy headshell lets it down; modern rivals manage far better. Although a decent performer, the Omega 100 is still outclassed by more competent rivals – from Audio Technica and ReLoop in particular (both built by Hanpin). **NK**

ARM VIBRATION



WOW & FLUTTER



Speed error	0%
Wow	0.15%
Flutter	0.05%
Total W&F weighted	0.15%

ELIPSON OMEGA 100 £300



GOOD - worth auditioning

VERDICT

Despite the Gallic eccentricities, the turntable is relatively easy to set-up and use and will reward the listener with an admirably open and musical playback.

FOR

- airy soundstage
- switched speed
- detailed mids
- elegant design

AGAINST

- no cue platform
- no anti-skate gauge
- unfocused bass

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Encyclopedic coverage

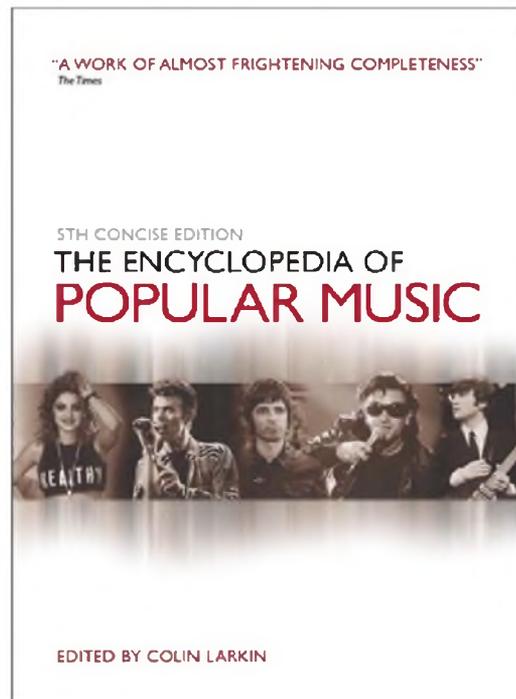
In the latest of an ongoing series of music-related books, Paul Rigby looks at an encyclopedia of pop.

Title: THE ENCYCLOPEDIA OF POPULAR MUSIC (The 5th Concise Edition)

Author: Colin Larkin

Publisher: Omnibus/Muze

Price: £12.12



Colin Larkin originally wrote (with help from over eighty contributors) and edited the ten volume edition of 'The Encyclopedia of Popular Music' for a paper edition in 1989. It emerged on bending shelves in 1992. Covering the years 1900 to the present day, a wealth of genres were addressed including jazz, country, folk, rap, reggae, techno, musicals and world music.

Each artist features their own biography that highlights a synopsis of the performer and their work. The fourth edition is 10,000 pages long in ten separate volumes with over eight million words and 27,000 entries.

A lower cost and more manageable version of the work was released as the 'Concise' edition, reducing the page count to 1,600. The entries were trimmed accordingly.

The publishing house Omnibus issued the Kindle version of that Concise Encyclopedia and that is the version reviewed here.

Generally speaking, the book is laid out succinctly and clearly. Let's take the punk/funk band A Certain Ratio as a specific example. You are presented with three pages of biography which is then followed by a list of the band's commercially

released albums including the issuing label.

Larkin has also included a critical star rating out of five. You'll also find information on compilations that are presented in the same 'rated' manner.

I reviewed the Kindle version on an actual Kindle but also via the Kindle app on my MacBook.

I liked the concise nature of the text and appreciated the opinionated presentation but I thought that a chance had been missed to include live links from this text.

For example, in the biography, the bands Talking Heads and New Order were name-checked. Why no link to their pages? Is it a technical problem?

You can, of course, highlight the text manually and search in the book or via the internal Wikipedia-link so options are available, even if they require a touch more work.

I believe that paper-based encyclopedias are, in broad terms, unwieldy, awkward to use, take up too much space in relation to the amount of times that they are actually used and are unsuited to quick access.

Paper-based tomes are fine when used with 'front on' search criteria. That is, skimming the A-Z contents to home into an artist name.

