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The sway of the rhythms in 'Ja Vidi' seemed to be more obvious with this cable and the soundstage seemed to be occupied by sounds that had matured and put on a little weight. The bass seemed to go very deep and be quite substantial, whilst retaining a good level of agility."



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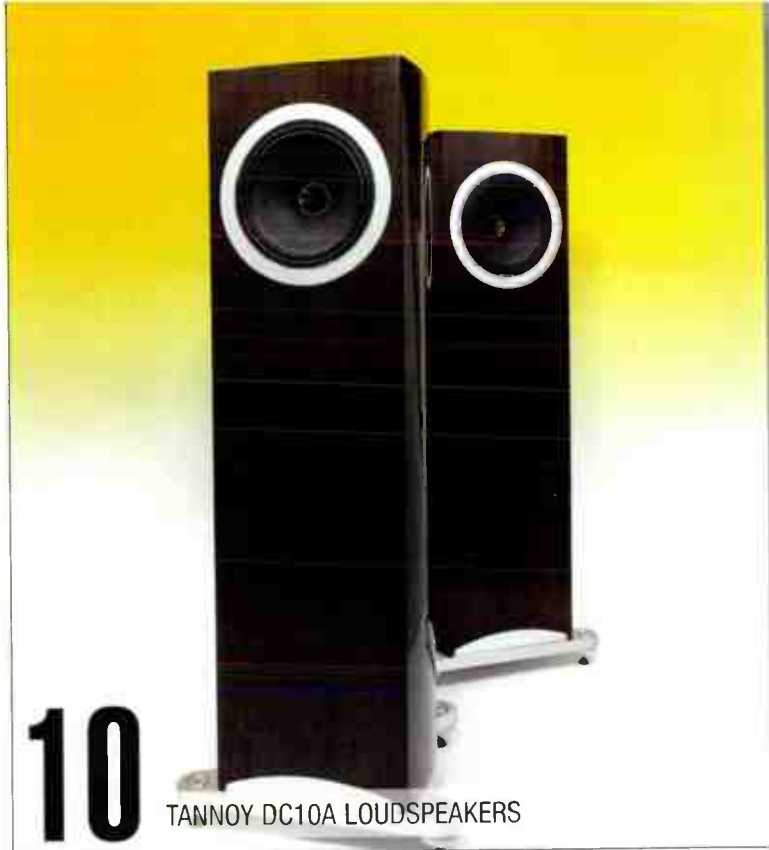
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email:news@hi-fiworld.co.uk

news

TANNOY'S GOLDEN DAYS

Tannoy has launched a new series of Gold Reference loudspeakers.

All of the range features hand-crafted cabinets with revised real wood veneering and luxury gold-finish trim.

Improvements include the use of deep cryogenic treatment for diaphragms and crossovers – a process that involves freezing to -190C and then slowly warming over a controlled period to relieve stresses in the microstructure of components.

Tannoy's Dual-Concentric drivers are used throughout and developments pioneered on the company's flagship Kingdom Royal loudspeaker have been employed to reduce colouration and improve mid-band response.

Prices start at £3,995 for the Stirling Gold Reference – rising to £27,950 for the top-of-the-range Westminster with the Turnberry (£4,950), Kensington (£9,950) and Canterbury (£16,950) completing the range.



AUDIO RESEARCH IS SOLID

Audio Research's solid-state CD6 CD-DAC replaces the CD5 and features four digital inputs, including asynchronous USB 2.0HS, coaxial RCA and two Toslinks. All inputs handle 24bit/192kHz resolution. Including the Philips PRO2R transport, the CD6 utilises quad 24bit DACs running in mono mode, with dual master oscillators; one for 44.1/88.2/176.4 sample rates, the other for 48/96/192kHz. Sample rate conversion is selectable for all inputs, allowing playback in native resolution or via upsampling, including compact disc and USB.

The front panel layout is identical to the REFCD9, with a dimmable

display. The back panel includes two digital outputs, single-ended RCA and balanced XLR outputs, an IR input and IEC power connector. Price is £8,590.

Click on www.absolutesounds.com or call 020 8971 3909 for more information.



YAMAHA SOAVO

Yamaha has relaunched the Soavo speaker line up.

The design has been completely refreshed and redesigned from the ground up, utilising a piano black and white finish.

The Soavo-1 speakers feature an aluminium dome tweeter with a DC-diaphragm, PMD (Advanced Polymer-injected Mica Diaphragm) coned midrange and bass drivers

Click on uk.yamaha.com or call 0844 811 1116 for more



ES lives!

At a recent presentation at its Brooklands Park headquarters, Sony enthusiastically showed off its latest product ranges. Let's start with the £2000 HAP-ZIES. This beautifully-built hi-res capable 'jukebox' offers a colour-screen user interface, 1TB of music storage, gapless replay and support for the majority of codecs (including MP3, WMA, FLAC and DSD). Accompanying it is the matching TA-AIES stereo integrated amplifier (also £2000). Also worthy of mention, however, are the £600 SRS-X9 and the latest flagship of the Walkman brand. The £550 NWZ-ZX1, which will be available by the time you read this, is a beautifully-designed object of desire. It sports 128GB of onboard memory, a superb colour touchscreen, S-Master amplification (Sony's take on Class D/PWM) and hi-res playback. For some reason, though, the NWZ-ZX1 lacks support for DSD - ironic, given Sony's role in its development. HAP-ZIES is in next month's issue.

NOVAPRE AND PEACHTREE220

Peachtree Audio is releasing the novaPre preamplifier with matching Peachtree220, 220W power amplifier.

The novaPre combines three products in one: upsampling DAC with the more traditional qualities of a valve buffer pre-amp, along with a headphone amp.

Both comprise metal and wood cabinets, which as well as rosewood and cherry can also come in almost any finish you require, as part of a bespoke colour matching service.

At the heart of the novaPre is the ESS Sabre DAC. The valve buffer uses a stereo triode 6N1P to smooth the harsh digital edge found in poor recordings and compressed audio. It can be switched on or off from the remote control, depending on your preferences. The novaPre is available in a gloss black finish, priced at £799 and in rosewood and cherry for £849. The Peachtree220 is available in a gloss black finish at £1,100 and in rosewood and cherry for £1,150. Bespoke colour finish options on request.

Click on www.peachtreeaudio.co.uk for more information



BOWERS & WILKINS' 600 SERIES

The 600 Series of speakers utilises tried-and-tested Bowers & Wilkins engineering solutions from other ranges: Double Dome Tweeters derived from the CM10 speaker, Anti-Resonance Plugs for mid/bass drive units and Kevlar cones. Added to these are new advances developed specifically for the new 600 Series.

Ranging from the 683 floorstander to the compact 686 – at just 160mm wide the most compact speaker in the new series – all feature Decoupled Double Dome tweeters and improved Kevlar drivers with Anti-Resonance Plugs. The entire range is now available in two finishes, black ash and white. The speakers feature painted baffles and complementary black or grey grilles, depending on the finish chosen.

Detailing in the 600 Series is new too, with a fixed steel grille to protect the tweeter and a brushed aluminium logo plate in a dark or light tint corresponding to the finish on the Black Ash and White models. The new 683 is priced at £1,149 per pair; the 684 is priced at £799 per pair; the 685 £499 per pair and the 686 is priced £349 per pair.

Call 01903 221 500 or click on www.bowers-wilkins.com for more information.



BAR NONE

Wharfedale has released its Vista 100 compact soundbar. Ideal for rooms where floor space is at a premium, Wharfedale's debut soundbar measures less than one metre in width and is equipped for table or wall mounting. A 60W, built-in amplifier powers the Vista 100, driving its six neodymium drivers.

The inclusion of Absolute 3D technology from Sonic Emotion delivers a spatial, 3D-like sound. The inclusion of a Bluetooth wireless receiver means, in addition to its four wired inputs, users can connect Bluetooth-equipped devices. The Vista 100 package includes a remote control providing remote access to all functions, including a choice of four EQ modes. Price is £150. Click on www.wharfedale.co.uk for more information.



CABASSE & DEEZER

Cabasse has unveiled a new multi-room synchronised playback facility for its range of Stream players and access to over 30 million tracks from the music supplier, Deezer.

The latest update to the Cabasse Audio Control app, available for iOS and Android, offers synchronised playback of all selected music from the user's network across all the Stream players installed in the home.

Meanwhile, the partnership with Deezer now enables users of the Cabasse Stream products to access over 30 million music tracks via the Deezer module available with the Cabasse app.

Click on www.cabasse.com/en for more information.



TEAC GO VINTAGE

TEAC's new SL-D930 is a 2.1-channel Bluetooth speaker with CD/Radio. Available in four colours: red, black, white and silver, the new remote-controlled SL-D930 has an air of the fifties, classic Diner chic about it.

Featuring, front-firing, full-range 65mm drive units plus a down-firing 80mm subwoofer housed in a 1.6 litre ABS plastic bass-reflex enclosure, the Class D amplifier provides 20W output: 5W each to the left/right speakers and 10W to the fully adjustable subwoofer.

It includes an AM/FM RDS tuner provided with a total of forty presets. Price is £199. Click on www.teac-audio.eu for more information





QAT AUDIO TECHNOLOGY



a worthy partner



HERESY!

Heretic Audio has announced the introduction of a new British-made floorstanding loudspeaker. Called the Huron 3, it has a sensitivity of 95dB, allowing it to be used with almost any quality amplifier whatever the power output. Four paper coned 172mm drivers work in unison to cover the lower registers and are combined with a waveguide loaded soft dome tweeter. Price is £2,500 for the pair.

Click on hereticaudio.com or call 01296 334477 for more information.



MODEL XXL

The new Model XXL, from Geneva, connects home theatre and music players, smartphones and tablets with a discrete seven speaker sound system. Available in a choice of red, white and black lacquer finishes and just over a metre in length, the slim-profile XXL is designed to host flat TV screens up to 65in. Its full length grille conceals storage space for components such as a cable box, game console, Blu-ray or DVD player. Connections between the AV hardware, screen and Geneva sound system are made invisible, passing through the rear of the cabinet.

Contained within the all-wood cabinet, is a sound system of seven speakers in five different acoustic chambers, driven by dedicated DSP-tuned, Class D amplifiers generating a total of 589 Watts. With seven analogue/digital inputs including three HDMI 1.4 (one with an Audio Return Channel to allow the TV remote to be used) and 3D audio processing, the XXL can support Apple Airplay and Bluetooth for wireless music streaming (with an Ethernet option) and a FM/DAB/DAB+ digital radio tuner with six FM and six DAB pre-sets. Connections also include two RCA plugs for external inputs like PC, DVD, game console and TV and two digital inputs (a coaxial and optical). Price is £2,499.

Click on www.genevalab.com or call 0843 5236344 for more information.

QNKTC DAC

Norwegian-based manufacturer QNKTC has unveiled its new USB DAC, the AB-1.2.

The device has its roots in an open source project, as a hardware implementation of the Audio Widget venture. An online group, who wanted to develop the USB DAC, started the project. The AB-1.2 lets you play high-resolution audio (up to

24-bits at 192kHz) from Windows, Linux and OSX computers.

The DAC features an AKM4430 DAC chip from Asahi Kasei, the clock is made from two precision crystal oscillators from Golledge and the power supply uses low-noise regulators from Analog Devices. The DAC generates its own negative power supply, something that makes the whole design less complex and easier to implement. The asynchronous USB protocol is also available in both USB Audio Class 1 and 2.

Phone 0047 90639918 or click on www.qnktc.com for more information.

DYNAUDIO SUB 250 II

The Sub 250 II is the most compact design in the range and is equipped with a 200W amplifier and long-throw 24cm woofer in a compact sealed-box design, a large 100mm voice coil with the cone made from Dynaudio's own MSP (Magnesium Silicate Polymer) material.

The design features a sealed, cubic, MDF cabinet enclosure, while settings and inputs for LFE, Stereo, Sub/Sat and Master/Slave applications are included.

Available in satin black, satin white as well as in rosewood and walnut real wood veneers, the Sub 250 II is priced at £750.



DENON DAC

Denon has announced its first standalone USB DAC. The DA-300USB DAC uses Denon's AL32 Processing while sporting a minimalist front panel that contains a power button, headphone output and volume control, a touch input selector switch and an OLED display that shows the selected input, headphone volume and input signal resolution. Orientation of the display changes with horizontal or vertical positioning of the unit.

Connections include USB-B, coaxial and two optical digital inputs playing up to 24bit/192kHz or DSD2.8 and DSD5.6 native support by DoP (DSD Audio over PCM frames). Price is £329.

Click on www.denon.co.uk for more information.



High point

Tannoy's new DC10A is a high standing, point source loudspeaker. Designed to bring Tannoy's sound into a normal home, it has Noel Keywood impressed.

Big Tannoy loudspeakers are famously focussed and powerful in their delivery. Large cabinets combined with massive drive units are able to produce breathtaking dynamics, scaled way up on what we are used to from typical small-cabinet designs. But big loudspeakers need big rooms to work properly. The new DC10A I am reviewing here is brings big cabinet performance into more accessible realms. You don't need a castle for this one, as you do for some of Tannoy's Prestige range, but you do need a sturdy wallet, since the DC10A costs £11,500.

It was some time ago now, in our November 2010 issue, that I reviewed the DC10A's predecessor, the DC10T and I remember it well. Two features in particular caught my attention: gorgeous insight and overwhelming bass power. Their bass was heavy in our large listening room, but I tuned it into compliance, as it were, by using foam port bungs. With the new DC10A Tannoy have reined in the bass to produce a tighter and more natural balance better suited to medium sized rooms – and they have included a set of foam bungs as standard! But the wonderful sense of

insight that came from Cryogenic treatment, as well as high quality crossover components, as been further enhanced in the new DC10A. Now the cone is treated, as well as the crossover, and an Alnico magnet has been used in the new 10in Dual Concentric drive unit to further improve the loudspeakers sense of depth and strong dynamics.

All of which goes to explain what you see with this beautifully finished floor standing loudspeaker. Unneeded, it drops the bass unit of the old DC10T, but it retains twin rear ports. Designed to have a less inflated sound at low frequencies, as standard, it still comes with foam bungs so as to be tunable for taste and to accommodate various room sizes and shapes – a variable and a headache for all loudspeakers designers. Using the foam bungs damps bass by reducing port output and by changing the bass loading from reflex to infinite baffle, the latter having better damping but lower output than reflex.

Big loudspeakers give a big sound because their cabinets have sheer volume, so they go low cleanly. This is what Tannoy have tried to maximise with the DC10A. It is tall, standing 1.1m high (1135mm) and quite wide at 345mm maximum, although curved cabinet sides lessen this visually, making it look slim from the front. Depth including sockets is 438mm. That gives a large 3.64 cu ft (103 litres) volume cabinet able to give deep, powerful bass.

Built of Birch plywood, rather than the usual MDF or fibreboard, the cabinet is finished in Black, or Cherry and Walnut real wood veneers carrying a deep gloss finish. It gives the DC10A a lovely, rich appearance, one that will blend into most homes. The 'speaker manages to tread that fine line between modern and traditional, so it will suit any home. But where traditional loudspeakers sat on a wooden plinth or dais, the DC10A comes with heavy, two part machined aluminium plinth for each cabinet that bolts onto the cabinet from below and carries massive, top adjustable floor spikes. These improve the cabinets' stability, as well as looking smartly modern and hi-tech. As architects put it, they manage the structure's ground interface.

The underside of each cabinet has a small cover over a chamber that accepts either sand or other ballast materials, such as dedicated

Atacama Atabites. Mass loading is quite a business but it does work well I have found. Silver-sand is good but must be dried first, or gravel can be used, and materials like this are best bagged to avoid mess. They add to



The rear panel carries sturdy WBT loudspeaker terminals and an earth terminal too.

a 'speakers weight and since the DC10A comes in at 42.7kgs (94.1lbs) with stands I did not do this, because for review they must be moved around, which mass loading makes just about impossible.

The Dual-Concentric drive unit has a 10in treated fibre pulp cone, as well as a large Alnico magnet that Tannoy interestingly claim sounds better than the more common Ferrite types (Neodymium is too expensive and rare for this role, by

the way). At the base of the cone sits a large (2in, 51mm) aluminium dome tweeter that fires out through a concentric horn, making this a two-way loudspeaker, even though it appears to have just one drive unit. Putting the tweeter at the centre of the bass unit makes the Dual Concentric a 'point-source' radiator that has the benefit of sounding smooth and even from wherever you listen, on-axis, above or below. OK, so we don't sit on the ceiling when listening to a loudspeaker, but the ceiling does bounce sound back at us, as do the walls, and Dual makes it the same sound as sent forward. Walking around the room, sound from Tannoy's Dual Concentric remains even too. And because the tweeter is double the size of most, it crosses over lower down (1kHz) and more smoothly than those of other loudspeakers, whilst still managing to reach right up to 18kHz.

Big Tannoys are sensitive – notoriously so! The giant Westminster Royal needs just a few Watts to go stunningly loud, for example. We measured a high 91dB sound pressure level from just one Watt, so you don't need a giant amplifier for the DC10A, in spite of its size; somewhere around 40 Watts should do, with 100 Watts being more than enough. It's best that they are high quality Watts, because sensitive loudspeakers like the DC10As will be drawing just a few Watts most of the time and this is where transistor amplifiers perform worst.

Connection is through a large rear panel carrying high quality WBT connectors able to accept bare wires, spades or 4mm banana plugs. They allow bi-wiring, coming with bridging cables for mono-wiring (i.e. single cable connection). There is also an earth terminal that I duly connected from each loudspeaker back to the power amplifier, but I have yet to notice this makes a big difference, even though the local ether is wi-fi infested!

SOUND QUALITY

I used a minimalist system to drive the DC10As, most of the time using Sugden's new FPA-4 Single-Ended power amplifier, driven via balanced cables direct from an Audiolab M-DAC. Feeding the M-DAC's optical digital input was an Astell&Kern high resolution digital player, delivering both CD and high resolution music, mostly 24/96 (FLAC and WAV). I ran

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the DC10As heavily to ensure they had bedded in, using both pink noise and our De-Tox disc. I also used Quad II-eighty valve power amplifiers.

The listening room was a large volume space, measuring 25ft long, 18ft wide but with a 13ft high and sloping ceiling, amounting to 5800 cu ft. With a room like this that is tuned below the 'speaker, I get to hear what the speaker is doing, without the room impinging upon it. In smaller rooms, what is known as 'room gain' will boost bass and affect its quality, as it does with all loudspeakers.

What Tannoy have done with the DC10A is made the drive unit do more of the work than the port, whilst keeping it well damped acoustically so as not to over-excite medium sized rooms. The port delivers sub-sonics below 35Hz. So the DC10A has been acoustically arranged, as it were, not to over-drive a normal room, which is where it differs from the DC10T.

Much as expected the new DC10A had dry and tight bass in our room, but it was fast and impactful at low frequencies. Bass lines, such as the steady, repetitive leading line in Misery, from Daves True Story (24/96), moved smoothly up and down the frequency scale, with no overhang or bloom. The bass line in the Eagles 'Busy Being Fabulous', from Long Road Out of Eden, rolled along cleanly, each note sounding firm and well defined. The DC10As reach down low and had real impact lower down. It was quite a different animal to the DC10T here.

Our room was actually a tad too large; I would guess the DC10As have been tuned for an 18ft long room, or less. But in an over-damped situation – speaker and room – such as ours I could tune in a little bass boost on the AK120's equaliser to good effect, when using its analogue output.

Where the DC10A shone was in its fabulously large sound stage, and its sense of powerful projection. It's here the old DC10T caught my attention so strongly and the new DC10A builds upon the effect. Marcia Gomez sang Lucia (24/96) from around one foot above the loudspeakers, at the centre of the sound stage. The DC10As don't 'letterbox' the image; they eerily project it as large panorama, and it is this that is so arresting. With superb clarity and deep internal detailing I felt enveloped by performances; with the Boston Symphony Orchestra playing Rimsky Korsakoff's Snow



Maiden, 'Dance of the Tumblers', the orchestra had enormous scale in front of me, kettle drum strikes resounding around the room helping toward a sense of power.

The DC10As are crisp and fast in their treble, but cymbals had

weight to them as well as forceful speed. There was none of the slightly hissy quality that's so common to alloy dome tweeters, although the M-DAC's Optimal Transient filters especially suited the Tannoy's revealing top end and helped here.

CONCLUSION

The DC10A is a big Tannoy for a medium room. I guess in truth at 1.1m high it isn't so big, but it sounds bigger than it really is. This is a loudspeaker where the adjective "scale" comes to mind. As in scale of sound stage and dynamic scale too. Yet at the same time it is insightful and sophisticated in its delivery. If you want to be impressed do listen to the new DC10A. Big Tannoys are just exciting and this is a fine example of the breed.

MEASURED PERFORMANCE

Off axis, treble output is flat to 18kHz, before a sharp cut off above this frequency. On-axis, output from the tweeter lifts by 3dB so if pointed directly at listeners the speaker is likely to sound a little bright.

Our impedance curve shows the titanium dome tweeter at the base of the central horn works down to 1.5kHz where crossover wavelength is relatively long and problems minimised. Its output isn't so smooth but variance stays within reasonable limits, a dip and peak around 4kHz suggesting some small phase change (subtraction/addition) mechanism.

The large pulp cone bass unit works from 1.5kHz down to 40Hz, its output falling away smoothly below 100Hz – an over damped response suggesting the DC10A will give tight, dry bass and

may well be used close to a rear wall.

The ports are tuned low, around 35Hz, our impedance plot shows. Acoustic output from the port (red trace) shows they provide a small amount of low bass fill-in, boosting subsonic output only.

In all then, the DC10A goes low, and the big bass unit working in a big cabinet volume covers the whole range, with strong acoustic damping. The DC10A is quite different to the earlier DC10T in this area, with less bass and stronger bass damping.

Sensitivity was very high, as usual with big Tannoys, measuring no less than 91dB from one nominal Watt of input, even though impedance was high too, measuring 9 Ohms overall. So the DC10A needs little amplifier power and will go loud even with specialised (e.g. Single-Ended) 10-20 Watt amplifiers; it hardly needs more than 60 Watts maximum.

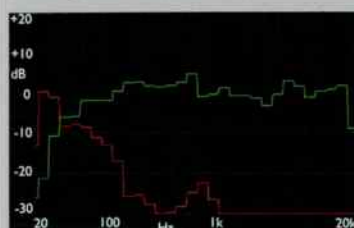
A 200mS decay analysis shows consistently low coloration right down the audio band, even into the difficult bass region where cabinet resonances (standing waves) are expected. In fact, with no hot regions, the DC10A is much cleaner than most loudspeakers, almost certainly due to the large cabinets. The tweeter is clean too.

The DC10A is quite different to the DC10T tested in our November 2010 issue. That loudspeaker had very strong bass and needed foam port bungs, but was otherwise superb. The DC10A appears to retain the DC10's strengths but has tighter and cleaner bass. It is unlikely to sound bass heavy in a room.

NK

FREQUENCY RESPONSE

Green - driver output
Red - port output



IMPEDANCE



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US spinner

Martin Pipe enjoys a luxury disc spinner – the new McIntosh MCD550 CD/SACD player

What unites American icons like the Ford GT, Harley-Davidson, Brian Wilson, the Grateful Dead, Earth Wind and Fire, the 1969 Woodstock festival and Tony Visconti? Another American icon of course - albeit one that's now owned by an Italian investment group.

We're talking McIntosh Labs, the high-end hi-fi specialist that still proudly designs and manufactures big and beautiful audio components from its base in Broome County, New York. Many of its contemporaries have in contrast fallen by the wayside, becoming little more than 'branding' – logos slapped onto gear imported from the Far East – if they haven't disappeared altogether.

McIntosh's reassuringly-built products are uniquely-styled,

those blue/green lighting schemes and chunky controls immediately identifying their marque. Some love the look, others do not; to me, it's a 'grower'. This retro house style defines much of the MCD550 – the company's latest CD/SACD player, which augments the MCD500, a current model.

On either side of the MCD550 disc tray are knobs to sequence through tracks and adjust output level (with the assistance of a dedicated level display). Yes, folks, you can drive a power amp or active speakers directly. There is a headphone socket too.

However, one of the major new features of the MCD550 is a USB port, to which you can connect your personal computer. Streaming audio stored on the hard drive of a computer (PC or Mac) is going to

be a big draw to at least some of the brand's fans. There are external (optical and coaxial) digital audio inputs that allow its DAC to be driven from other, more traditional, digital sources. And there are separate fixed and variable phono outputs, as well as fixed and variable balanced XLRs.

There's no balanced AES/EBU digital input; if you want that from a McIntosh product, you'll need to consider the top-of-the-line MCD1100. Like this unit, and for that matter the MCD500, the MCD550 will play both SACDs (albeit only in two-channel) and CDs. CD-ROMs and DVD-ROMs containing MP3 and WMA tracks are also fair game, although a spin of a test disc demonstrates that AAC and lossless (notably FLAC) aren't supported. I guess this is where the PC comes in.



Sony's CXD2753R chip retrieves the DSD datastreams from an SACD disc and sends them to the DAC (ESS Sabre ES9016).

It's also worth pointing out that the DSD tracks of this test disc were ignored too – a pity, considering the increasing popularity of this format for hi-res downloads.

Among the front-panel buttons are a mute function, the ability to switch between the CD or DSD (stereo or downmixed multichannel) layers of a hybrid SACD, and a button to cycle through the inputs, or disc playback. It's all straightforward enough to get to grips with.

The backlit remote, which shares nothing with the McIntosh design aesthetic, does take some getting used to. It drives different McIntosh products (including its Blu-ray player) and as a result is a compromise. For example, instead of pressing the 'source' button to switch between inputs, the 'intro' button is used.

As a power-saving measure, the MCD550 eventually goes into standby after a disc has finished playing and there has been no subsequent user activity for 30 minutes.

The software driver that is downloadable from the McIntosh website, for PC or Mac will only handle PCM audio, albeit all the way to 24/192. Although USB interfaces can support native DSD streams, and this is used by Teac with their UD-501 DAC, such an arrangement is not catered for here. So you can listen to PC-stored DSD files through the MCD550, but they're converted to PCM first. Devotees of DSD and SACD say that doing so robs the format of its benefits, although with the right settings it can sound very good indeed.

You can play DSD files with the free Foobar2000 software available from <http://www.foobar2000.org/> (provided the DSD 'component'

is installed too - this is available from <http://www.foobar2000.org/> components). Foobar will only play DSD files with a .DFF extension. DSF ones won't play, even if you rename them .DFF.

In the McIntosh audio driver, you have to choose the output that best suits your needs from a 'default format' list (16 or 24-bit, sample rates ranging from 44.1 to 192kHz). The sample rate and resolution are thus 'fixed' (i.e. it doesn't change automatically, according to how the music being played was encoded). As a result, sample-rate conversion and 'up/down-rezzing' are inevitable unless you keep changing the default setting to reflect whatever it is you're playing at the time. And by default, the setting is CD-quality (i.e. 16-bit/44.1kHz).

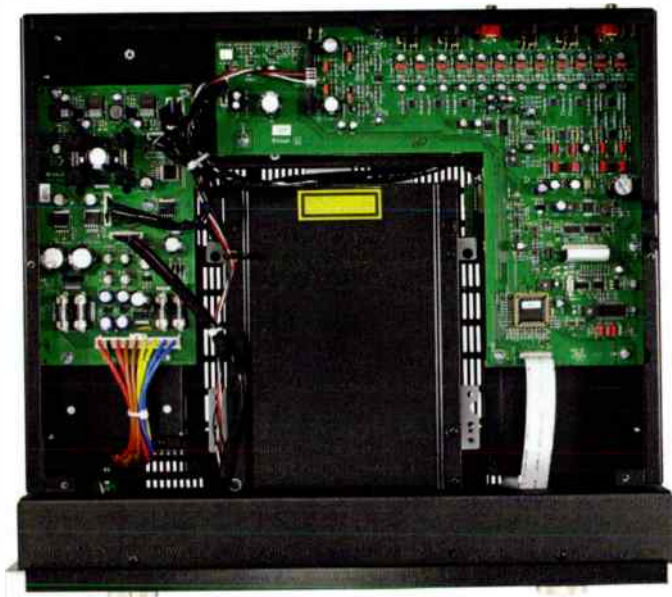
The USB connection (and thus the software driver) are only active when the MCD550's input is

in the right quantities, none being emphasised at the expense of others. I found that the bass line and rhythm of Iggy Pop's *The Passenger* (Lust for Life, CD) were evidently gutsy, yet at the same time taut and well-controlled.

The trademark tambourine that pays a prominent role in the rhythm section was never shrouded, while the song's complex guitar work could be picked out even during the song's more dynamic moments. Iggy Pop's distinctive vocal, meanwhile, lost none of its sinewy character.

It may have been recorded in 1969 – that master-tape hiss is a bit of a giveaway – but there's immense detail in the string-picking (first acoustic, then electric) that opens Neil Young's *Cowgirl in the Sand* (Everybody Knows This Is Nowhere, also on CD). None of this passed the MCD550 by.

Moving to SACD, and another



At centre is the disc transport, covered by an electrical screen. The main circuit board carries the player's ESS Sabre32 DAC, complete with DSD decoding.

switched to 'USB', so that playback can revert to the PC's soundcard when hi-fi reproduction isn't required; this can, however, cause problems (i.e. the PC and/or player needs to be reset).

SOUND QUALITY

Listening to the MCD550 via a Linn LK280 power amp (driven via the variable outputs) and my Acoustic Energy AE109 floor-standers, the overall impression the MCD550 gave me was one of fine balance. All elements of the music are present

classic-rock favourite – Pink Floyd's timeless *Dark Side of the Moon*. The heartbeat 'thump, thump...' that announces *Speak To Me* reinforced the MCD550's solid control over the bottom end; at no time did this even hint towards the overblown. On the Run, with its sequenced EMS synthesiser, demonstrated pace and timing – and, for that matter, imaging as exemplified by the panning effects. The carefully-synchronised clock-chimes that precede *Time* are handled without the brittleness that can trap lesser equipment, while the

Platinum series



QUAD's reputation as a manufacturer of hi-fi products that deliver musical accuracy through technical prowess is legendary and is nowhere more evident than in the Platinum series of components. Platinum is the pinnacle of QUAD design, a series of CD/DAC Pre and Power amplifiers that provides everything you need, bar the loudspeakers, to replay music recordings as they were meant to be heard – naturally. Platinum is the flagship of the QUAD range, a new set of electronics from a brand that has been famous for quality amplification since 1936. Like all QUAD designs, Platinum's purpose is the 'closest approach to the original sound' – in Platinum's case closer than ever before.

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Tel: +44(0)1480 452561 Fax: +44(0)1480 413403 www.quad-hifi.co.uk

World Radio History

QUAD
the closest approach to the original sound



The rear panel carries two sets balanced/unbalanced analogue outputs - one of which is variable.

Digital inputs (as well as outputs) allow the unit to be used as a DAC; a USB port provides computer playback.

orgasmic throes of Clare Torry's improvised vocals retained their raw emotional power during The Great Gig in the Sky.

Next onto the tray was a far more modern (and simpler!) recording, the SACD version of Trondheim Solistene's Divertimenti (as much a demo disc for the

between different encoding bitrates; lower ones sound noticeably more congested and rob the music of its vitality.

One final point concerns the MCD550's variable output. McIntosh have done a fine job here. Buried in the player's innards is a

48-pin ES9016 Sabre DAC chip, which processes internally at 32 bit resolution and contains eight channels operated in quad-balanced mode (four channels are dedicated to each stereo output). The chip also features a digital volume control, amongst other things. The MCD550 relies instead on a separate audiophile chip (a MUSES S1642A from JRC) to perform this duty and adds a line amplifier to give a massive increase in output over the Sabre, our measurements show.

CONCLUSION

The MCD550 may not be cheap, but its undoubted sonic prowess is in keeping with the McIntosh tradition. My only reservations are that the MCD550 cannot take full advantage of DSD downloads, but this small issue apart, it is a fine high end player with superb sound quality.



The remote is out of style. For US homes controlled by a 'whole-house' system the MCD550 has rear-panel external control inputs.

present as DSOTM was for the '70s!). This stunningly-detailed collection of recordings was here reproduced with an appropriate sense of scale and space. The complex tonality and timing of Terje Bjorkland's Carmina, which is redolent of works by Arvo Part, is done justice here.

The USB feature, driven from a Windows Vista PC, acquitted itself well. It's interesting to note the difference when switching between the various 'default formats' when playing a hi-res track. At the higher-quality settings, there's a definite improvement as far as presence and subtlety are concerned. Even with MP3s, there's a difference

MEASURED PERFORMANCE

The MCD550 delivers massive output as CD players go, well above Philips Red Book spec of 2V. No less than 16.8V is available from the XLR variable outputs at full volume, and half that from the unbalanced phono socket outputs. However, the fixed outputs do adhere to standard, providing 2V from the phono sockets and 4V from the XLR sockets.

EIAJ Dynamic Range measured a high 119dB from the 2V output as well as the 16V output. Using the higher output can give better downstream results, through the connecting cable and in the amplifier, although with most

amplifiers where the CD input runs straight into the volume control, the benefit will soon be negated.

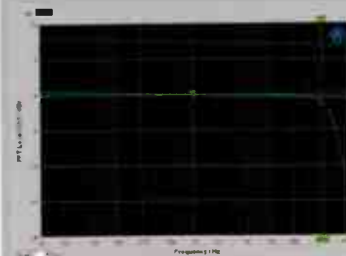
Such high output does also bring the possibility of input overload with amplifiers (e.g. Naim) that have a buffered input, and here the fixed output is best used. Power amps can be run directly from a DAC/player like this, as they need 2V maximum.

Distortion levels were normal with 16bit (CD), measuring 0.2% at -60dB (but this is the limit of the 16bit signal, not the player) and a low 0.024% with 24bit at -60dB, as our analysis shows. Low noise and distortion in conjunction with quiet output amplifiers combine to put the MCD550 up amongst the best players available and with 24bit it should give fine sound quality.

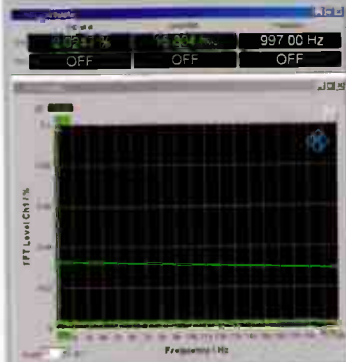
With 192kHz sample rate frequency response measured 46.6kHz (-1dB), rolling off smoothly to the 96kHz upper limit our analysis shows.

The McIntosh MCD550 measured well in all areas. It has excellent dynamic range and gives fine results from a wide range of sources, from silver discs to computer USB data. NK

FREQUENCY RESPONSE



DISTORTION



Frequency response (-1dB)
192k 4Hz - 46.6kHz

Distortion (24bit)	%
0dB	0.007
-60dB	0.024

Separation (1kHz)	113dB
Noise (IEC A)	-118dB
Dynamic range	119dB
Output (max)	16.8V

MCINTOSH
MCD550, £6,395



OUTSTANDING - amongst the best

VERDICT

Awesome playback from discs, but could be better-prepared for computer DSD.

FOR

- classic McIntosh build and sound quality
- variable-level output for active speakers and power amps
- decent headphone output

AGAINST

- DVD-ROM/CD-ROM support limited to WMA and MP3
- DSD over USB is PCM

Jordan Acoustics
www.jordanacoustics.co.uk
www.mcintoshlabs.com



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October 2013 - Precision 6.2



Precision 6.2



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WIN YAMAHA BD-A1020 SUPERB BLU-RAY PLAYER IN THIS MONTH'S GREAT GIVEAWAY!

Here's your chance to win the superb Yamaha BD-A1020 we reviewed in the June 2013 issue. Read the review excerpt below and answer the questions.

"The BD-A1020 plays every silver disc: Blu-ray, CD, DVD and – fanfare – SACD and DVD-A (DVD Audio-only discs). So anyone with a broad disc collection can play them all, and this included my Carlos Santana 'Supernatural' DVD-A in pristine 24/96, that makes the CD sound a mess. It also included all my music Blu-rays because the BD-A1020 plays

Dolby TrueHD as well as DTS HD Master Audio, up to 24/192.

In addition to its full range of silver disc skills, the BD-A1020 will also read music from a USB memory stick, or a computer. It lacks a Bluetooth receiver, and internet radio, but it gets Netflix, YouTube and Picasa streaming services. It saw my wired ethernet network immediately when plugged in, and played music from my Mac through its EyeConnect UPnP server, and from Windows 7 running on Bootcamp. This was all seamless and problem free with DHCP, something I appreciated, but network settings can be made manually.

Physically, the BD-A1020

measures 435mm wide, 258mm deep and 86mm high, and weighs 2.9kgs. The front panel carries only basic controls; many more sit on the remote control alone. These include Direct and Pure Direct (all displays off) modes, and a CD/SACD selector. This switched between CD and SACD layers, an action not strictly necessary because the SACD set up menu makes this selection and the Cambridge and Oppo players do without, but the CD layer came up with track info from some SACDs whilst the DSD layer did not, so perhaps this is why it exists."

For a chance to win this great prize, just answer the four easy questions at right. Send your entries on a postcard only, by April 4th 2013 to:

**April 2014 Competition,
Hi-Fi World magazine,
Studio 204,
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Conlan Street,
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QUESTIONS

[1] What does the Yamaha not play?

- [a] CD
- [b] DVD
- [c] Blu-ray
- [d] MD

[2] What streaming is unavailable?

- [a] Netflix
- [b] Picasa
- [c] YouTube
- [d] Soda

[3] How does it network connect?

- [a] via DHCP
- [b] via telephone
- [c] via wet string
- [d] via NFC

[4] What does it weigh?

- [a] 5kgs
- [b] 10lbs
- [c] 2.9kgs
- [d] 2 cwt

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Tony Bolton, Hi Fi World 2014



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CD today

Noel Keywood explains how to get the best out of CD using the technology of today.



There's nothing less fashionable than something that has just gone out of fashion, and CD joins VHF/FM as a memorable example.

Because of waning demand and falling sales, manufacturers are unwilling to invest in either, making new CD players rare. But that doesn't mean CD is dead – far from it. There are many ways to enjoy your CD collection and get great sound from it – better than ever – and this is what I will cover here.

OLD PLAYER, NEW DAC

Here's the best solution to playing CD in future. You need a way to spin and read the CD, using either an old player, a new (budget?) player or a dedicated CD transport. Whatever, it must have a digital audio output, meaning either a co-axial or an optical S/PDIF digital audio connection – USB on a computer CD drive will not work.

You feed this digital output into a modern DAC to benefit from the latest digital convertor technologies.

The point here is that whilst CD players and transports may be a disappearing breed, DACs have never been so popular, so there's endless variety, a wide range of prices and some impressive new digital technologies to savour.

Some of these new technologies are mind-bendingly technical – as digital can be. Just take a look at the Sabre DAC specification later in this article. But they can be used to get the best out of your present CD collection – at a reasonable cost.

What lies behind the on-going wave of new DACs is consumer demand for quality digital-to-analogue converters that can be connected to a computer, tablet like the iPad or laptop, meaning a USB input is obligatory.

A goodly flow of new, high-technology DAC chips from companies like Wolfson and ESS underpins this market. Companies such as this are buoyed by large "design wins" from the likes of Apple and Samsung, where if your DAC is chosen for – say – an iPhone then you are in big business.

But their DAC ranges commonly feature flagship designs, technology showcases, that especially suit the hi-fi business, and these DACs can always handle CD.

Wolfson Micro in the UK have become a glamour supplier of quality DACs to the industrial nobility; we've mentioned the Wolfson WM8740 used in Astell&Kern players many times. Whereas DACs in the past, like Philips renowned TDA-1542, got a very limited public airing, Wolfson



Use the digital audio outputs of a CD or Blu-ray player, optical or electrical, to connect to a DAC.