They are very poor, though,

when used 'backwards'. For example, if I wanted to see where the 'dobro' (a type of acoustic guitar with steel resonating discs inside the body under the bridge) has been used in popular music then I wouldn't stand a chance with a paper-based book. Life is too short to plough through every page.

With the Kindle version, though, just pop the word 'dobro' into the Kindle or app's search facility and I find the dobro used thirteen times.

Alternatively, I have a vague memory that Talking Head's David Byrne worked with the trip-hop band Morcheeba on...something... somewhere. So, rather than flicking to 'T' and looking for Talking Heads and/or 'M' for Morcheeba' and then speed reading for a connection in both entries, I did a quick Kindle search for 'Morcheeba'. That brought up four results. Top of the list was information on that very collaboration. Quick and easy.

The Kindle version of 'The Encyclopedia of Popular Music' is simple to use, compact, time saving, takes up no space at all and is, above all, reliable.

It is ideal for those requiring a quick review prior to an Amazon purchase, locating a missing album or settling an argument amongst friends.



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MoFi

ELECTRONICS

Clean Power

Noel Keywood connects his Garrard 401 turntable to Longdog Audio's new Quartz Mains Power Generator – and is blown away by the results.



On with your geeky hats. Longdog Audio (LDA) have produced a Garrard 401 turntable power supply distributed by MCRU (aka Mains Cables Are Us). This is where we talk about the mains! Knowing I am a long-term and dedicated Garrard 401 owner they sent me a sample for review. Which was interesting as it forced me – reluctantly – to take a close look at the (my) mains; I got a surprise.

The LDA Quartz Mains Power Generator does not cleanse the mains but reproduces it in a new and stable form. So what you get is – hopefully – super-clean mains power that doesn't change as and when the mains does change (see Measured Performance).

This supply will power any turntable as long as it consumes no more than 50W (0.2A). What lies inside is in effect a 50W audio power amplifier, albeit swinging 235V out (direct or through a step-up transformer), fed by a very stable oscillator. Note that the output is lethal so full mains safety precautions are used.

The Quartz moniker refers to

the use of a quartz crystal super-stable (frequency) source generator that, measurement showed, produced 50.004Hz and held that frequency with no drift at all over hours, illustrating just what can be achieved with this approach.

Synchronous motors commonly used in belt drive turntables are locked to mains frequency so this high degree of frequency stability will suit the breed. If mains frequency changes, turntable speed will not change. A Garrard 401 is voltage sensitive so it benefits from the supply's stable voltage.

The Quartz Mains Power Generator sits in a sturdy aluminium alloy case with shallow heatsinks either side; internally a power transistor sits on each, electrically isolated by an insulating washer, as per usual – and the case is earthed. The heatsinks run warm, but not hot. Measuring 280mm wide, 93mm high and 240mm deep overall, it will slot into a system fairly easily but is best kept away from the pickup arm and cartridge to avoid hum induction.

The front panel has a rocker-style power switch but no warning light; I left the supply running. The rear carries a 0.5A fuse screw-in holder,

IEC socket mains input and Neutrik Powercon output socket that accepts a locking plug. A matching Powercon terminated cable is supplied, 1.2 metres long. At the other end, to be plugged into the Garrard, lies an IEC mains line socket; luckily my Martin Bastin plinth has a matching IEC connector so it was plug'n'play for me. Garrards with captive mains leads fitted with a 13A mains plug will need to have this plug removed and a Neutrik Powercon connector fitted in its place (Maplin or Canford, £8). An Isotek mains cable 1.4m long was also supplied.

The unit was absolutely silent and unobtrusive in use; I simply forgot it was on.

Why did I get a surprise? Reluctantly, I had to measure my mains. Last time I did this, measuring earth currents through a fully balanced mains supply transformer, there was a flash and a bang and a destroyed front end in my spectrum analyser. Hunched over a monster transformer on the floor, I had made a mistake – it turned out an expensive one.