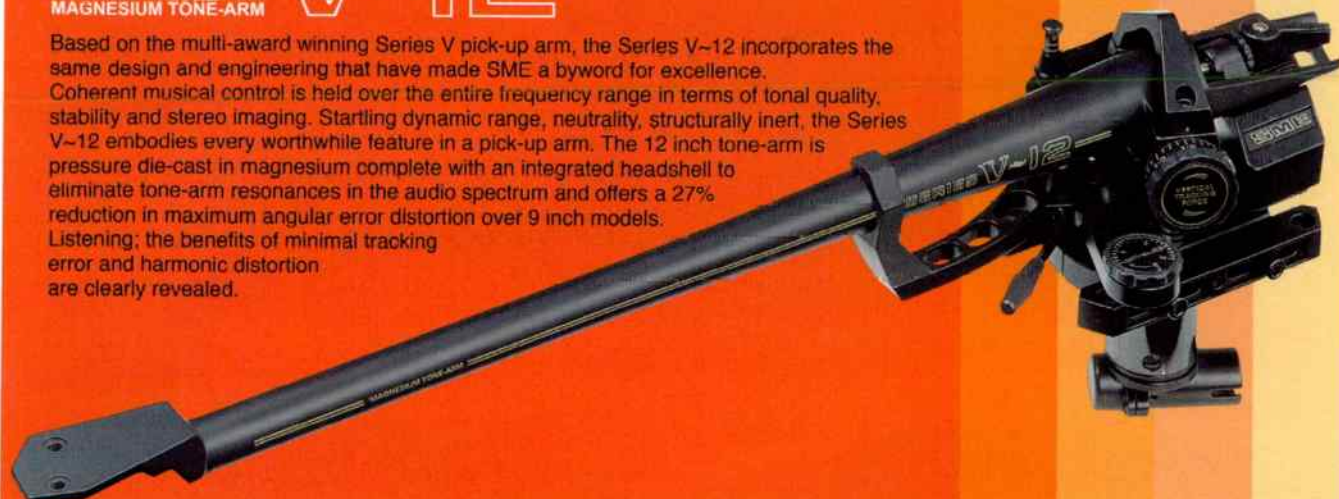
DACs are all over the blogosphere – nice publicity if you can get it. The same is happening to ESS of California with their Sabre range.

You won't find these modern DAC chips in CD players, possibly with a few rare and expensive exceptions, but you will find them in sub-£1000 DACs like Teac's UD-501, and the Audiolab M-DAC and Q-DAC (just £400). Feed them digital audio from a CD transport and you will get a great sound from modern silicon, even 'hi-res' from CD – see our boxout on this.

What to use as a transport? The cheapest solution is an old player with a digital audio output, optical or electrical. But it won't give the best results, as lasers get dirty, especially if used in a smoke-filled room, and the mechanical drive and servo

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



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In the GN-2 plug the connection is made by a thin cylindrical wire, plated in gold to protect the sensitive connection between the cable and the binding post from corrosion which may distort the music.

By reducing the surface area of the contact between plug and binding post this gives a focused contact that delivers a clearer sound quality than conventional designs.

The GN-2 Straight Line Contact Plugs will make a real positive difference to your enjoyment of your music. If they don't, I will happily refund you your full purchase price.

Graham Walby



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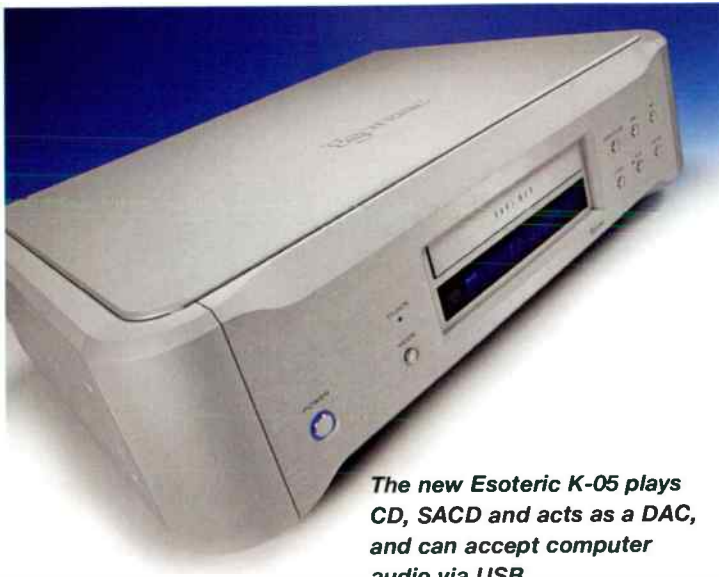
Sony BDP-S4100 Blu-ray player plays CD and has digital audio outputs too. It can be used as a budget CD transport.

mechanisms wear out.

A new budget player is a better bet, bearing in mind that jitter reduction from re-clocking strategies in an external DAC is these days becoming an accepted requirement

configured to be DACs with a CD transport added, and such a player has digital inputs, including USB so it can be used with a computer.

There are advantages in this configuration, the ability to play



The new Esoteric K-05 plays CD, SACD and acts as a DAC, and can accept computer audio via USB.

within digital audio, so weaknesses in the cheap player will be corrected.

CD players below £150 often lack a digital output so be careful to look first before buying. There are many sub-£200 players with an S/PDIF digital output, such as the Cambridge Audio Azur 340, Denon DCD 720, Marantz CD5004 and Yamaha CDS300 (some are outgoing models).

Most Blu-ray players also have an S/PDIF output carrying digital audio and new ones can be had for around £100, so they offer another solution, but you will need to connect to a TV to access their set-up menus, and the remote control will be more complex than that of a dedicated CD player.

BUY A NEW PLAYER

The problem any new CD player faces is one of public perception limiting its market, making new players only able to play CD rare. Examples like the Esoteric K-05 we reviewed in our March 14 issue are

SACDs being one of them. SACD digital code (DSD) is not compatible with S/PDIF, so you cannot send DSD from a CD transport to a DAC, unless it is converted to PCM.

USE AN AV RECEIVER

OK, this is the least attractive way to play CD. Using an AV system means

transitioning from simple stereo to loudspeakers everywhere, or so it may seem. And AV receivers are not easy to use; I wrestle with one nightly and when the cat sits on the remote it can take 30 minutes just trying to figure out how to get the sound back on.

But there are benefits. A budget Blu-ray player from Sony costing around £120 will play CD, SACD, DVD and Blu-ray, over HDMI cable to a receiver, so you get it all except DVD Audio. If you must have DVD Audio too, Cambridge Audio's Azur 650BD will do the job.

AV receivers can be configured to run two loudspeakers, using just two of the five or seven channels available. With bi-amping to improve quality, four channels are used. Add in a centre speaker and that's five channels; the receiver will send a mono signal to Centre by adding left and right together, so you get true three-channel sound. With bi-amped left and right this is an enhanced stereo system that utilises five amplifying channels.

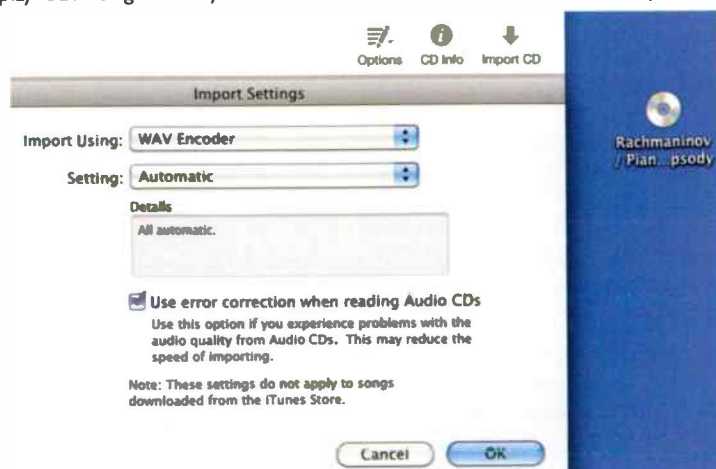
The obvious advantage of an AV system is that it gives you great sound from TV, DVDs and Blu-rays as well as CDs.

The wires and complexity are the biggest drawback as well as the cat's bum — but a happy family watching video is perhaps suitable pay-back.

RIP YOUR CDS

Ripping CDs means getting the digital off them and onto your computer, for playback either from the computer, or another device. It is a simple enough process, but can get complicated, or even over-complicated by jargon and options.

Both Windows Media Player



Apple's iTunes on a Mac computer will rip (Import) CD to WAV, MP3 or Apple file format tracks.

icon Audio



The Unique Stereo 40 MK III KT88m

Our best ever mid range amplifier!



Hi-Fi WORLD said:

VERDICT ●●●●●
The third generation Stereo 40 brings focus and scale to a perennial entry level valve integrated favourite. An excellent budget buy.



Low Distortion Tertiary wound transformers

designed by David Shaw

Shown with upgraded Treasure CV181s and Full Music TJ 6SL7, Jensen copper foil in paper and oil capacitors

Superbly engineered. Very versatile 40w+40w UL or 20w+20w Triode

Whilst our flagship models rightly get superb praise from reviewers worldwide for their performance and value, we never lose focus on our more affordable products and regularly update them when the opportunity arises. Such is the case with our Stereo 40. Our original brief over 10 years ago to make the best possible EL34/KT88 valve amplifier for a reasonable price still holds true. Our latest Stereo 40 MK IIIm incorporates several improvements. Now with a meter which allows a very simple way to check that the output valves are operating at their optimum value and best performance. This will also tell you when a valve is due for replacement or when it is failing. Something other designs don't do. The Stereo 40 is almost unique in its ability to use a very wide range of valves including 6L6, 5881, EL34, 6CA7, KT66, KT77, 6550, KT88. Now made very easy to change if you like "tube rolling".

In our quest to make the best amplifier in its class we also include all the features we think a good amplifier should have including Triode or Ultralinear operation, remote control, a record loop, a warm up/standby facility, valve rectifier, Low Distortion Tertiary output transformers and many more features.

There are also things we don't include like printed circuit boards and transistors both of which we feel degrade the performance of valve amplifiers.

Obviously the overriding priority is the sound quality which must come from good engineering which we believe to be far ahead of the Stereo 40's modest price.

We guarantee you will not be disappointed!

Our four cornerstones are **Quality Performance and Value**. And in the future, **Service** when you need it. In this age of "built in obsolescence" it may be unfashionable to talk about repairs and spares but our commitment to future service means you should be able to enjoy your amplifier for at least 20 years.

All of our amplifiers are designed and finished in Leicester they are commissioned and serviced by the people that designed them so you can be sure of our quality control and long term performance. Our new series of "Low Distortion Tertiary" output transformers are the best we have ever made, enabling us to reduce global feedback.

All our amplifiers are hand made using "point to point" soldering without using printed circuit boards. We are convinced this sounds better. It also allows for easy servicing, upgrades and modifications and long life. Remote controlled volume is useful for fine tuning your listening level to match your taste. High quality components are used throughout including an "ALPS" volume control, silver plated PTFE audio cable SCR capacitors audiophile resistors. Power Amplifier operation is possible by selecting a lower "gain" on the rear of the amplifier (this is done without attenuation which would lose quality). Loudspeakers of nominal impedance between 3 ohms and 10 ohms may be used with virtually no reduction in power or quality. A valve rectifier with choke regulated power supply adds a richness to the sound quality that silicon devices alone are unable to do. Tape and other methods of recording and playback are catered for by the "Tape Monitor". Also useful for Home Cinema applications.

In short we have created an amplifier of excellent flexibility and quality which retains the qualities of traditional design and performance.

All our amplifiers are made in kit form in our own Asian factory and hand finished in Leicester UK. No one else makes amplifiers for us. We do not make amplifiers for anyone else.

From £1,599 EL34, £1,699.95 KT88 (inc 20%VAT) Upgradeable. See also Stereo 40 6AS7 only £1399, Stereo 40 2A3 £1999, plus many more products on our website

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on PC and iTunes on Mac can rip CD to discrete digital files on your computer. These programmes come as standard, so software does not have to be purchased and installed.

XLD (Mac) and dbpoweramp (PC) – both free – will also perform high quality rips and are well worth using. You can rip to most formats, including popular WAV, FLAC or ALAC, easily.

For Macs (in particular) with no CD drive, USB connected external CD playback drives are £25 or so.

Once on the computer, these files can then be played back on the computer, read by a network player over an ethernet link, or from a USB memory stick that's physically walked from computer to a network player (sneakernet).

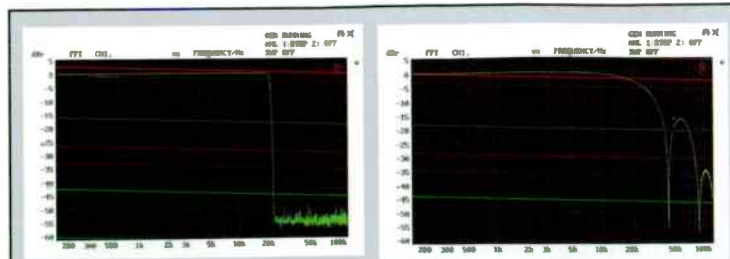
They can also be stored on a Network Attached Storage (NAS) drive and read from it by a network player.

Finally, ripped files can be transferred to a portable player like a FiiO X3 or Astell&Kern AK100, able to play nearly all digital file formats through the hi-fi, including CD.

This is a very easy-to-cope-with solution, since loading the files from computer to player is quick and simple, and the headphone output of these players is designed to drive a hi-fi amplifier through its Aux or CD inputs, as well as driving headphones.

Once you put your CDs onto such a player they can be carried around and listened to on headphones or hi-fi.

There are no moving parts to fail on these solid-state players, unlike NAS drives that use a hard drive (unless they use an expensive SSD).



Conventional CD at left and 'alternative CD' at right. Our analyses show that conventional CD reaches 21kHz and 'alternative CD' reaches 80kHz. It also looks analogue like.

CD GOES HI-RES?

CD has a strict upper frequency limit of 21kHz but you'll see that Audiolab's M-DAC (and Q-DAC) are able to extend this up to 80kHz, – apparently giving CD hi-res specification. Is this modern day digital magic?

It is not magic but trickery. Above CD's upper frequency limit of 21kHz it produces only unwanted aliasing products (i.e. rubbish) that are traditionally removed by filters. Both the M-DAC and Q-DAC, which use the ESS Sabre32 DAC chip, have such filters and can provide just such a conventional result from CD (see frequency response at left, above).

But they also have an additional and unusual filter set, called Optimum Impulse filters, that extend output way past 21kHz, all the way up to 80kHz our measurements show (see frequency response at right, above). What you get above 21kHz is rubbish – and this is the contentious bit. But since humans cannot hear above 21kHz perhaps this matters less than other, less obvious, factors that are beneficial. Audiolab talk up the fact that this filter set gives a better impulse response than that of the traditional CD player but the filters also give a better in-band phase response and far less group delay.

Subjectively – the important bit – the Optimum Impulse filters give a more open and expansive sound than CD, if one lacking its traditional treble zing. To some this makes for a seemingly lacklustre sound; not everyone likes it. But to many, it gives a more relaxed and natural sound from CD, one that makes for easier long-term listening. Distortion and noise figures do not worsen.

Being able to alter the sound of CD in this fashion – and there are seven filters to play with – is an advantage of using a modern, high-technology external DAC rather than an old-style, fixed format "get what you're given" CD player.

Modern digital is becoming very complicated, as our box-outs make clear.

But using a transport with a modern DAC is no big deal, even if this isn't a simple one-box solution like the traditional CD player.

There are two boxes and

extra wires, but the same simple functionality and ease of use are there, allowing a CD to be loaded and played easily. In place of one box simplicity you get access to the latest digital processing schemes that provide better sound. So there's still life in CD, if not as we have known it.



ESS SABRE32 DAC

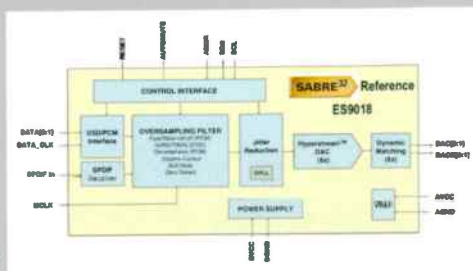
The Sabre32 DAC from ESS has on-board digital signal processing strategies that work to improve the sound of CD. They're not found in CD players as we know them.

Firstly, there is a jitter reduction system that isolates the input S/PDIF source clock, from the internal processing clock, preventing jitter pass-through. The internal reference clock is itself very stable, with low phase noise, whilst internal jitter reduction schemes ensure jitter-free audio output.

Secondly, cascaded internal modulators are highly damped so that musical transients do not result in uncorrelated dynamic noise patterns. Also, our measurements confirm that this chip does have the massive (static) Dynamic Range ESS claim.

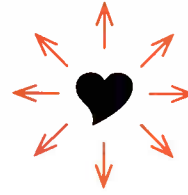
Maximum resolution is obtained from the Sabre32 ES9018 chip when all eight channels are connected as a single channel mono processor, but as this is a hugely expensive chip at £30 a piece in quantity. Such a configuration will rarely be seen in a commercial product, except perhaps in expensive boutique designs; for stereo there is an ES9012.

The Sabre32 has on-board a high-resolution (0.5dB/step) volume control and output amplifier able to deliver 3V. It also has a two-stage digital filter that offers basic fast and slow roll-off options, each being programmable – and this is what Audiolab have uniquely exploited in M-DAC and Q-DAC, programming in three fast and three slow variants, plus one in-between compromise labelled Slow.





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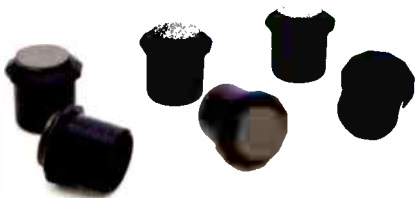
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MWA-RC Magnetic Wave Absorbers



"Dynamics in the music seem to be more refined with the Magnetic Wave Absorbers fitted and the music flows more smoothly. This is an excellent value accessory for your hi-fi system"

HI-FI Choice, October 2013



These simple yet effective products from Oyaide in Japan have been designed to add further improvements to the equipment and cabling in your system.

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LETTER OF THE MONTH PRIZE



KEF Q100 LOUDSPEAKERS

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 KEF Q100 loudspeakers.

Answers by: NK - Noel Keywood; PR - Paul Rigby; TB - Tony Bolton; MP - Martin Pipe; HB - Haden Boardman; RT - Rafael Todes; RA - Rod Alexander; JM - Jon Myles.

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

A pair of KEF Q100 loudspeakers are on their way to **CHRIS PURCELL**, Letter of the Month winner in our MARCH 2014 issue.

Letter of the Month

LAPTOP SOLUTION

My current system comprises a Chord Blu transport, a Chord QBD76 DAC upgraded to QBD76HD, Stax SR-009 headphones, Stax SRM-007t/2t Kimik modified, Isotek Sigma, together with high quality cables and interconnects. As the Chord equipment re-clocks a CD does it follow that CD burning will not bring any more benefits to my system?

At the present time I have not dipped my toe into high resolution downloads. As a regular reader I note that there are greater benefits over CD. At this stage I do not want to go down the route of streaming as I would undoubtedly want a Chord DSX1000 or a CodeX which is more than I want to spend at this time, particularly as I have a good DAC. The use of a dedicated laptop using battery power as used by Terry Catlin as reported in September 2013 has great appeal. The downside is that I am not a computer geek.

Use an Astell&Kern AK120 digital player? NK suggested this as an alternative in reply to Terry's letter. I have discounted its use because the speed of the digital revolution is such that such products are being improved at a rapid rate: I see that a Mark 2 version is shortly to be reviewed for example. I am also unaware if existing models can be upgraded. And what about the uncertainty of longevity/future repair facilities? Chord tell me they do not at the present time have any



The MacBook Air 11in is an attractive little portable able to play high resolution audio and feed it out to a high quality DAC via USB. So you download to the Air, then play through the hi-fi. It couldn't be simpler.

proposals to upgrade the QBD76HD further but they do service their equipment.

It is probably my lack of computer expertise, but the problems of equipment failure and resultant loss of material also concerns me – and laptops have the advantage of a larger screen. I look forward to hearing from you.

Mike Blain

Hi Mike. Laptops have plenty of benefits, but they are relatively big, often heavy, and expensive. Also, they offer a full-fat computing experience and you may be uncomfortable with this.

The common choice nowadays is a MacBook Pro, because OS-X (its

operating system) does not need special audio drivers to work at high sample rates and asynchronously. Also, OS-X is for most people an easier interface to cope with than Windows, so this is the best choice for non-geeks (you!).

The Pro does not now have a CD/DVD disc drive, so you'll need an external CD drive (USB connected) to rip CDs, which is a hassle but inexpensive at £25 or so.

The Pro has an optical digital (S/PDIF) output in its headphone socket, whereas the lighter and smaller MacBook Air does not. This is useful for connection to an external DAC, although not essential because most DACs now also come with USB for connection to a

computer.

Alternatively, buy a second-hand Pro with optical disc drive. Just be aware that the internal hard drive is best replaced, something that any computer store/supplier can do with ease for you.

If a Pro is too big or expensive for you, consider the smaller MacBook Air. Don't get an iPad though, because it uses a different operating system that does not handle high resolution audio as yet.

Digital Audio Portables are inexpensive and far simpler to use than a laptop. There are no moving parts so life expectancy is good. Their screens are small, however. As screens get bigger, both price and power consumption go up, a point to bear in mind.

CD burning offers small but appreciable benefit, where re-clocking reduces jitter. In your Chord system you may well notice little difference, as you suspect.

Can I suggest you do what reader Martin Dickinson does in this month's Letters, visit a John Lewis electrical department where you can look at Macs on display and see if one takes your fancy. You will need to get BT to install an internet connection in your home of course, if you don't have one. Downloading is a doddle. **NK**

OLD CD

As an enthusiast I have listened to several audio and video formats and even now, when CD is no more the flavour of the month, I still have my huge collection of records.

I have heard 14 bits, 16 bits, Bitstream, Mash and I was disappointed by the sound emanating from the 24 bits. I know it is fashionable nowadays, but for my ears the sound is too polite, too sweet, it lacks guts and inspiration so I decided to give this old-fashioned 16 bits a try (again) and I bought an old and modest Philips CD 650 with a CDM 2 mechanism and an early 1541 SI converter (single Crown).

As soon as I heard my favourite Blue Note record I know I was right, the music was energetic and sweet at the same time, full bodied and lot of details could be heard so – put simply – the mechanism and the converter work perfectly in fusion and I forget all the hype around the 24 bits.

Since then I bought many World Classics but none can reach the magic of a classic Philips CD player.

For those who like exotic loudspeakers have a test of the horn

loaded JBL Studio 590 they will reward you with a warm and detailed sound. I drive mine with a home made 300B and they have a test at Hi-Fi World towers!!

**Remi Balestie,
France.**

Hmmm... when I first heard CD from early players using Philips TDA-1540 and 1541 DAC I took refuge behind the settee, many were so aggressive. After LP I could hear little of merit. Measurement showed why.

The TDA-1541 wasn't linear. At -60dB it produced 1% distortion, and there were many discrete distortion harmonics in there, not just quantisation noise.

By way of contrast a modern CD player produces 0.2% distortion, five times less. Superseding DACs went



"I bought an old and modest Philips CD 650 with a CDM 2 mechanism and an early 1541 SI converter (single Crown)" says Remi Balestie.

bitstream internally to get away from this problem.

You might like the sound of old players that used this chip, and I'm sure they have more bite and are less polite, but are they right?

Sorry Remi, but 24 bit is not hype. It offers far greater dynamic range than 16 bit, all but eliminating quantisation noise and distortion. You may not like the smooth sound of 24 bit, but that is how music should be!

NK

MORE OLD CD

You are in the hi-fi business and you know that leading companies such as Marantz, NAD, Denon, Pioneer and so on are still making CD players or SACD, but maybe you are not interested by these products because they are not enough expensive or in accordance with your editorial views. As I wrote before I still listen to CDs and enjoy vintage players, they have a soul of their own and I enjoy it!

**Remi Balestie,
France.**

Er – yes! Perhaps they do have a soul of their own Remi. Trouble is, they

also have a performance of their own, and it isn't up to modern day standards. The world has moved on. This is at heart a technical argument, and you will find more detail in our feature on CD this month. **NK**

END IN SIGHT

Whenever I visit John Lewis, I find myself inexorably drawn to the section with the televisions. I wander along the lines of magnificent glowing colours and pictures, crystal clear and sharp with no smear, bleeding or trail. Slyly my hand moves towards my debit card, but then it stops. I realise that when I get this incomparable technological marvel home, ninety or more percent of what it shows me is stuff that I don't want to watch, with which I get no emotional connection.

I have purchased a Naim Uniti 2.

Neat, compact, huge range of functions, sound is crystal clear, packed with detail, not a trace of wow or flutter, no stray bits, in short a technical marvel, but with which I get no emotional connection.

I am determined to make one more (I hope the last) attempt to find and enjoy the sound that I want. I'm trying to find a sound that is organic, that gives me the emotional connection and one that is produced with a tremendous sense of ease. I think that this can be done by a return to a valve integrated amplifier. Particularly one of the single ended variety. You have recently reviewed one from Ariand and another from Ming Da there are others from Icon Audio and from Unison Research.

Without yet having listened to any of them I rather fancy the idea of the Ming Da because with something like 7 watts output, I assume, that the heat output will also be minimised (I did once have a 30 Watt valve amplifier and it was like having an electric fire on in the corner).

I would be very grateful if you could give me your thoughts on the amplifiers I have mentioned and suggest in what order I might investigate them. Would it be sensible to keep my Diapason

Adamantes speakers?

I will need a CD player to match, suggestions please, in price terms, anything from the Copland or Bel Canto players downwards.

With best wishes

Martin Dickinson

Although your Diapason Adamantes are sensitive as small loudspeakers go, you may well find your system running out of puff if volume is turned up. For small powers you need big loudspeakers, because they are sensitive, and both Tannoy and Quadral make high sensitivity floorstanders. Look for at least 90dB from 1 Watt, I would suggest, unless you always play at modest volumes. This will suit the Ming Da you covet and Mark Manwaring-White at Ming Da UK can help you with your likely need to connect it up to the Uniti 2's preamp DIN output connector. Keep to a small SE if you want to minimise heat output.

The Copland CDA 825 with its paired Wolfson DACs and superb transport is a good high-end option that does a great job. Or you might like to consider the combo that impresses us of Audiolab M-DAC with Cyrus CD8t transport. **NK**

VALUE?

During the late 70s/early 80s I was really into hi-fi and went to great lengths, and many miles, to set myself up with hi-fi separates, which seemed to be the thing to do at the time. My set up was Sansui SR222 MkII turntable, Sansui AU-217 II Amp, Heybrook HB2 Speakers. I subsequently added a Sony TC-WR 465 Cassette Deck and Pioneer TX-301L tuner, although these last two items were never considered by me to be part of my set up as I was only interested in playing my vinyl discs.

I have finally decided to dispense with these items as I haven't used them for years and need to de-clutter. Are these items still worth selling, and if so by what means. I'm not into eBay or anything like that. Or are they just past their generation and only suitable for binning!!!

Regards

John McDonald

Please do not bin decent audio equipment in working condition. Someone, somewhere will want it and get a lot of enjoyment from using it, whether or not it has attained classic status over the years – and a matching price tag.

In your case the products are



The Ming Da Dynasty Duet 300B MC300 amplifier looks attractive to Martin Dickinson because it will produce less heat than more powerful Single-Ended amplifiers.

"not overly distinguished" shall I say, but you could well get a few hundred pounds, I suspect, from a buyer who is looking for just that sort of set up. The question always is – or was – how to find this buyer. And the answer is eBay! Love 'em or loathe 'em, this is the site that can match buyer to seller at a global level.

Alternatively, put notices in local

measure to the obvious and warranted interest in the specifications of the equipment we run or desire to. Lucky for me that I was brought up on a diet of a Pioneer Centrex mini system that did perform better than many other like units at the time, I still have one for keepsake along with many others.

My dad had a decent system, nothing extreme or exotic but something



Old budget products can still work well enough to be enjoyable by modern standards. A new Goldring 1006 cartridge in an old turntable like the Sansui SR222 MkII (Right) will revive its sound and Heybrook HB2 'speakers are fine sounding.

shop windows or local newspapers. Don't forget there are many young people yet to make their fortune who may love to have an old-skool vinyl system that they can afford; I was speaking to just such a person the other day who started with MP3 and iPod, installed a car system with Focal speakers, then repaired his dad's loudspeakers and upon hearing them ran out and bought himself a pair of Monitor Audio loudspeakers. Now he has a full hi-fi and loves it.

To bin is a sin – make sure your old hi-fi gets a good new home; someone will want it. **NK**

AUSTRALIAN MUSIC

Hi-fi can become all about tweaks, upgrades and brand bragging and that is indeed sad. It should be about the music even more so or at least in equal

that was clearly better than the Pioneer, a Technics SA505 receiver with AR17's and Marantz Imperial 5's with a Dual 505. Enough anyway to whet my appetite for something better still. Much pocket money spent on traded gear later and the rest is history. The ability to shake the neighbourhood and get that smile of being able to rock out to Dire Straits etc was a teenage highlight. My most memorable musical discovery was at The Easter Show in Sydney back in 1985 when a ride operator had a pair of JBL system 1400's-horn and two 15's in each box really blasting UB40's hit I Got You Babe and other brilliance from them. I am still a huge fan in 2014.

Your magazine is certainly good at bringing the real world of audio to us, rather than some other publications that I do read too who constantly feature hi-fi that is way out of my reach as a retail

sales person and former metal worker.

Sure I go to the big shows when I can (not much action in Sydney, Australia) and lust after things like the stunning Ypsilon Set Ultimate 100s and their other exotic wonders. But my joy besides listening to my tri amplified JBL monitors at realistic level or almost concert level is discovering music to complement my steam-punk system (that is really a refined PA system) with a new album that I often get obsessed with.

Some music that I think many of you will enjoy are from Australian artists, likely to be little or not known in the UK etc. Virna Sanzone a singer based in Sydney who loves to interpret Cole



Porter and other jazz standards is amazing. Her self titled album is on Spotify and iTunes, she has an effortless and exotic look and sound. Buy one from her website if you want to support her and hear it in all its glory.

Robyne Dunn is a pop/folk singer who is a genius pure and simple. Robyne sings and programs everything you hear, and all her songs are her own compositions,

Spindrift is on iTunes along with Songs From The Belfry.

Lucinda Peters, who burst onto the Australian jazz scene in 2000 with her self titled album, has a voice you almost won't believe and she plays double bass while delivering this angel song.

All of these artists I have heard live in small venues around Sydney.

One who you might have heard of is the lovely Emma Pask. The Idea Of North are awesome too, like Manhattan Transfer with an element of comedy injected into their heavenly renditions of popular and self composed songs. Recently The Manhattan Transfer invited them on stage to perform with them, a recommendation or what?

One act that has taken the world by storm is London Grammar one of the best groups I have heard in a decade. While you Wait is a triumph and a must on the double LP that is cut at 45 even better.

There is so much material to buy and listen to, rather than saving for that £500 or \$800 balanced lead that may give your streamer a little more room to breath.

One of my closest friends, a bloke with much better means than I (an



JBL System 1400 has two 15in bass units and wowed Ben Stewart in Sydney.

audiophile's audiophile and music lover in even more a measure) put it brilliantly: "there are so many audiophiles out there with a sound system costing \$100,000 or more who listen to their seven Patricia Barber albums and panic if that \$1000 dollar lead has made any difference – is it about the music or the gear?"

Love that and I love Patricia Barber too and paid \$130 for a marked SACD of Nightclub but couldn't afford the \$500 copy of Cafe Blue on SACD, but I love Sara K even more.

Thanks for reading my letter and I hope you at least look up some of Australia's finest artists. I hope that these albums enhance your hi-fi and life as much as they have mine.

Ben Stewart

Thanks Ben. It's always good to be told about new acts, especially when they may be missed by our local press. Plenty to check out there. **NK**

TWO HEADS

My system is built around an AVI laboratory Series Integrated amplifier with AVI Biggatron speakers on Partington Dreadnought sand filled spiked stands with a BK electronics XLS200 DF MK 2 subwoofer with

good quality cables and a isotek mains conditioner running from a separate mains spur.

Television and Radio 3 and 4 sounds great via Humax Recorder but main source is a Slate Audio Garrard 401 turntable with modded RB300 and Ortofon MC15 Mark 2 MC into a Whest Two phono stage. I also have a Moth 78 turntable with Shure 78 cartridge that runs via a Graham Slee Jazz Club Phono Stage. I would like to run the Garrard 401 for both 33 and 78 but cannot decide on the best way to go about this. The simplest route might be to get a SME 309 and have two head shells.

I am also intrigued by the thought of an SME 312 on a larger plinth (or modify the Slate Audio one?). But I am afraid that in going this route I might be missing out on increased performance from a Origin Live Encounter MK 3c or similar.

Also, my Marantz CD 63 Ki Sig is broken and I would like something to replace it. Creative suggestions appreciated with a £2000 budget. kind regards

Mark Richards

The least troublesome route is to stay with your Slate plinth and get an SME 309 Series 300 magnesium arm, assuming an SME cutout is easy to accommodate in your plinth.

You won't be missing out by getting an SME312S and it is what I choose to use with a Garrard 401, but just be aware that the plinth required is very large and needs its own table. The flip side to this is that enormous mass aids the Garrard's grippy sound.

What you most need to do is upgrade the cartridge however. I suggest you consider one of the Ortofon Cadenza series moving coils, either the Bronze or the Black. You'll find the Black sounds softer and warmer than the Bronze, but it is deeply subtle and detailed; I prefer the sheen of the Bronze.

The new Marantz SA-8005 SACD player should appeal to you. With high rate DSD handling ability, it has a top



SME 309 Series 300 arm with detachable headshell will play LPs and 78s.



A new Sugden Masterclass FPA-4 Single Ended Class A power amplifier is worth noting. Sugden are long term masters of Class A and their products set standards. See our forthcoming review in the May 2014 issue.

quality DAC on-board and is worth investigating. We haven't yet reviewed this player but hope to do so soon. **NK**

NEW AMP

I have gradually added bits and pieces to my system as I sought to upgrade and improve the quality of the listening experience and finally arrived at what I have now (Michel Gyrodec with platter upgrade, SME 309 tone arm, Zyx R100H cartridge, Cyrus Pre-XVS pre-amp, 2 Cyrus Smart Power Plus power amps, Cyrus CD8 SE CD player and PSX-R, Trichord Dino and Dino+ with upgraded power cable, Kimber 8tc speaker cable, Acoustic Zen Adagio speakers).

The ease of upgrade path was one of the reasons I went down the Cyrus route initially. I am happy with the turntable at the moment and love the speakers which I bought second-hand earlier this year.

I feel that the speakers have taken my system to a different level and want to find an amplifier that really does them justice. I listen to a lot of jazz and acoustic music and vocals and my listening room is small and not exactly ideal (12 feet by 10 feet). I sit about 8 feet from the speakers. I have had to use acoustic foam to reduce the bass already and need to be careful to choose an amp that will not make the problem worse. I am keen on an integrated amp and something that will last and not need upkeep (I am therefore not keen on the valve option really).

I have to admit that I know almost nothing about how best to match the amp with the speakers in terms of sensitivity, output and so on but wanted some help in perhaps arriving at a short-list to audition. My budget is £1500-£2000 and I would happily go down the second-hand route, accepting that it may take a while to find what I am looking for.

I wondered about a Lavardin IS reference, although they rarely come up second-hand. I also wondered about a Sugden A21SE, but I believe they run very hot and I would need more space between the shelves on my current rack or it would be a fire hazard! Any suggestions would be welcome. I want an upgrade that will last me for a good few years.

Stephen

The Cyrus amplifiers you have are very good and suited to your tastes and system, so don't expect too much from an upgrade. Having said that, going to a Sugden A21SE will definitely be a step upward, if not power wise. It is an utterly gorgeous amplifier that offers really intense detailing and a denser picture than that available from standard Class A/Bs. Although it runs hot, it does not run very hot.

Just arrived at Hi-Fi World towers is a new Sugden Masterclass FPA-4 Single-Ended power amplifier and this is likely to be a fairly major product as amplifiers go, so look out for our review in the next issue. **NK**

WESTMINSTER SOUND

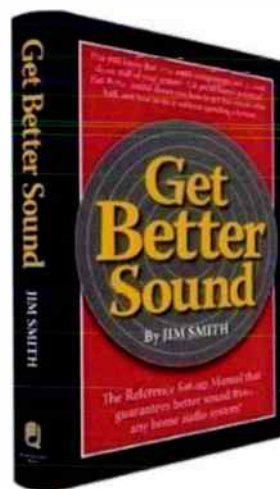
Thank you for NK's column in the February 2014 edition which I found very interesting. The reason that it struck a chord with me was that it confirmed my conclusions, based on some of my recent experiments, that the room is by far the most important element impacting the performance of any hi-fi system, a fact that your experience with Tannoy Yorkminsters would seem to support.

Before launching into detail it might be helpful for me to share a few details of my system and room. I use the Yorkminster's big brother, the Tannoy Westminster Royal HE (you really would not want to carry these up two flights of stairs!) in a dedicated music room of

4500ft³ (23x 20x10).

The system is powered by Quad amplification, Elite Pre and Elite QMP Monoblock power amplifiers, which I bought recently having read Jon Myles review and having borrowed a pair from Mike Statham at Zouch Audio for extended trial. The front end is the Quad Elite CDP and an SME Model 20/3A. At the beginning of this experiment the speakers were 10ft apart with the electronics between them, but about 12ft behind the front of the speakers.

I have long been aware of the importance of setting up equipment properly, but only very recently have I gained an insight as to what this really entails. True enlightenment came about quite by accident. It started just over a year ago when I came across a very



'Get Better Sound' by Jim Smith, available from Amazon. "Benefits were astonishing" says David King.

good set up manual from the USA called 'Get Better Sound' by Jim Smith which I have been gradually working my way through.

Jim Smith is an industry professional who has worked in both audio manufacturing and retail who, over 35 years, has set up more than 3000 systems. The book is a distillation of this experience and it has some penetrating insights. Jim talks about the importance of getting your system to work with the room rather than against it, which he calls playing the room. It is essentially about how to get the best from your existing equipment and room without spending huge amounts of cash on new kit.

Smith's methodology is aimed at removing or neutralising the pernicious influence of room boundaries and the standing waves that reside there. You clearly managed this beautifully with the Yorkminsters in your office listening environment but were less successful in

your lounge at home with its domestic constraints.

My initial work from Get Better Sound involved precision speaker set up to get the tonal balance right and selecting the listening position to get the best bass. Best bass was defined as the place in the room where the bass is most even and provides good extension. This is not necessarily where it is loudest. Jim asserts that you will never be totally happy with your sound unless the bass is right.

Implementation was time consuming and onerous but ultimately very successful, taking about a month though it took another 3 months for my elbows to recover from the trauma of moving the massively heavy speakers around.

Now to what was the really interesting and surprising part; when the Quad QMP power amplifiers arrived they were a tight fit in my Podium Reference racks and so I ordered some longer legs to give the amps a bit more breathing space.

When I fitted them, I decided that at the same time to move the racks 2ft forward from the front wall to allow a little more room for accessing cables and the rear of the kit.