I was more cautious this time around, hooking up a step-down transformer to get the mains into

the spectrum analyser. The surprise turned out to be horrible clipping of the mains waveform. Intrigued, I switched off all household items and it made no difference. Also, the time of day made no difference; the problem was just as bad at 5am, a time of light load on the line to the power station, as 5pm with heavy load on the line. The LDA Quartz Mains Power Generator eliminated this clipping distortion (see Measured Performance for more detail).

SOUND QUALITY

In use the first thing I noticed was that, with the Garrard warmed up after 10 minutes or so, when I set speed to get the strobe markings stationary – they stayed that way. There was none of the slow back and forth hunting that occurs when run direct from mains; the strobe markings sat steady. It was reassuring.

The difference this supply made to sound quality crept up on me. I heard no massive and immediately gripping difference, such as the 401 developing the sort of forensically precise tempo displayed by our Timestep Evo Technics SL-1210 Mk2 Direct Drive in the office.

Instead, its unstoppable 'Mack truck' bass delivery smoothed out into a more confident, slightly less uneven flow of sound; the power was there but it came across as steadier and more assured in its timing.

Whilst the Garrard thundered on at the same relentless pace it is known for, I also heard greater fluency and expression resolved from bass lines.

Cue The Stranglers and 'Rattus Norvegicus' where Jean Jacques Burnel's bass moved more slickly through the time domain with better resolved power, likely due to a quieter background. 'Rattus Norvegicus' developed extra strength and resolve, pounding out of the loudspeakers (Martin Logan Electromotions) – dirtier than ever.

The quieter background became obvious with Jackie Leven's 'Clay Jug' where his spoken observations sat in an atmosphere of greater darkness and depth. As I sat in a darkened room this drew me into what he was saying, then into the music as it started, the opening guitar sounding expressive and forceful through greater contrast against the silent background.

With classical music there was the same useful darkening of the background and subtle strengthening

of dynamic contrasts.

Even with relatively untaxing works like Monteverdi's 'Vespers of the Sacred Virgin' (Decca) the choir took on more solid and stable form, the ogre of watery pitch being banished.

I suspect that in my location, which suffers from mains 'noise' (distortion harmonics) caused by waveform peak-dipping, the LDA Quartz Mains Power Generator quietened the background by eliminating this noise from the drive train.

CONCLUSION

The LDA Quartz Mains Power Generator helped me enjoy my Garrard more – it's as simple as that.

And as it is being fed a diet of ever better modern LPs stamped



onto quiet vinyl the way noise was lowered, adding depth and dynamism, as well as steadying the flow, proved subtle yet important. So if you have a turntable you enjoy, the LDA Quartz Mains Power Generator will make it sound even better.

MEASURED PERFORMANCE

Fed a 243V London mains input, the Longdog Audio Quartz Mains Power generator initially delivered 235V but over five days drifted down to 232.6V and stayed there.

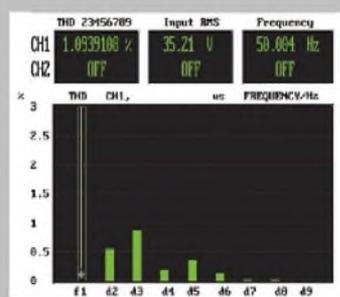
My Garrard 401 needs just 204V to run at correct speed with the speed control set to 'zero', so the Longdog is apparently not ideal, but mine has been upgraded and may not be representative. It ran steadily and correctly with the brake set at -2.

The Longdog must also suit other turntables and since 230V is a European standard mains voltage, 232.6V is OK.

DISTORTION - RAW MAINS



DISTORTION - LONGDOG



Connected to a variac to alter mains input volts, the supply worked from the UK maximum of 253V down to 227V in, below which output started to fall. Since the UK mains has a stipulated maximum range of 253V - 216V its minimum of 227V in is high.

However, at 216V input it still delivered 228V out, so whilst mains voltage dropped 27V (243V to 216V), output dropped 4.6V (232.6V to 228V), so it still regulates, if not so well. Houses in rural locations, where power lines are long and voltage drop high at times of peak demand can sink to 210-220V region, so the Longdog can boost volts usefully.

Distortion on my mains measured 3% due to peak clipping at all times, causing extended distortion harmonics, mainly fifth harmonic. The LDA produced 1% distortion, with no clipping, second and third harmonics dominating – see our analyses. The Longdog's waveform looked clean, where the raw mains did not.

Frequency measured 50.004Hz and was absolutely stable at that figure (incoming mains 50.058Hz).

The Longdog Audio Quartz Mains Power generator worked very well, if not quite perfectly. All the same, in my location, it substantially improved mains performance by reducing distortion and holding voltage and frequency steady. And even when mains drops to 216V it still provides 228V. **NK**

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VERDICT

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FOR

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AGAINST

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Clever Feet!

Isoacoustic's Gaia isolation feet have the capacity to bring an extra level of performance out of floorstanding loudspeakers, Jon Myles finds.



supported) and cost from £300 for a set of four.

Installation involves screwing a threaded pillar (a variety of sizes are provided to suit different loudspeakers) into the spike sockets at the base of the speaker and then attaching the isolation puck and tightening the locking nuts to level.

The puck also has a rubberised base so is safe to use on hard floors.

Isoacoustic recommend aligning the feet so the logo on each one points to the front – which is said to produce the

best results in terms of isolation.

So do they make a difference?

The simple answer is yes – and a larger one than I was expecting. Used under a variety of loudspeakers from the relatively mid-priced to some high-end B&Ws there was a distinct opening up of the soundstage with a wider stereo image and a tighter, more focussed bass. Imaging was also improved compared to using the 'speakers on traditional spikes.

Attaching the Gaia's to a pair of KEF Reference 5 floorstanders (see review elsewhere this issue) they had the effect of accentuating all the positive elements of this exceptionally accurate loudspeaker.

Imaging was even more accurate while definition of instruments was taken to another level. It meant that on the likes of Berlioz's 'Te Deum' I could pinpoint the precise location

of every instrument in the orchestra – as well as hearing a more resonant tonal quality with the string sections.

Playing Massive Attacks 'Angel' through the same 'speakers with the Gaia's fitted brought a tighter, definitely deeper low-end response on the introduction to the track. Here it seemed as if the bass-heavy intro started just a little earlier and was coming from a silent background which made it all the more dramatic.

I found a similar effect when using the feet under Spendor's A6R loudspeakers. This has always been an involving yet accurate loudspeaker – but the Gaias had the ability to eke out that little bit extra performance from them.

Playing The Jam's 'English Rose' the acoustic guitar figures became more alive and vibrant, without losing any of the delicacy that underpins this track. Again, like the KEFs, the Spendors sounded more natural with the feet attached. Led Zeppelin's 'Kashmir', for one, having extended scale and depth with the music flooding the room.

Removing the Gaias revealed just how effective they are – suddenly the music shrank back in its size and scope while detail seemed diminished. With them back on it was akin to replacing a basic 'speaker cable with a much more transparent product.

CONCLUSION

Isoacoustic's Gaia isolation feet are an interesting product. They are cleverly designed and superbly engineered. More importantly, though, they actually have the ability to bring the best out of a variety of loudspeakers. Admittedly they are not cheap – but if you have a decent pair of loudspeakers these could be just the thing to get an extra level of performance out of them.



The Gaia isolation feet should be used with the logo facing forwards (above) while rubber pads (below) mean they can be used safely on solid floors.

Isoacoustic make a range of isolation products for loudspeakers aimed at minimising vibrations for better sound quality.

I tested the Canadian company's Aperta LSBR stand for small to medium-sized 'speakers some months ago (Hi-Fi World October 2015) and found it made a significant difference in terms of producing a more focussed sound.