When I reassembled the system it sounded great, apart from the fact that the bottom octave of the bass had taken a vacation. It just wasn't there anymore. There were clearly two changes that had taken place. Firstly the longer legs on the stands and secondly moving the racks forward by a massive 2ft. I reversed the process, changing the legs back and repositioning the racks to their former position and the status quo was miraculously restored and once again the earth moved for me appropriately as the music demanded. On substituting the longer legs in this position I found that the sound became leaner and less bass heavy but with greater clarity in midrange and treble. I was puzzled by this so I decide to have a look at the manual and see whether Jim Smith had anything to say about this phenomenon, and sure enough he did.

Jim's assertion is that positioning the kit between the loudspeakers is the worst possible position in the room for

it. The reason for this (he says) is the presence of very heavy standing waves between the speakers in the critical 20Hz - 300Hz region which in turn set up acoustic feedback which has a devastating effect on performance, particularly of the source equipment, but also the presence of furniture and equipment between the speakers results in sound being reflected off the hardware to the listening position, but out of phase, causing smearing and loss of detail.

He says that if you have to have the kit between the speakers it should be as close to the wall as possible. However the best solution by far is to position the equipment on one of the side walls as close to the middle as possible this being the position where bass and standing waves tend to be minimised.

It was clear that this merited further investigation, so to test it I moved the kit as close to the front wall as I could (another massive 2ft). Again I was astonished by the results. I noticed substantial improvements in clarity and definition throughout the frequency range with a very worthwhile improvement in bass quality and extension and treble sweetness.

The other really noticeable feature was improved dynamics. The changes were not subtle. In my view they were certainly greater than could have been achieved with expensive equipment upgrades. However, though much improved, all was still not quite right. On certain CDs and records there seemed to be a very slight distortion which I thought could be on the recordings, or mistracking in the case of LP. There was also a slight but noticeable bloating or clouding in the upper bass region which had the effect of making the sound very slightly woolly and ponderous on some recordings.

It was, however, noticeable that the speakers were starting to really breathe effortlessly with the horns driving the air in the room much more effectively.

At the start I did not expect these changes and I certainly had not been listening for them. It was pure chance that I noticed what was happening. It would be nice to say that it was all part of a cunning plan but it certainly wasn't.

However, having achieved so much with such minor changes I was hungry for more so I started to think about moving the kit to the side wall as Jim suggested. The issue with this was one of cost. It would require the purchase of a 10m pair of speaker cables and the installation of a new clean power supply. I installed a dedicated ring main

a few years ago for the hi-fi and was not about to lose the advantage it gave me. In total these changes would involve expenditure of £800-£1000 with no guarantee of success.

The next question therefore was: could I get a better handle of the likely benefits without spending the cash to prove the point?

I talked it over with a friend who suggested that it might be possible to do some measurements in my room to test the theory and by a very happy chance he had an audio signal generator I could borrow. I accepted his offer, not having a clue as to how I would do it, having never done anything like it before. He delivered the signal generator and I sat and scratched my head for a while about how to conduct some useful measurements.

In the end I decided to measure the acoustic performance of my room in three positions by measuring the SPLs at 10Hz intervals between 25Hz and 320Hz in each position, using a constant level signal. There was, I determined, very little sonic activity below about 23Hz in my music room so 25Hz would be a reasonable starting frequency.

The positions I selected for measurement were:

1. Front Wall Centre (current location of the electronics)
2. Listening Position
3. Left Side Wall Centre (possible future location of the electronics).

I do not own an SPL meter so I used a Sound Meter App on my mobile phone. Obviously not the best way of doing it and probably not accurate but at least I thought the results would be consistent and hopefully therefore useful for my purpose.

I had always believed that my room was reasonable benign acoustically. Actually it proved to be anything but benign. The results were very surprising indeed. In the critical 25Hz-100Hz bass region the front wall position showed between +3dB and +18dB difference in sound energy levels when compared to the side wall position – certainly more than enough to scramble the performance of my CD player and record deck I judged.

Fortuitously, it also showed that my listening position, selected by ear only, was really not too bad, though there were a few issues in the 170Hz-220Hz region. I have attached a spread-sheet showing the results which you might find interesting.

Use an iPhone App, like this one from Studio Six Digital, to turn your phone into an SPL meter.



The positive result of this rather amateurish experiment was that it gave me the confidence to borrow a set of 10m speaker cables from Mike Statham and try re-locating my equipment. Initially this was done with a temporary mains supply using two poor quality extension leads joined together. This was obviously sub-optimal but nonetheless good enough hopefully to enable me to make the final decision

The benefits were once again astonishing: there were huge improvements in definition and dynamics, as if a couple of heavy blankets had been removed from the front of the speakers. Dynamics were awesome.

Immediately following the change I was slightly concerned about a lack of bass. Actually, what I was hearing, or more accurately not hearing, was the clouding and slight colouration that had previously been present in the upper bass region. When serious bass was present in the music such as Felix Hell playing the organ of First Plymouth Congregational Church, Lincoln, Nebraska, a stunning recording, (Reference Recordings RR101) it made itself known in the most thunderous way leaving me with a stupid grin on my face and my chest cavity pulsating in sympathy with the powerful 32Hz pedal notes. Probably the most impressive effect of all was the improved air and space and the beautiful way the sound now decayed in large buildings which made vocal and choral music most enjoyable.

Before doing this work I had no idea how insidiously standing waves were impacting the performance of my hi-fi system and more importantly

The Tannoy Westminster Royal HE needs a big room to produce its full potential. It weighs 138kg and is not the easiest loudspeaker to move around, when room tuning, says David King.



on my enjoyment of my music. It has been a genuine eye-opener for me and having achieved huge benefits with a sub-optimal mains set up I cannot wait to get my friendly local electrician to extend the existing clean power supply with six MK Logic switchless sockets so that all equipment can be plugged directly into the power with no extension leads. This will complete the project and I am confident that it will yield further worthwhile performance improvements, a positively mouth-watering prospect!

The moral of this story is that even when you have been a music and audio enthusiast for as long as I have you probably do not have all the answers – and in my case I am only now beginning to understand what the questions are! It reminds me of my work as a management consultant where I learned very quickly that I had no hope of solving a problem unless I first correctly diagnosed its cause. In the world of audio its easy to treat symptoms rather than the problems, resulting in much wasted time and money – and huge frustration without ever making any real progress.

Thanks for a great magazine.

Kind regards

**David King
Northampton
England**

As you've found out David, it is easy to write a book about Room Acoustics!

In your case, you appear to be listening to two phenomena;
1) the physical presence in the room of the hi-fi
2) the impact upon the hi-fi of acoustic energy (i.e. microphony)



The Tannoy Yorkminster, with its 12in bass unit in a large volume cabinet, gave great bass in a big 23ft x 26ft room, but sounded throttled in a medium size 14ft x 17ft room, we found.

Many people have noticed that a system between the loudspeakers is not ideal and some reviewers place a blanket over equipment in this position, to lessen reflections off it.

Moving the equipment back against the end wall increases the strength of the main mode of your room (23.6Hz) upon it and this is why a side wall is preferred.

However, against a side wall it does in truth then see highest pressure at 27Hz from your transverse mode, across the 20ft width of the room. Very complex modal patterns exist in a room and any boundary will have high pressure areas, so in outline theory at least, a side wall isn't so clever either.

Perhaps, the issue is that a clear area around each loudspeaker minimises early local reflections back to listeners. Looking at it like this then means, as you say, the speakers are best off out in the open, with no furniture or equipment close. I put vertical sound absorbing panels against rear walls and side walls to lessen early returns.

Moving the equipment away from the hi-fi also lessens microphony, and this too may well be helping improve sound quality. It's an interesting subject alright, and it is interesting to hear your experiences. **NK**

Raising the Bar

Astell&Kern has announced a new, top of the range, mobile music player, the AK240. Paul Rigby gets a sneak preview.



We are seeing the rapid maturation of the high resolution mobile music player. Undoubtedly encouraged by the burgeoning headphone sector, the growing popularity of high resolution music downloads and the rising levels

of acknowledgment from the rest of the hi-fi industry (e.g. 24bit/192kHz and DSD support in many new DACs), the mobile music sector is now arguably the most active and dynamic area of the hi-fi industry, in terms of technological development. No more so than

Astell&Kern who currently have the best sounding suite of mobile music players on the market: the company's AK120 being the longstanding epitome of luxurious, highly specified, mobile technology.

Not any more, it appears. Not since Astell&Kern announced a new model at the recent CES show, which took place between 6-9 January of this year in Las Vegas, USA. The AK240 was presented within an arresting asymmetrical design to

enhance what the company termed as, "light and shadow". The new look might not please the eyes of some but it will certainly catch the eye of all as Astell & Kern's Marketing Division Director, James Jeong testified. "Many people mentioned that it has an odd design and seems thick in its structure. But when they see it, they all say, 'Wow!' It's much better in real life than the images or photos. I am quite sure you will be impressed. It generates a unique and peculiar expression distinct from other audio devices. At the same time, on a more practical point, it completely prevents the volume knob from malfunctioning and other risks like breakage".

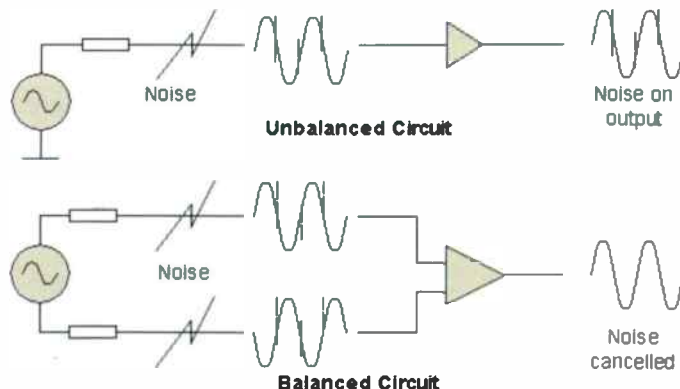
Related to the design are the

basic chassis materials. In this case, the company has moved away from aluminium and opted for Duralumin, "It far surpasses aluminium in elasticity and strength," added Jeong. "Also, the characteristic texture of duralumin offers an original value inherent in luxury items like the AK240".

Flipping over the chassis, you will find a carbon panel applied to the back. "The carbon kills two birds with one stone, thanks to its 100-fold higher elasticity and strength than glass and its unique and luxurious feel."

One of the more noticeable changes to the original AK120 is the new, larger, AMOLED touchscreen that spans 3.3 in, an inch larger than

Balanced output stage cancels common mode noise and gives cleaner sound.



Astell&Kern's Marketing Division Director, James Jeong.





"Many people mentioned that it has an odd design and seems thick in its structure. But when they see it, they all say, 'Wow!'"

that seen on the AK120, allowing more information to be displayed. The side buttons remain, though, while the volume knob has been changed and refined.

As with the AK100 and AK120, the volume in the AK240 is controlled directly by the DAC while the AK240's line out socket, according to Jeong, should be labelled 'Max Line Out Volume'. "We put the Line Out label there to help people to understand it as a Line Out (which is what they expect to have) but the maximum volume level we provide helps to improve the final sound quality with better THD+N (Total Harmonic Distortion plus Noise) and crosstalk values for connection to a separate portable/desktop amplifier. Hence the reason for using an



The new AK240 features a 3.31in AMOLED touchscreen.

encoder switch on the side volume control wheel".

Another tweak is that the headphone socket now supports a balanced signal and, finishing off the external overview, the external microSD slots have been reduced from two (as seen in the AK120) to one, supporting up to 128GB but the internal memory has now been

increased from 64GB (128GB on the AK120 Titan) to 256GB.

Why not leap to 512GB immediately? "Due to the limitation of internal space, we decided to go for 256GB," said Jeong, "but this is already the maximum capacity among the similar portable handset devices. Also, the reason why we only put one microSD slot in the chassis is not only because of internal space but it makes for a better design". The inclusion of cheaper SD cards was also excluded because of their larger physical size.

The AK120 used two Wolfson WM8740 DACs as the heart of the device. That has now been changed to two Cirrus Logic CS4398 DACs, "We had three preconditions in choosing the DAC for the AK240," explained Jeong. "Firstly, it needed to be utilised as a dual DAC, secondly it needed to process DSD natively while the third required an improved battery life. We studied both the CS4398 and Wolfson's WM8741. Finally we decided that the CS4398 DAC would be more suitable for our purposes".

This single decision is probably the most contentious ingredient in the new AK240's make-up. Many observers were hoping to see the installation of Wolfson's WM8741 into the AK240 as standard, as has already been seen in the successful and proven AK120 upgrade, the RVAK120-S from Red Wine Audio (redwineaudio.com). The fitting of a WM8741 DAC chip into an AK240 would, however, have required more power and a larger battery. Also, to be fair to the Cirrus, designing any piece of equipment around a DAC also depends on the implementation so Astell&Kern might surprise us yet.

In its Cirrus configuration, the AK240 will support the following sound formats: WAV, FLAC, WMA, MP3, OGG, APE, AAC, ALAC and AIFF up to 24bit/192kHz while the native stereo DSD support includes DFF and DSF at DSD64 (1bit 2.8MHz) and DSD128 (1bit 5.6MHz). The AK240 is also Wi-Fi enabled to allow you to listen to or download high resolution files from your computer. You will also find that the AK240's firmware



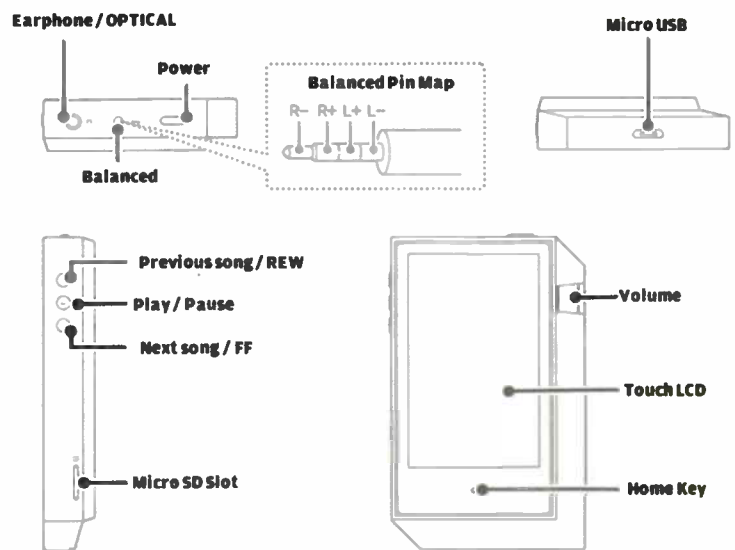
can be upgraded via Wi-Fi.

One of the criticisms of the AK120 was its relatively poor battery charge display. That has now been improved for the AK240 while the battery life itself has also been upgraded. The 3,250mAh 3.7V Li-Polymer battery provides around ten hours playback time while its lifespan, "...is about two years. We plan to provide a better change service with reasonable cost," said Jeong.

In effect, that means, for UK and European users, a newly opened office in Germany should be able to offer battery replacement services, resulting in a relatively painless procedure. Why not include a replaceable battery? Aesthetics and, says the company, to improve chassis strength.

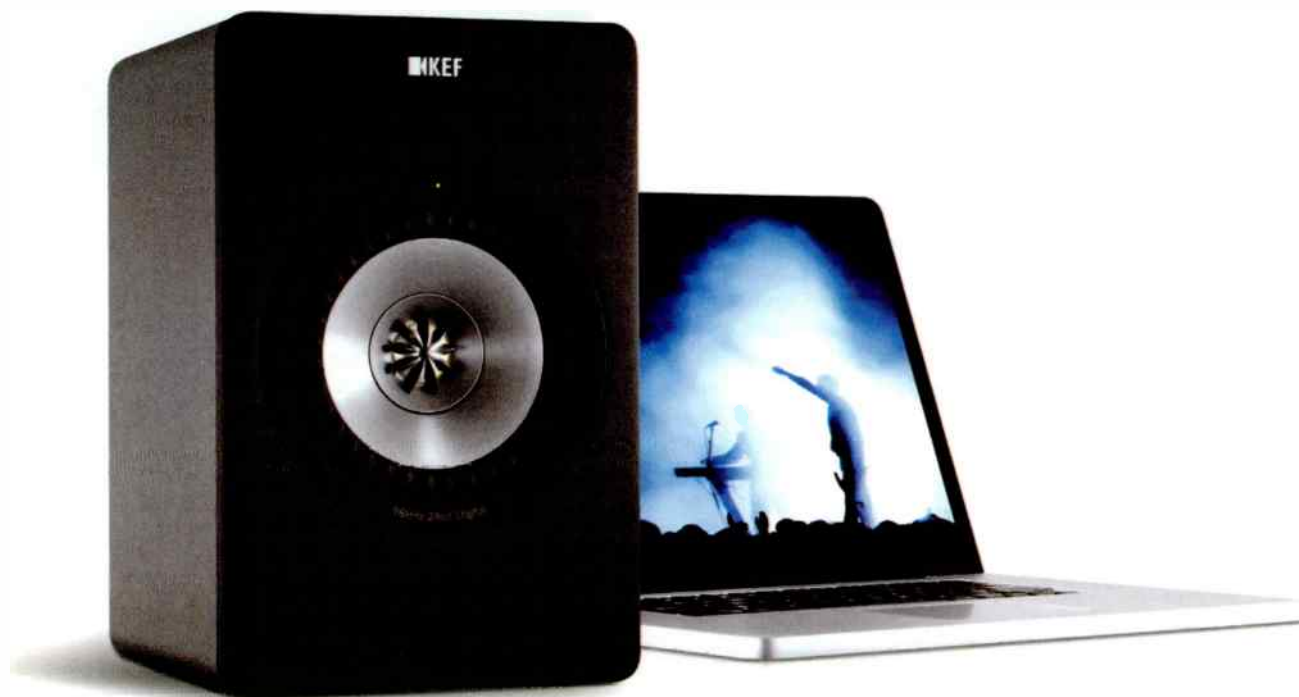
The price for all of these goodies? A breath-taking £2,199. Is the AK240 worth it? Find out via our forthcoming review.

The new AK240 supports a headphone socket with a balanced signal.



The AK120's twin microSD sockets have been reduced to one on the AK240 but internal memory has been increased.

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X1 is Go

ADL's battery powered X1 portable headphone amplifier is great on the go, says Noel Keywood.

Alpha Design Labs, based in Tokyo, like to produce hi-tech products that have just that little bit extra. For example, we use their tiny Esprit preamplifier to record LPs to digital (24/96), because they've fitted it with an Analogue-to-Digital convertor. The only downside is it adds complexity, and that's what you meet with the intriguing X1 headphone amplifier: it's technologically advanced and it performs numerous functions, but it is a tad complicated.

So let's get straight to the core of what it does. The X1 is a portable, battery driven headphone amplifier that works from USB. You charge it, plug in your portable digital doodah using a USB cable then listen to music that's passed through its top quality ESS ES9023 DAC chip that works right up to 192kHz sample rate. It's asynchronous, meaning its on-board clock takes control of ops. to reduce jitter, eliminating the player from this role. The idea is to provide very high quality output for headphones of all sorts, including high quality types that need power.

For those that don't or can't use the USB digital input there's also an analogue input, that'll accept the headphone output of a portable player and amplify it. It has a little gain (+3dB), so will make headphones go a tad louder, but not much our measurements showed. One of the two analogue 3.5mm jack inputs accepts four-ring plugs, and the headphone output is four-ring, to transfer in-line mic signals from Apple and Sony devices.

And finally there is a 'DDC', or Digital-to-Digital Converter – a new term to me. This converts packetised USB digital to contiguous (contiguous?) S/PDIF digital so that X1 can accept digital from a portable device and send it to a traditional hi-fi DAC, or perhaps a 'digital amplifier' (one with an on-board DAC) or an

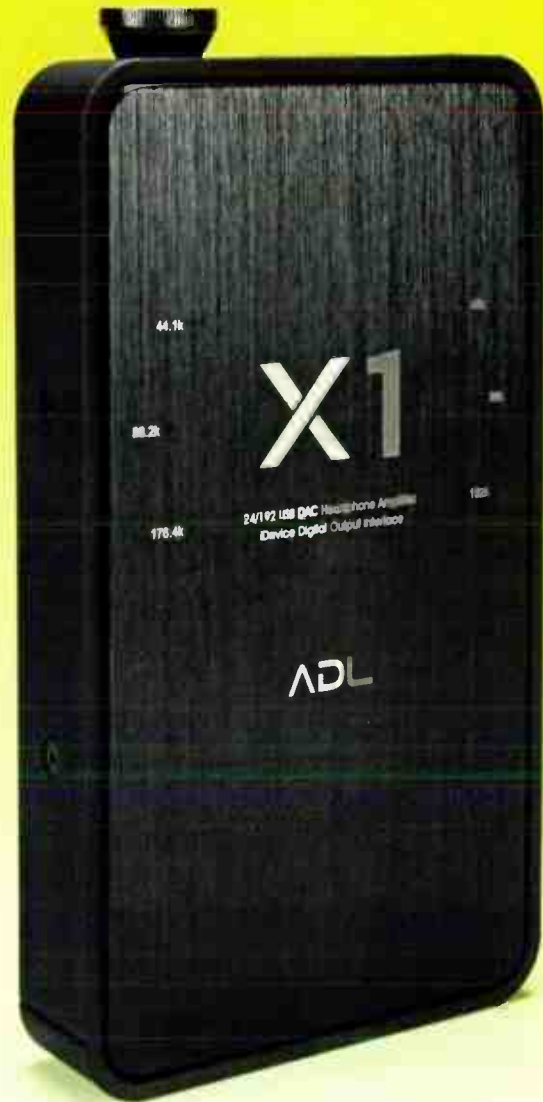
AV receiver, that has only S/PDIF inputs.

The X1 comes in a small box together with User Manual (available on-line) and numerous leads. There's a USB A to USB mini-B for charging and connection of a computer. There's a short four-ring 3.5mm jack terminated analogue lead for connection to a player's headphone output. There's a 19pin Apple connector (old style) to USB A for connection of an iPhone (etc), a rubber band to hold an accompanying player, and belt clip. There's no Apple Lightning lead, but the USB A-to-Lightning charging lead with my iPad Mini worked, so an adaptor is not needed it seems.

Measuring 123mm high overall, including the volume knob, 67mm wide and 17mm deep the X1 is pocketable. Weighing 150gms on our scales it is light, but overall being bigger than an iPhone it isn't small, but it isn't large either!

The internal Li-ion 2600mAh rechargeable battery takes 4-5 hours to charge from a dedicated charger, or 7 hours from the 0.5A available from a USB outlet. Playing time is quoted as 7.5 hours and that is what I got, although I also used the X1 connected to power whilst in use, so as to not run down the battery. So it can be used as a desk based high quality headphone amp as well as a portable one and at this very minute, whilst writing this, the X1 is linked to mains power through an iPad charger whilst the iPad Mini is feeding it and I am listening on lightweight Jays V-Jays, to the Doors 'Cars Hiss by My Window'. There's plenty of volume on V-Jays, as there will be on most 'phones, and the ADL X1 (1.7V out) could drive my insensitive Philips Fidelio X1s to unbearable level, whereas the iPad Mini (1V out) could only manage 'very loud', so the X1 provides extra oomph.

And that is one point of



headphone amplifiers like the X1. Most portables deliver 0.3V from a low current consumption, noisy MP3 or even poorly ripped AAC like my Within Temptation 'The Unforgiving' iTunes download, and you end up with grotty portable sound.

It need not be like this. Better headphone drive amps are available and this is what ADL are offering with the X1, together with a top quality DAC of course.

Although the iPad Mini, which has quite a good DAC and headphone output amplifiers, sounded crisp and clear, the X1 brought extra punch to bass

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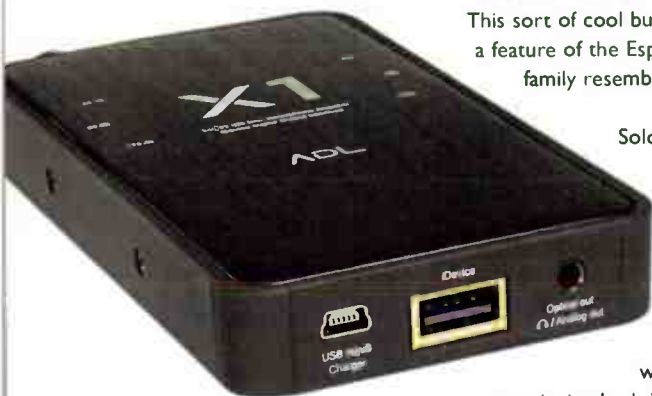
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in particular. I should mention here that iOS (Apple's operating system for portables) devices can process and play 24 bit files, but only up to 48kHz sample rate. I got identical

and forensically accurate. Bass comes over as tight, fast and punchy. What the X1 is not, is warm or full bodied. There's no syrup or gloop, nor any image imprecision, it is all martially correct and under complete control. This sort of cool but deep insight is a feature of the Esprit, so there is family resemblance.



Mini-B USB input (left), for computer connection, and iDevice USB A input (centre), plus a headphone and optical digital output.

noise and distortion levels from the iPad Mini headphone output and X1 headphone output under measurement, suggesting the iPad generates this because the X1 is fundamentally quieter, but X1 went louder.

Both sounded very clean and at times I was just very impressed that well transcribed old analogue recordings like my Otis Redding albums (24/192) and Doors download (AAC+) could sound so clean and punchy. Note that if you play 24 bit files on IOS devices they will give a tad less noise and distortion than 16 bit files, so anyone with a high res collection can down-sample for their portable to good effect.

Moving on from iOS to Mavericks, Apple's operating system for laptops and desk tops, and the X1 plugged into my MacBook Pro's USB socket using the USB A-to-miniB lead and, as expected, was seen by Mavericks. Output sample rate was settable from 44.1 up to 192kHz (Macs having a fixed output rate in the 'Audio MIDI SETUP' panel, in utilities). With PCs a software driver is needed, available from ADL's website.

I have ALAC'd a lot of high res material and play it out of iTunes, which with Mavericks delivers 24 bit linearity and extended analogue bandwidth. With the Philips Fidelio X1 headphones the ADL X1 delivered a sound that has a light hue to it, is very clean edged (i.e. fast)

The Trondheim Soloists stretched in a wide stage between my ears, strings having a cool but vivid quality about them, whilst cellos had convincing body. With Rock and Antonio Forcione and Sabina Scuba (24/192), plucked acoustic guitar was superbly outlined and clear, strings almost having a cutting edge they were so fast, whilst acoustic bass was

firm, note to note and Sabina Scuba was positioned sharply centre stage, with no imprecision. This suggested to me low jitter, since jitter adds a slight sense of fuzz to an image, whilst the X1 was pin sharp with whatever I played. The X1 sounded nothing other than utterly concise, grippy and in control at all times.

CONCLUSION

With USB up to 192kHz sample rate, a high quality DAC and a powerful headphone amplifier able to drive even insensitive high quality headphones loud, the X1 is a great product. ADL have made it very flexible, so it can handle most situations. Our measurements show fine technical performance and listening backed this up. If you want a thoroughly modern battery powered headphone amplifier with plenty of volume, then this is the one. Literally, a top rate product!

MEASURED PERFORMANCE

The X1 will accept 192kHz over USB, whereas currently many USB DACs manage 96kHz maximum. There isn't a major difference in sound quality but good headphones with modern recordings may detect slightly improved sound staging in particular. Interestingly the X1 played a 192k file but went no higher than 20kHz with iTunes 11.1.4 on Snow Leopard, even though its 192k lock light was on. However, it delivered the quoted performance from iTunes 11.1.3 on Mavericks, playing an Apple ALAC 24/192 compressed white noise test file, so latest Mac OS and iTunes are needed for 55kHz analogue bandwidth

(-1dB).

Output reached 1.7V maximum before clipping occurred, so there's plenty of volume for insensitive headphones. Distortion was low at -60dB, measuring 0.07% with 24bit, a little higher than possible because of a little noise. EIAJ Dynamic Range was a healthy 106dB, but again not quite the best possible, around 110dB being hoped for.

The analogue input had x1.4 (3dB) gain, which was insufficient to take a 0.3V headphone output up to 1.7V, which requires x5.6 -(15dB) gain, so this appears to be a buffer stage rather than a gain stage. Maximum output was 1.7V. Bandwidth exceeded v.

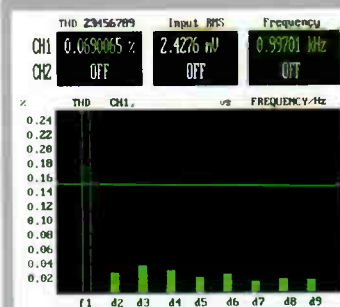
The USB input ran through to the optical S/PDIF output, but the analogue input did not; ADL have not included an ADC. The S/PDIF output is a feed for an external DAC.

The X1 measured well, although absence of gain in the analogue stages is a missed opportunity to match insensitive headphones into a low output player. NK

FREQUENCY RESPONSE



DISTORTION



Frequency response (-1dB)	
CD	4Hz - 55kHz
Distortion (%)	
0dB	0.007
-60dB	0.07
Separation (1kHz)	111dB
Noise (IEC A)	-105dB
Dynamic range	106dB
Output	1.7V

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S for Smooth

MAD's newly updated MY1920 loudspeaker remains a smoothy, says Noel Keywood.

Here's a small loudspeaker with a big reputation. We fell in love with the MAD MY1920 way back in the May 2011 issue where it was described as "mature and sophisticated way beyond its size and cost, bringing sweetness, space and smoothness to every recording it plays". That was the original MAD (My Audio Design) MY1920 loudspeaker, price £999. Now, three years later MAD have

refined the 1920 into an Signature version that carries a retail price tag of £2125. The loudspeaker is still made in England, but I know it is aimed at the Far East, where small high quality miniatures from the UK go down well.

Our 1920S loudspeakers had a deep gloss white finish, a pair of black grilles that snapped on under the pull and grip of magnets and a single pair of rear terminals.

The 1920S retains the Wavacor

22mm Neodymium super tweeter that reaches down to 2kHz, before it crosses over with the Wavacor 120mm mid/bass driver. The mid/bass unit uses a special treated paper cone with a field-stabilizing ring inside the magnet assembly, to reduce high-level distortion and the voice coil is vented to lessen distortion and compression.

An open chassis lowers air flow speed, minimising audible distortion, MAD claim. The voice coil bobbin is





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made with specially formulated fibreglass and the crossover is point-to-point wired with silver solder and ultra pure copper cable, with a bespoke My Audio Design ESA Diamond Silver capacitor, audiophile-grade air/iron core inductors, and 99.997% Diamondized Silver internal wiring for the tweeter. Sensitivity has been improved by +1dB.

The cabinets measure 190mm wide and 282mm high, and are 230mm deep. It is the cabinet that has been upgraded in the Signature version, with improved damping and resonance control, as well as better bracing, MAD say. A single pair of Audionote silver plated copper alloy binding posts sit on the rear panel, so bi-wiring is not possible. They accept 4mm banana plugs, spades or bare wires. Above is a 50mm port that loads the bass unit.



listening room nicely, lacking the slightly harsh quality they exhibit with so many loudspeakers.

The 1920S has a smoothing quality about it that makes listening easy, but it does have a bordering-on-warm demeanour that is quite

different to most small boxes. Out in the real world this gives a different character to so much else, but why not? It's nice to have a choice and the 1920S has been voiced to hark back a bit I suspect – meaning it doesn't burn your ears off!

Further down the frequency scale, vocals were well projected and had a pleasantly intense quality, and I found myself turning volume up. The piano of Benjamin Grosvenor (24/96) playing Chopin's Nocturne No 5 rang out clearly across our listening room; the 1920S is a musically engaging loudspeaker, bringing body and substance to piano.

The small cabinet has warm and full bass too, plucked string bass in John Coltrane's 'It's Easy To Remember' moving along with laconic ease. There is little low bass, but that's to be expected. What's there is nice and strong.

CONCLUSION

The 1920S is pleasingly expressive, well projective with vocals for a small loudspeaker and lively as a result. It errs on the smooth side of life but does what it does well and remains a thoroughly enjoyable listen.

"the crashing cymbals in Tom Petty's 'Refugee' (24/96) rang around our listening room nicely"

SOUND QUALITY

The new 1920S straight away hit me as smooth, full bodied and refined, much like the 1920. Run primarily from a Sugden power amplifier, fed by an Audiolab M-DAC through which I passed a stream of CD and high resolution digital files, I immediately had to select a suitable M-DAC filter, because my usual Optimum Impulse XD gave a quite obviously warm balance with the 1920S, at least when playing CD.

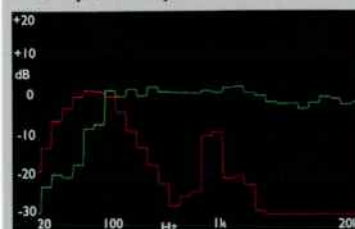
Moving back to conventional CD filtering, the 1920S opened up and showed itself to be smooth and evenly balanced, just as we had originally noted. However, the tweeter was revealing enough to show me the slightly hard edged treble quality of normal CD and I soon found that the Audiolab's clean-impulse Slow filter was a perfect match for the 1920S; the two fairly sang together. I now had smooth as silk treble, without the ringy quality of normal CD filtering, but the 1920S had gained top end life, a smooth not overly obvious sweetness. The crashing cymbals in Tom Petty's 'Refugee' (24/96) rang around our

MEASURED PERFORMANCE

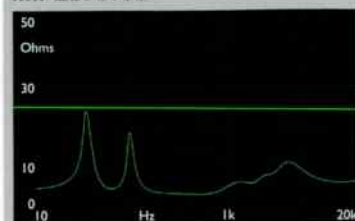
Much like the original MAD 1920 measured in our May 2011 issue, the new Signature version possesses an impressively smooth and flat output from its bass midrange unit, a small lift around 1.5kHz, ensuring vocal enunciation is strong and instruments forward on the sound stage. There remains the

FREQUENCY RESPONSE

Green - driver output
Red - port output



IMPEDANCE



slight fall off in output at higher frequencies, due to low tweeter output and this will give the 1920 an 'easy' and unchallenging sound balance. A relative lack of upper treble peaking and sustained output to 20kHz will still ensure the 1920 provides good levels of detail, if not thrown at the listener.

The bass unit works down to 90Hz then cuts off sharply, handing over the port (red trace) that works down to 40Hz. Its output is centred at 65Hz and this will give the 1920 spry bass.

Sensitivity was a very high 88dB from one nominal Watt of input (2.8V) so, as small loudspeakers go, the 1920 needs less power to go loud than most; amplifiers of 30 Watts or more will be suitable. Overall impedance measured 5 Ohms and impedance dips to 3 Ohms in places, so the 1920 draws current, if not below 100Hz where it measures 5 Ohms or more our impedance curve shows.

The MAD MY 1920 Signature retains all the qualities of the original 1920, measurement showing it offers an interesting alternative to most rivals, within a package that measures well all round. **NK**

**MY AUDIO DESIGN
MY1920S MKII
£2,350**



OUTSTANDING - amongst the best

VERDICT

A smooth and easy going mini-monitor, yet revealing too.

FDR

- easy sound
- full bodied midband
- expressive bass

AGAINST

- appearance
- input terminals

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WORLD CLASSICS

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

TURNTABLES

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



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

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

MICINTOSH 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

TO NEARMS

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

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

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



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

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

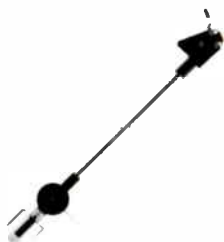
MICHELL TECNOARM A 2003 £442
Clever reworking of the Rega theme, using blasting, drilling and rewiring!

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

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

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

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



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

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

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

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

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

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

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

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

PHONO STAGES

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

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



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

INTEGRATED AMPLIFIERS

NAIM NAIT XS 2009 £1,250
With much of the sound of the Supemait 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
Goody amount of Class A power, icy clarity and a breathtakingly fast, musical sound make this one of the very best super-integrateds.

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

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

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

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

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

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



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

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

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

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



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

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

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

ROTEL RA-8208X 1983 £139
Lively and clean budget integrated that arguably started the move to minimalism.

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

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

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



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

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

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

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

POWER AMPLIFIERS

ELECTROCOMPANET NEMO 2009 £4,995 (EACH)

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

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

QUAD II-80 2005 £6,000 PER PAIR

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



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

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

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

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

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

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

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

RADFORD STA25 RENAISSANCE 1986 £977

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

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

HH ELECTRONICS TPA-50D AMPLIFIERS 1973 £110

Simple design with easily available components, solid build quality and fine sound make for a surprisingly overlooked bargain

LECSO 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, TL/12 PLUS 1949 £28

Early classics that are getting expensive. Overhauling is de rigeur before use, using original parts if possible. Surprisingly crisp and musical. Deeply impressive in fine fettle.

PRE AMPLIFIERS

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

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

CONRAD JOHNSON MOTIV MC-8 1986 £2,500
Minimalist FET-based preamplifier is brilliantly neutral and smooth with a spry, light balance in the mould of Sugden. Something of a curio, but worthwhile nonetheless.

AUDIO RESEARCH SP-8 1982 £1,400
Beautifully designed and built high end tube pre-amplifier with deliciously sweet and smooth sound. Not the last word in incision or grip.

LINN LK-1 1986 £499

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

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

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

QUAD 33 1968 £43
Better than the 22, but Quad's first tranny pre isn't outstanding. Responds well to tweaking/ rebuilding though...

LEAK POINT ONE STEREO 1958 £ N/A
Good for their time, but way off the pace these days. Use of EF86 pentode valve for high gain rules out ultra performance. Not the highest-fi!

QUAD 22 1958 £25

The partner to the much vaunted Quad II monoblocks - cloudy and vague sound means it's for anacrophiles only.

LOUDSPEAKERS

WHARFEDALE DIAMOND 10.3 2010 £290

Great small standmounters for audiophiles on a budget; dry punchy sound with impressive soundstaging at the price.

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

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

SPENDOR A5 2009 £1,695

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

MONITOR AUDIO PL100 2008 £2,300

The flagship 'Platinum' series standmounter has a lovely warm and delicate sound with superlative treble.



MARTIN LOGAN SOURCE 2008 £1,600

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

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

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

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

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

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



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

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

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

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

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

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

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

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



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

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

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

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

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

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

MISSION 770 1980 £375
Back in its day, it was an innovative product and one of the first of the polypropylene designs. Warm, smooth, clean and powerful sound,

ACOUSTIC RESEARCH AR18S 1978 £125
Yank designed, British built loudspeaker became a budget staple for many rock fans, thanks to the great speed from the paper drivers, although finesse was most definitely not their forte...

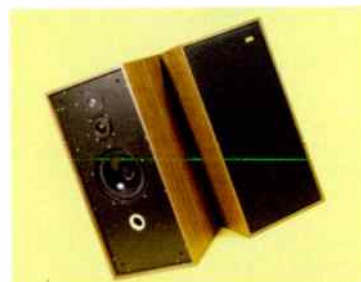
YAMAHA NS1000 1977 £532
High tech Beryllium midband and tweeter domes and brutish 12" woofers in massive sealed mirror image cabs equals stunning transients, speed and wallop allied to superb transparency and ultra low distortion. Partner carefully!



JR 149 1977 £120
Cylindrical speaker was ignored for decades but now back in fashion! Based on classic KEF T27/B110 combo as seen in the BBC LS3/5a. Doesn't play loud, needs a powerful transistor amplifier, but has clarity and imaging,

KEF R105 1977 £785
Three way Bextrene-based floorstander gave a truly wideband listen and massive (500W) power handling. A very neutral, spacious and polite sounding design, but rhythmically well off the pace.

SPENOOR 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.

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

SYSTEMS

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



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

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

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.

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.

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 NATO3 1993 £595
The warm, atmospheric sound is further proof of Naim's proficiency with tuners.

CREEK CAS3140 1985 £199
Excellent detail, separation and dynamics - brilliantly musical at the price. T40 continued the theme...