Now the company has released a range of isolation feet for floorstanding 'speakers. Named Gaia, they are machined from stainless steel and incorporate a suspension system inside which isolates the loudspeaker from the floor while resisting lateral movements and oscillations. Three sizes are available depending on the weight of the 'speaker (up to 100kg can be

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AGAINST

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QUAD Z-3 LOUDSPEAKERS

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VANGELIS

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"For anyone brought up on the man's soundtrack works this album will be an eye-opener"

Vangelis has always hated the record industry. This from 1976, talking to the Dutch music paper *Oor*, "In the sixties, the creation and performance of pop-music was a form of [social] protest. Now the creation and performance of pop-music have become big business and most pop-musicians are photo-models in disguise who behave like mindless marionettes in the service of the public and the record-companies".

In more recent times, his opinion has not changed. After a span of over 40 years and a heap of LP releases, the man still finds the business largely distasteful. "The more successful you become the more of a prisoner you become to the system. They don't allow you to do things. You become a product. If you are Coca-Cola and want to change the taste, what is going to happen? You have to keep it until you die. That's why there's people out there, of a certain age, they're still doing the same thing and they look ridiculous. They don't dare change. I have to fight. My interest in music is not to become famous and give concerts. One of the things that drives me crazy is the obligation to be successful".

So, in many ways, for this opinionated artist, 'Earth' is a reminder of more innocent and possibly a freer and more dynamic and driving period in his career.

His first solo album, released in 1973, 'Earth' was created in Paris while Vangelis was collaborating with Frederic Rossif on the French TV series 'Apocalypse Des Animaux' and combines a mixture of prog rock, mythic touches, synths but also an 'ethnic' ingredient that was deeply unfashionable at the time, proving to be a real barrier between the man and his record label for a time.

This debut included the brilliant guitar and lute work of Argiris 'Silver' Koulouris along with contributions from lyricist Richelle Dasin and Robert Fioussi.

"When I make a record it is generally alone" said Vangelis. "I use the voice of a singer and on 'Earth' there is some percussion but I have no permanent musicians, no group".

Maybe this is why he sees this album as a blueprint for what would follow in terms of his music creation.

For anyone brought up on the man's high-profile and well regarded soundtrack works for the likes of 'Bladerunner' or 'Chariots of Fire', then this album will be a bit of an eye-opener and, to some, a bit of a shock. A shock that hits you with the two-minute opener 'Come On'. It's a stomping rock track that is more akin to glam rock than delicate synth work. The first considered track, almost seven minutes of 'We Were All Uprooted', is a distinctly spiritual piece that blends a soundscape background with a repetitive, almost trance-like beat. 'Sunny Earth' is another large piece of around six and a half minutes. A tribal-infused arrangement using wordless vocals fronting portentous percussion with a range of excellent layering in the arrangement highlighted by effective guitar and additional strong works. 'He-O' gives the album its most psychedelic ingredient, a blend of indigenous music combined with Western flavours. 'Let it Happen', however, combines psychedelic with harmonic vocals to give the song a slight sunshine pop gloss while also retaining that psyche complexity and prog-like shift in time signatures.

The Vangelis career is also being celebrated with the launch of a new box set. A set in which 'Earth' is but one of thirteen discs in a box set entitled 'Delectus', featuring a chosen selection of his early discographic work. The collection includes all of his albums on Vertigo and Polydor. Presented in a slip-case box with an essay and rare photographs, the discs are housed in two die-cut, gatefold disc holders within a rigid 242mm square slipcase and accompanied by a 64-page book.

Apart from 'Earth', you'll also find 'L'Apocalypse Des Animaux', 'China', 'See You Later', 'Antarctica', 'Mask', 'Opera Sauvage', 'Chariots of Fire', 'Soil Festivities' and 'Invisible Connections' plus his collaborative recordings with Jon Anderson as Jon & Vangelis via 'Short Stories', 'The Friends of Mister Cairo' and 'Private Collection'. The remastered originals are complemented with rare B-sides and four previously unreleased tracks.

In mastering terms, 'Earth' is admirably balanced with no frequency extremities causing havoc and no noticeable compression to mar the sonic enjoyment. The album flows very easily and is a joy to experience. **PR**



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