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



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

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

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

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



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

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



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

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

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

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

HEADPHONE AMPLIFIERS

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



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

CD PLAYER/RECORDERS

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

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



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

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

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



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

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

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

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

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



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

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

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



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

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

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

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

ANALOGUE RECORDERS

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

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



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

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

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

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

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

COMPACT DISC TRANSPORTS

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

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

CABLES

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

TECHLINK WIRES XS 2007 £20
Highly accomplished interconnects at an absurdly low price. Stunning value for money.

VDH ULTIMATE THE FIRST 2004 £250
Carbon interconnects that help you forget the electronics and concentrate on the music. Miraculous transparency. Tight and tuneful bass mixed with air and space.



WIREWORLD OASIS 5 2003 £99/M
Excellent mid-price design with a very neutral, silky and self-effacing sound. Superb value for money.

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

CLASSIC CONTACTS

When a classic goes 'poof' your troubles have just started, but there may be a good ending. Replacing failing parts can improve the sound, so here is a short listing of all these companies who specialise in getting a classic up and running again after its deposited a small ring of soot on your ceiling!

GT AUDIO

(Graham Tricker, Bucks)
Classic tuners, radios and amplifiers restored, repaired.
Tel: 01895 833099
Mob: 07960 962579
www.gtaudio.com

TECHNICAL AND GENERAL

(East Sussex)
Turntable parts - wide range of spares and accessories, plus arms and cartridges.
Tel: 01892 654534

CARTRIDGE MAN

(Len Gregory, London)
Specialist cartridge re-tipping service and repairs. High quality special cartridges.
Tel: 020 8688 6565
Email: thecartridgeman@talktalk.net
www.thecartridgeman.com

QUAD ELECTROACOUSTICS (Camba)

Quad's service department, able to repair almost all Quad products, from the very first. (Also Audiolab, Mission & Wharfedale).
Tel: 0845 4580011
www.quad-hifi.co.uk

OCTAVE AUDIO WOODWORKING

(Bristol) Unit 2, 16 Midland Street, St Phillips. Bristol. Tel: 0117 925 6015
www.octave-aw.co.uk

Dr MARTIN BASTIN

(Shropshire) Garrard 301/401 restoration, renovation and service. Special plinths; rumble cures, etc.
Tel: 01584 823446

ARKLESS ELECTRONICS

(Northumberland)
Specialist in repairs, restoration and modifications to all amplifiers, valve or solid state, ancient and modern.
Tel.: 01670 530674
Email: info@arklesselectronics.com
www.arklesselectronics.com

CLASSIQUE SOUNDS

(Paul Greenfield, Leicester)
ESL-57s restored, rebuilt, fully renovated or improved. Leak, Quad valves amps etc.
Tel: 0845 123 5137/
Mob: 0116 2835821
Email: classique_sounds@yahoo.co.uk
www.flashbacksales.co.uk/classique

WEMBLEY LOUDSPEAKER

(Paul MacCallam, London)
Comprehensive loudspeaker servicing.
Tel: 020 8 743 4567
Email: paul@wembleyloudspeaker.co.uk
www.wembleyloudspeaker.com

CLASSIC NAKAMICHI

(Paul Wilkins, Worthing, West Sussex).
Restore, Repair & Service Nakamichi Cassette Decks.
Tel: 01903 695695
Email: paul@bowersandwilkins.co.uk
www.bowersandwilkins.co.uk

ONE THING

(Coventry) Specialist in electrostatic panel manufacture and repair. Can refurbish ESL 57s and 63s as well as Leak Troughlines and Quad IIs.
Email: one.thing@ntlworld.com
www.onethingaudio.com

LORICRAFT AUDIO

(Terry O'Sullivan, Bucks)
Garrard 301/401 and their own 501 repair, spares and service.:
Tel: 01488 72267
www.garrard501.com

EXPERT STYLUS COMPANY

(Wyndham Hodgson, Surrey) Stylus replacement service for all types of cartridge. Including precise profiling for 78s. Tel: 01372 276604
Email: w.hodgson@btclick.com

REVOX

(Brian Reeves, Cheshire)
Revox tape recorder spares, service and repair. Accessories also available.
Tel: 0161 499 2349
Email: brian@revoxservice.co.uk
www.revox.freeuk.com

SOWTER TRANSFORMERS

(Brian Sowter, Ipswich)
Large range of audio transformers for valve amps, cartridges, line drive, interstage plus all associated services.
Tel: 01473 252794
www.sowter.co.uk

LOCKWOOD AUDIO

(London)
Tannoy loudspeaker parts, restoration and repair. Also Epos and TDL loudspeakers.
Tel: 020 8 864 8008
www.lockwoodaudio.co.uk

ATV AUDIO

(Henry Dulat, Surrey)
Repairs, restorations and upgrades to valve and transistor amps and all analogue audio including Revox.
Tel: 01372 456921 Mobile: 07730 134973

Bowers & Wilkins



The new 600 Series. 19 years in the making.

In time, everything changes. That's progress. The new 600 Series brings 19 years of Bowers & Wilkins engineering advances, including the new Decoupled Double Dome tweeters for amazingly precise treble. But one thing hasn't changed: the new 600 Series offers the same amazing value now as when the award-winning original launched in 1995.

www.bowers-wilkins.co.uk

Unconnected

Sony's attractive new hi-res portable, the NWZ-F886, connects via wireless to the hi-fi, not cable. Noel Keywood takes it for a run.



Aha! Sony finally goes 'Hi-res' and you can even play Apple hi-res music files on their new portable digital player – sounds interesting. The sexily named new NWZ-F886 Walkman looks ready for the outside world: it boasts top quality replay of 24/192 WAV files, as well as compressed FLAC and Apple ALAC files no less – plus a lot more.

But there were some 'drawbacks' we found. This isn't a hi-res player to take on the Chinese or Korean opposition, (e.g. FiiO and Astell&Kern), but Sony's own take on Digital Audio Player (DAP) functionality, audio quality playing second fiddle to other: more contemporary concerns, such as big, coloured Apps on a bright touch screen, web connectivity and video.

Priced at £250 from Amazon the

Sony is competitive by any standard; dedicated hi-res DAPs typically cost from £150 (FiiO X3) up to £700 (Astell&Kern AK100), and some even more – and none have a screen as sharp and bright as Sony's.

When you look at what the NWZ-F886 does, the picture gets even rosier. It plays mpeg4, WMV9 and AVC(H.264) video, shows photos (jpeg, png) and has wi-fi, for connection to the internet. This makes a wide range of internet services available, including conspicuous access to

Google's Play Store, so you can buy and download music on the move if you wish; web browsing is possible.

Because the NWZ-F886 uses Google's Android OS, Google services come loaded, including Chrome browser and Play Store, YouTube, Google Maps of course and constant requests to log into your Google account. Surprisingly, Sony's music store is not loaded, nor is iTunes, which is less surprising.

Noise cancelling ear-buds come as standard but the player works only with them and no other, Sony say; noise cancelling can be switched off, reducing battery drain. The player has FM radio, using the headphone lead as an aerial, and it has a GPS antenna

for location services.

Measuring 59mm wide, 116mm high and just 8.2mm deep the NWZ-F886 is iPhone size, if a tad slimmer. Weight on our scales was exactly 100gms, making it comparatively light. There's an on-board loudspeaker – just don't expect bass – a Bluetooth short range radio connection and NFC (Near Field Communication), for short range (1 cm) file transfer or music streaming to NFC equipped devices the player is placed against. 32GB of on-board memory is fitted, plus a non-user-replaceable lithium-ion battery charged over USB; no charger is supplied. It can play computer music files using DLNA.

Sony say file types supported at 48kHz max sample rate are MP3, WMA, AAC and HE-AAC – all the usual suspects. At up to 192kHz sample rate and 24bit resolution the NWZ-F886 will play FLAC, WAV, ALAC and AIFF.

We checked this and 24/192s in the formats stated all played. Sony's file selection is sensible: you need only FLAC and WAV in essence, for high quality, but Apple formats just have to be included these days and AIFF is equivalent to WAV (uncompressed) whilst ALAC is equivalent to FLAC (losslessly compressed). Sony's own DSD format is not mentioned – I will come to this later.

So far so good – but there are some startling omissions from this otherwise impressive specification. Firstly, there are no external memory

The Sony's case is slim and easily pocketable.





The headphone socket (left) has no optical digital output.

card slots: 32GB is the limit. Most players manage at least 64GB and the Astell&Kerns offer 3 x 32GB, or 96GB in all; you must buy Sony's top player, the NWZ-ZX1, for 128GB of storage. Storage of high resolution music files is limited to 120 or so; I loaded a 800MB 24/96 WAV of an entire LP and it played, so the OS will cope with big files (some peg out).

More surprisingly though, there is no digital output for an external

refers to digital noise cancelling, not digital output. But since this is possible only with the ear buds supplied, and since the headphone socket was intrinsically noisy compared to those of hi-res rivals, this was an ironically misleading label.

These omissions count the Sony out as a high resolution player able to feed a hi-fi, unless the headphone output offers superb analogue – and with the NWZ-F886 our measurements showed it does not. Quite the reverse, it lacks the special line output amplifiers that are a distinguishing feature of high resolution digital audio players, offering just one-tenth their output from a lacklustre headphone drive chip that provides just 0.32V.

Directly related to this, the Sony exhibited 96dB Dynamic Range under measurement, against around 110dB of rivals – a massive 14dB less. Use of an external DAC would give a 24dB improvement, but the Sony is unable to exploit this as it cannot be connected to a good external DAC. Bluetooth (without aptX) is no alternative, because it imposes lossy compression to reduce data rate and compromises quality.

A long list of signal processing 'technologies' are listed, such as Clear Audio, S-Master HX Digital Amp, HSSE etc., but they either made no measurable difference to high resolution test signals (as Sony admit) or, in the case of Clear Audio, increase noise and distortion! None had merit.

SOUND QUALITY

Lack of grunt in the headphone drive chip meant I could get no more than 'reasonable' volume from insensitive Philips Fidelio X1 headphones, except with Rock tracks compressed right up to 0dB maximum level, typically from CD and MP3 (etc) – but such tracks generally don't offer high quality. With quality 24/96 recordings where there's enough dynamic range not to record up at peak level, volume was even lower; with a 'quiet' track like Amber Rubarth's strummed ballad 'Storms Are On the Ocean' (24/96) volume was limited to say the least.

With more sensitive headphones,



A five-band graphic equaliser and 'Clear Bass' slider can modify sound quality.

like the Jays V-jays fold-ups I use when on the move, volume lifted usefully and I could back volume off from maximum. The Eagles 'Somebody', a typical Rock CD track compressed up close to 0dB



FM radio is on-board and tuned through this rolling digital display.

(Audacity shows) played loud and sounded good, clear and crisp. The V-jays, being an open on-ear phone, have light bass and the Sony's graphic equaliser helped here. However, turning to all the EQ settings, with pre-sets, graphic equaliser, Clear Bass slider, Clear Audio+ (this made hi-res sound worse!), DSEE, Dynamic normaliser, Surround sound, Clear



A beautifully crisp and clear display.

DAC, no line output for a hi-fi, and no input allowing the player to be used as a DAC. This lack of connectivity is startling, because all DAPs have at least S/PDIF digital audio out, allowing them to be used with a hi-fi DAC like the Audiolab M-DAC I use, to feed hi-fi high resolution audio to the hi-fi.

Seeing a 'Digital' logo alongside the headphone socket I still inserted an optical adaptor, just in case its mention had been accidentally omitted from the User Manual, website and everywhere else – but no luck! I even peered down the hole of the adaptor with a magnifying glass looking for the tell-tale glow of a red laser, but there was only darkness. This was a metaphor for Sony's lack of understanding about DAPs and today's marketplace, but I won't go into that.

The Digital logo alongside the analogue-only headphone output

BATTERY LIFE SONY NWZ-F886

Considering it has such a bright screen, Sony quote a surprisingly long battery life for this player: "up to 35 hours" no less. That's more than twice the life (16hrs) of the Astell&Kern AK100 MkII player reviewed in our March 14 issue. How do they do it?

Well, as Sony state in their Help Guide, this is to play MP3 music files, with Noise Cancelling and Bluetooth off. They don't make clear that it is also with the screen off, as this consumes most current from the battery. As with all battery powered portables, it turns off automatically, although it can be set not to do so. I noticed the battery running down fairly quickly when running through menus whilst testing and indeed, with video, battery life is quoted as 5 hours, giving some idea of just how power hungry the screen is, like all high brightness screens.

Interestingly, playing top quality 24/192 FLAC files shortens battery life by 8 hours, Sony state, when compared to 24/96 FLAC where you get a generous 24 hours. So lower sample rate means longer battery life.

We ran a structured playing test, the Walkman being set to loop a 24/96 WAV file until it died – it lasted exactly 20 hours. As WAV runs at a higher data rate (x2) than FLAC, and battery life is sensitive to this factor, our figure tallies with that from Sony (Bluetooth and Noise cancellation were off). A warning appeared at 18 hours, saying 14% of charge was left and the player needed charging, the battery indicator turning red; it will play whilst charging.

Twenty hours playing time sounds good. However, battery life is made long through use of parts – particularly DAC and headphone drive chip – that consume little current, being designed for portables. The Wolfson WM8912 DAC is an example, with its Class W charge pump headphone driver and a current draw of around 1mA per section. By way of contrast, High Resolution players commonly use the Wolfson WM4740 that consumes 100mA, and on top of that a headphone/line drive amplifier must be used.

So, in a nutshell, top quality parts draw one hundred times more current than 'portable' parts, because they are designed for mains powered players where current consumption isn't an issue. It could be said then, that long battery life suggests lower quality and isn't quite the good thing it may appear!

stereo, xLoud and Clear phase illustrated what an ill thought out jumble of menus this all was. Read Sony's User manual closely and they do say that most seek to enhance low quality compressed files; I found no benefit with hi-res files, or even good quality CD rips.

With all this processing turned off, across a wide range of 24/96 and 192 material, quality was thoroughly respectable, but only as conventional portables go. This player lacked the punch, deep staging and general couthness of the Astell&Kern AK100 MkII that I reviewed in our last (March 14) issue, for example. I got the best result from Bluetooth, transmitting to Cambridge Audio Streamagic 6 network player with BT100 receiver. This put a good DAC and analogue output stage into the signal path and good recordings like Amber Rubarth's 'Storms Are On the Ocean' came over as clear and couth, whilst Otis Redding's 'Dock on the Bay' (24/192) sounded big and punchy, as it should.

The Sony saw my Mac immediately with DNLA and played music from it without difficulty, through EyeConnect on the Mac.

In case you are wondering, I did load a DSD64 file, using Sony proprietary technology, but it wasn't recognised at all! Oh dear – what on earth are Sony not thinking about, especially when DSD conversion to analogue is technologically simple, available in Wolfson and ESS DACs and breaking out everywhere, including in Japan under Sony's corporate nose.

CONCLUSION

If you want a portable device with internet connectivity, web browsing,

music download and apps etc, equipped with a glitzy touch screen, then this is it. With video replay and photo display too, it's great for general entertainment.

Unfortunately, the NWZ-F886 is a low res audio player equipped to play high resolution audio files. Sony have given it none of the special parts, including top quality DAC

and high performance line output amplifiers, that go to make up a true high resolution player. With no digital output able to feed an external DAC, it is severely limited audio-wise and not in the same league as rivals, as far as audio quality is concerned. It is streets ahead gadget wise though, and is great value if this is what you want.

MEASURED PERFORMANCE

Output from the headphone socket was a low 0.34V, typical for portable players but ten times less than the 3V or so from dedicated high resolution portables. There was no digital output nor a line output to drive a h-fi amplifier, so the headphone output is the only one available, ignoring Bluetooth and NFC.

Dynamic Range (EIAJ) from a 24bit

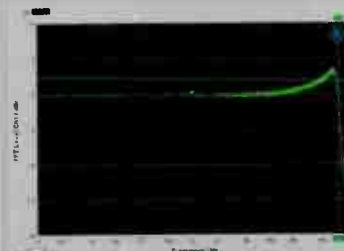
file measured a low 96dB, against 110dB or so from high quality players such as the Astell&Kerns, or 100dB from a 16bit CD player. Against standard low res portables, however, with their low voltage headphone chips, the Sony was normal enough, since they manage 93dB or so.

This clearly shows the NWZ-F886 is a low-res portable in its basic electrical topology, but able to play high-res files. It does not, however, either have the low noise or high linearity needed to exploit the quality of 24bit audio, falling short of CD by 5dB.

Frequency response with 192kHz sample rate files did extend to a very high value of 80kHz, but this is no compensation for poor 24bit performance.

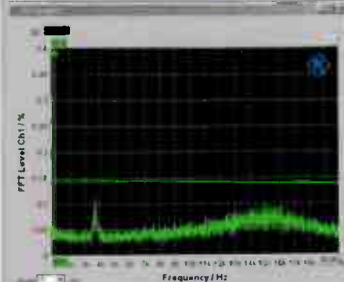
The NWZ-F886 delivers a measured performance similar to that of any portable, lacking the benefits of high resolution audio files other than wide bandwidth. NK

FREQUENCY RESPONSE



DISTORTION

0.3335 %	325.22 μV	0.9971 kHz
OFF	OFF	OFF



Frequency response (-1dB)	
192k	4Hz-80kHz
Distortion, 24bit	(%)
0dB	0.002
-60dB	0.3
Separation (1kHz)	90dB
Noise (IEC A)	-95dB
Dynamic range	96dB
Output	0.34V

SONY NWZ-F886 £250



GOOD - worth auditioning

VERDICT

Audio much like that from any portable damns this as a high resolution player. It is good for general entertainment though.

FOR

- bright touch screen
- wi-fi and web
- portable and light
- plays YouTube and video

AGAINST

- limited 32GB memory
- no digital audio output
- low dynamic range
- no DSU

Sony
+44 (0)844 8466 555
www.sony.co.uk

(((AE)))
ACOUSTIC ENERGY

1SERIES

Acoustic Energy have always been associated with audio excellence. Since the original AE-1 monitor speaker was launched in 1988, their products have represented the best audio performance and product reliability available for the price. These principles continue with the new **1-Series**. Consisting of a floor-standing speaker with angled front, compact book-shelf speakers, a centre speaker and a powered subwoofer. The **1-Series** from Acoustic Energy offers unrivalled performance at a price you would not believe.

Stunning Hi-Fi speakers from £199.00



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Roksan's modern classic K2 amplifier gets a Bluetooth boost. Martin Pipe tunes in.

Rok solid

Welcome to an integrated amplifier with built-in Bluetooth, no less. The new Roksan Kandy K2 BT loses its Tape input, but gains the ability to stream music from Bluetooth devices like a smartphone, iPad or similar. And it retains its MM phono stage.

Also rather different from the mainstream is the use of MOSFETs (specifically 2SK1529s and 2SJ200s) in the analogue output stage. Most other solid-state amps either stick with conventional bipolar transistors, or foray into Class D territory.

The K2 BT can be operated via the supplied 'RMX III' handset, programmable with codes from a computer/website via USB.

Roksan's specs claim that with both channels driven the K2 BT delivers 125W into eight ohms, or 200W into four.

It's not possible to upgrade an original K2 into a K2 BT, because they are rather different, insofar that the original K2 made provision for a

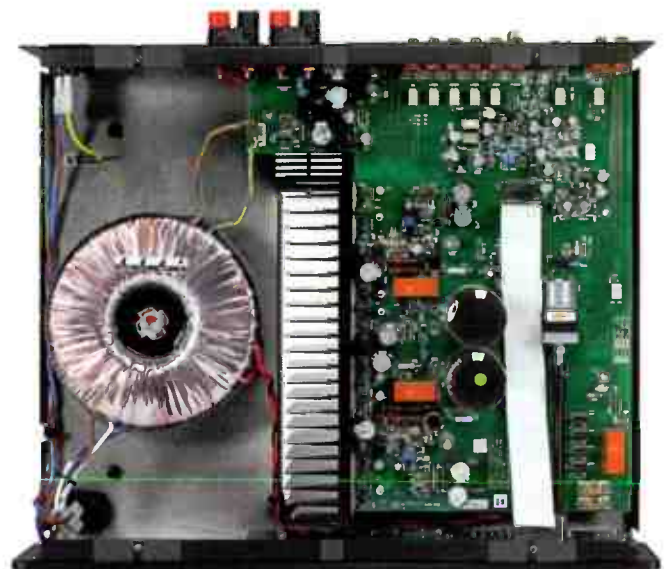
recorder (tape, MD, etc.) but the K2 BT has no such tape loop. Sign of the times? In addition to dedicated CD and phono inputs are three line-level auxiliaries.

A neat trick is the 'bypass' switch. Turn it on, and an adjacent input bypasses the K2 BT's pre-amp, feeding the unit's power amplifier directly. Associated with this is a pre-amp output. In other words, the two sections are electronically-separable.

Two pairs of chunky binding-post speaker terminals carry the K2 BT's output to loudspeakers, while a screw terminal is provided for grounding a turntable. The final connection is for the stubby Bluetooth aerial, supplied in the package. The Bluetooth module has a DAC of course, and it's a pity that it can't be used with other digital sources; there are no coaxial or optical inputs for such gear. The mains switch

is under the left side of the casework (accessibility isn't a problem if there's space around the amplifier).

In terms of front-panel appearance, new follows old. Dominating the front panel is the volume control; to its left are buttons that sequence through the inputs and





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a 'mode' button that places the amp in standby or mutes the volume by 20dB.

To the right of the volume control are a 3.5mm headphone socket and a button that engages Bluetooth. When it's turned on, the K2 BT will be 'visible' to any compatible device. My Samsung Galaxy S4 Mini instantly found it ('ROKSAN K2'). From then on, music is played via the Roksan (provided it's within range – typically 10m or so) rather than the Bluetooth device's 'speakers.



SOUND QUALITY

I first listened to vinyl, courtesy of my Linn LP12/ Basik/Ortofon 540Mk II. A spin of Run-DMC's Tougher Than Leather LP demonstrated that the K2 BT is punchy, energetic and fast. The old-skool hip-hop of I'm Not Going Out Like That was a compelling listen,

with its insistent electronic rhythms, dexterous raps and furious cutting. The album's title track is packed full of searing heavy-metal guitar riffage (including some noticeably Hendrix-esque touches towards the end) and these were carried with the necessary razor-sharpness. Exciting, yes; subtle, no!

For this reason I then switched to Squeeze's grandiose and varied East Side Story. The prominent bassline of Tempted (high-fidelity?) was deep yet controlled, never obscuring the song's other elements (including a soulful vocal and some delicious organ work). The experimental psychedelia of F-Hole, with its massed strings, was an addictive listen here. My only real criticism here, apart from a slight lack of air and subtlety when compared to high-grade external phono stages, is a lack of output with some cartridges (such as my Ortofon). I had to turn up the volume when playing records. There are no internal gain adjustments to bring levels up to those of other sources.



Speaking of which, it was then time to try CD playback (with the McIntosh MCD550 tested elsewhere in this issue). Tracks like Palace Posy, from Board of Canada's Tomorrow's Harvest, confirmed my impression that the K2 BT is something of a rhythmically-sympathetic bass-monster. Indeed, it loves dance music. And, for that matter, rock music. Moving to the maximum RnB of The Who's Live at Leeds (MFSL CD) – cited as one of the best live albums ever recorded – and I was transported to that university refectory circa 1970. Yes, the sound quality is that good. Power, clarity, definition and above all excitement from some damn good songs – whether the blues/rock 'n' roll covers or Who originals.

What, then, of the Bluetooth functionality? It can sound good, although music that has been crunched down to fit into your smartphone's memory can suffer through being recompressed with the lossy apt-X codec that the Bluetooth

link specifies. Buy a bigger memory card, and go lossless! It's also worth noting that care is needed with a smartphone's volume control. Too high, and music can sound congested and gritty. Too low, and definition suffers. I found it's best to adjust this so that the sound is at a similar level to, say, CD or tuner with the position of the K2 BT's volume control unchanged. With care here all of the K2 BT's positive traits are retained - timing and dynamics (e.g., Steve Reich's Music for 18 Musicians) and bass weight (e.g., Will.I.Am's Scream and Shout).

CONCLUSION

This is a very enjoyable sounding amp, with plenty of power on tap – great for dynamics and rock-venue realism. It's particularly at home with rock and dance music, but I also found it conveyed classical music well. The Bluetooth feature will appeal to those who harbour large music collections on their mobiles and is an attractive modern convenience.

A busy rear panel carries phono socket inputs for LP, as well as CD, tuner, etc. Not shown here is the Bluetooth aerial.

MEASURED PERFORMANCE

The K2 B2 produced 144 Watts into 8 Ohms under test, and 240 Watts into 4 Ohms, so it is very powerful and will deliver very high volume in any situation. With a damping factor of 40 it will keep a good grip on loudspeakers and bass should be well controlled, even on the dry side.

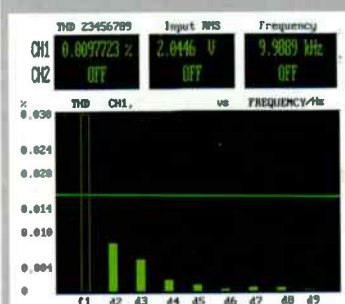
Distortion levels were very low, importantly at high frequencies where the K2 stayed linear from 1 Watt all the way up to full output, producing 0.03% distortion maximum at 10kHz – a very low result. There were no upper

harmonics so the distortion pattern was benign.

Input sensitivity for CD was on the low side at 500mV. This is fine for all silver disc players, if not for low gain external phono stages. The MM phono stage was conventional enough and measured well.

The K2 produce good results in all areas, as usual with Roksan amplifiers and should sound good. **NK**

DISTORTION



Power	144watts
CD/tuner/aux.	
Frequency response	2Hz-kHz
Separation	92dB
Noise	-95dB
Distortion	0.01%
Sensitivity	500mV
Damping factor	40
Disc	
Frequency response	Hz-kHz
Separation	77dB
Noise	-82dB
Distortion	0.02%
Sensitivity	4mV
Overload	50mV

ROKSAN K2 BT £950



OUTSTANDING - amongst the best

VERDICT

Sensible features coupled with a energetic and fulsome yet detailed sound makes this update to the K2 another winner.

FOR

- solid build quality
- fast and dynamic sound
- Bluetooth and LP

AGAINST

- care needed to take full advantage of Bluetooth's potential
- K2's tape loop has been sacrificed
- Bluetooth DAC not used with other digital sources

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Tonbridge Audiojumble

Martin Pipe visits his favourite show, the Tonbridge Audiojumble at Tonbridge, Kent.



For my money the hi-fi show of the year has to be the Tonbridge Audiojumble run by John Howes. There are in fact two shows, one in February and one in October. Taking place in the town's Angel Centre, it's a veritable feast of gear new and old, plus music stored in just about any format you care to choose – ranging from 78rpm shellac discs to SACDs.

Bargains abound, especially if you're one of the visitors paying slightly more (£10) for 'early-bird' entry. A Garrard 'scratch eliminator' for a fiver? How about a Pioneer quad receiver or Imerge net-streamer/receiver for the same amounts? A vintage Uher 4400 stereo portable (working, albeit quarter-track!) for a tenner. Those with bigger pockets could have ended up with a classic Krell KSA-50 power amp for

£500. Test gear ranging from Avo-8s to distortion analysers, SPL meters and oscilloscopes. There's also the opportunity to talk to fellow enthusiasts and music lovers.

Refreshments are available, with an excellent-value high-street Oriental buffet a short walk away from the Angel. In short, this show, in Tonbridge, in the country of Kent (UK), is a fine day out.

The next Audiojumble takes place on Sunday 5th October 2014. www.audiojumble.co.uk

**Words: Martin Pipe
Pictures: Martin Pipe**

In the late 1960s, British tape king Ferrograph released the Series 7 range of recorders. This rare quarter-track Super Seven addressed a criticism of the original – an inability to accept 10.5in. spools. A £25 steal (with Revox NAB adaptors included), it needed a new pinch roller and idlers to get going (the originals' rubber had turned to gunk – a common problem with these machines).



It's not all old stuff. iFi showed this new Stereo 30 valve amp, which employs two EL84 power-pen-

odes in push-pull per channel. It also has a USB DAC on board. With a pair of matching two-way speakers, it is planned to sell for £1500 upon launch in April.



This Pioneer CLD1200 Laserdisc player dates back to 1988 and was a £50 collectors bargain. It came with a collection of 40 or so classical performances – among them a complete Barenboim Ring Cycle box-set.



These Castle Kendal II speakers cost just £20, but their drive units had seen better days and needed refurbishing or replacement.



In the early 80s, Krell's KSA-50 came on the market. This mammoth 50 Watt per channel design operated exclusively in Class-A mode, and proved that transistors could sound good after all. Someone did well getting this for £500.



From the late 1960s is this compact Goodmans system, built around the company's then-revolutionary

Maxim bookshelf speakers. The Maxamp 30 is a 15 Watt per-channel design, while the Stereomax FM/AM tuner was one of the first to build in the multiplex decoder as standard. The prices (£350, £100 and £100 respectively) were alas rather optimistic.



From 1975 came this Pioneer QX-949 – at the time, the firm's top-of-the-range quadraphonic receiver. It featured CD-4 and logic-enhanced SQ/real-matrix decoders, a FM/AM tuner and an output of 40 Watts per channel. It had some faults and the volume control spindle had snapped off (what are the odds of finding a four-ganged 250-kilohm log pot nowadays?). Still, who's complaining when it was yours for a fiver charity donation?

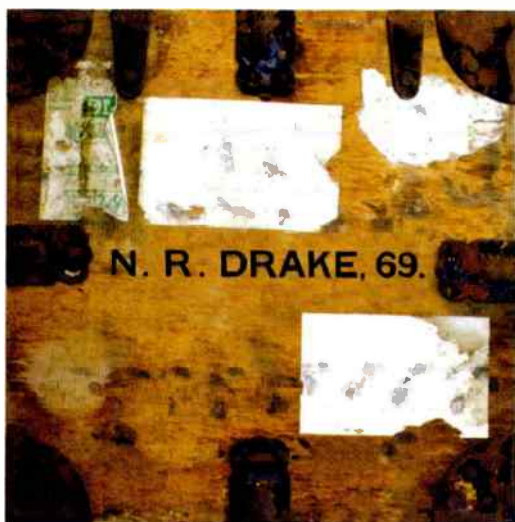


This one is a true rarity. Dating from the mid-sixties, the Schaub Lorenz Music Center is a four-band radio (including FM) with integral tape recorder. Its unremoveable reels (as shown in the inset picture) contain 10.2cm-wide tape made by BASF. It contains no fewer than 126 individual tracks each of 22 minutes duration. The iPod of its day? No wonder the seller hoped to fetch £165 for it.



Build a Technics SP10 into a custom plinth with on-board stereo preamp, and the result is a RP2/10 – as used throughout the BBC during the '80s. Dontcha just dig that fader control! The selling price of this one was rather optimistic; a few days earlier, an identical RP2/10 sold on eBay for £674.





NICK DRAKE

Tuck Box
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www.islandrecords.co.uk

How many other Nick Drakes have we missed? In today's musical ubiquity, with music everywhere, so much noise blotting out individuality, how many Nick Drakes are we ignoring right now? I ask these questions because Nick Drake, a singular talent, was almost ignored as a creative artist during his, Internet-free, lifetime. His albums of disturbingly sombre beauty, could almost have emerged by painting Donovan with several dark shades of haunting melancholia, failed romance, not to mention depression and awareness of mortality.

Such a shy man, his reluctance to play live almost stopped his recording career dead in its tracks but a rare outing quickly lead to recommendation via Fairport Convention and a quick chat with producer, Joe Boyd, lead to his first album, 'Five Leaves Left' in 1969, a folk-rock piece, backed by Pentangle bassist, Danny Thompson.

Noted for its terse, economic

lyrical style, the album was wrapped in a stunning suite of elevating and quite inspiring melodies.

The following year saw the release of 'Bryter Later', featuring Fairport Convention in attendance. A largely upbeat recording, it sometimes dropped the lyrical approach altogether, leaving perfectly formed musical miniatures to delight the ear. It was because these albums sold poorly that Drake fell into a depressive state of mind which eventually lead to 'Pink Moon': austere and desolate. No more albums were completed after that but collections of demos were compiled and released once Drake was rediscovered as a significant artist.

All three albums are featured in this new, rather lovely, box set that features the LPs in card sleeves, plus booklets with reproductions of the original shop posters. You also get two other collections: 'Made To Love Magic' (2004) plus 'Family Tree' (2007) that are both full of rarities.



VARIOUS

Dust My Rhythm & Blues: The Flair Records
R&B Story 1953-55
Ace
acerecords.co.uk

Flair is one of those almost romantic label names that constitute a fixture in the record collecting world. Attend enough record fairs and the name pops up on a regular basis among the regular attendees. To some, it might come as a surprise that the label was actually a subsidiary of the Modern Records company with a very short life of just three years. It's interesting that collectors see the label as important because it featured no big hits and, in general terms, was and is fairly unknown.

So what was the reason for Flair? Why did it exist in the first place? As ever with imprints, to fulfil a need or handle areas of music that the rest of the company could not or would not handle. In Flair's case, it was intended to only feature hillbilly music and, for the first ten releases of its short life, that's what appeared. So you see the

likes of the wonderfully named Earney Vandagriff and his tribute to Hank Williams with 'Guest Star In Heaven' and Jimmy Walton.

The mounting failures, however, forced the label to rethink its direction to R&B. Which is why both CDs in the package are full of superb cuts from the legendary Elmore James, Ike Turner and Richard Berry. Every significant name that recorded for the label is featured on this set, many issued for the first time.

Also look out for other releases on Ace including George Jackson's 'Old Friend: The Fame Recordings Volume 3', a further selection of previously unreleased southern soul songs; 'Soul In Harmony: Vocal Groups 1965-1977' with the majority of the tracks appearing on CD for the first time and 'The Stained Glass' 'A Scene In-Between 1965-1967' a 'might have been' psyche outfit.

Before he came to prominence, Hathaway had a cultured background in terms of his education in soul. For example, he supported Aretha Franklin, The Staple Singers and Jerry Butler, he was part of the studio backing group that supported Curtis Mayfield's Impressions, he was a house producer at Curtom, owned by Mayfield and more.

His signing to Atco as a solo act, at the end of 1969, was, therefore, the next obvious step. A series of highly thought of albums followed, such as 'Everything Is Everything' (1970), his self-titled LP from 1971 and his duet piece with Roberta Flack in 1972 that spawned the hit tracks, 'Where Is The Love' and 'You've Got A Friend'. His 'Live' LP release, in 1972, quickly gained a reputation for one of the best live LPs ever released and one of the best albums of his career.

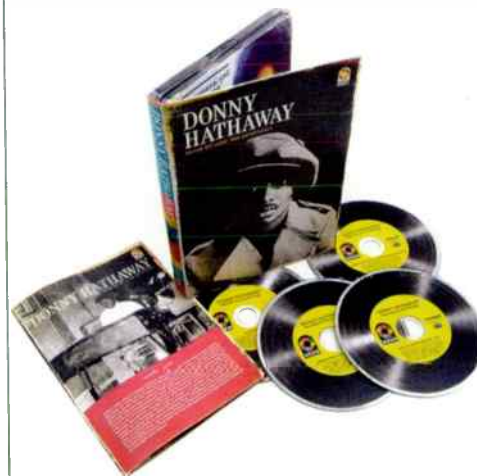
This box set has been released

as a long-form, multi-gatefold collection featuring his essential solo works plus duets with Flack, along with two discs of previously unreleased studio and live recordings.

More specifically, the first disc features singles and album highlights from 1969, 1972 A-sides recorded with June Conquest through to 1978's 'You Were Meant For Me', a two-part 7" version of his stand-out song, 'The Ghetto', a promo edit of 'Thank You Master (For My Soul)' and single edits for the likes of 'Giving Up'.

The second disc of unreleased studio recordings include heavy soul such as 'Never My Love' which takes us onto disc three of more unreleased fare, drawing from the eight sets from the Bitter End in Greenwich Village series of live gigs.

The final disc features the duet material. Also featuring an informative essay, this is an excellent set that is ideally suited for fans.



DONNY HATHAWAY

Never My Love: The Anthology
ATCO
www.rhino.com

AUDIOPHILE CD

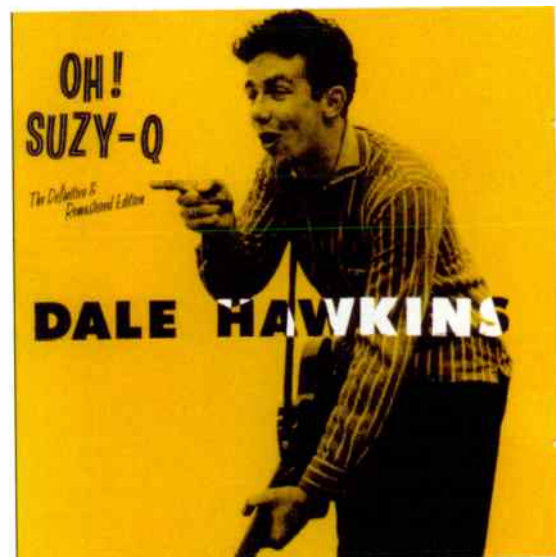
Dale Hawkins was a rockabilly performer out of Louisiana, USA and was primarily known for his big 1957 hit, 'Suzy Q', featuring an excellent, toe-tapping, guitar sequence plus persistent cowbell.

Hawkins recorded for Chess and was one of that label's very few white artists but, although he published a selection of other songs, he never reached the achievement of that single in terms of success or, for that matter, in terms of quality. His output was still good enough to earn the respect of other musicians and fans alike, however.

This album, which was released in 1958, is known for its top quality backing guitarists such as Roy Buchanan (who influenced Jeff Beck and taught The Band's Robbie Robertson a thing or two); Scotty Moore (Elvis Presley's sideman on those notable Sun recordings and a great pioneer of the electric guitar)

and James Burton (who backed diverse stars from Ricky Nelson to Elvis Presley to Buffalo Springfield and Joni Mitchell). A top quality rock'n'roll album, look out for 'Don't Treat Me This Way', the goofy 'See You Soon Baboon' and 'Mrs. Mergitroy's Daughter'.

Also look out for other releases on Hoo Doo including Ronnie Hawkins & The Hawks 'Ronnie Hawkins' (1959) and 'Mr Dynamo' (1960). A real performer singing high-powered rockabilly, his backing group would evolve into The Band; 'A Date With The Everly Brothers' (1961) includes the album of the same name and 'The Fabulous Style Of The Everly Brothers' (1960) plus six bonus tracks; Dion And The Belongs includes 'Presenting...' (1959) and 'Wish Upon A Star' (1960) plus five bonus tracks. Includes 'Teenager In Love'. Finally, Eddie Cochran's '12 Of His Biggest Hits' (1960) is paired with 'Singin' To My Baby (1957) plus nine bonus tracks.



DALE HAWKINS

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My good AMI

According to Martin Pipe, this compact DAC/headphone amplifier ticks the boxes - well, most of them!



be DSD-compatible via USB follows the excellent lead set by TEAC and provides compatible playback software – or, at the very least, links to software that is guaranteed to work (as opposed to lazily telling us to “install music players that support this feature”). Furthermore, the necessary installation steps should be covered in the manual. Companies are supposed to help customers make the most of their products, rather than frustrating them by providing insufficient guidance when the going gets technical.

SOUND QUALITY

Which is a pity, since the DS5 is capable of excellent results – playback equipment included Onkyo’s astounding ES-HF300 ‘phones and a Roksan K2 BT (see page 55) coupled to Acoustic Energy AE109 speakers.

We’ll start with DSD, but as noted previously it is here being converted to the best possible form I could get into the unit i.e. 24-bit, 192kHz PCM. Emily Palen’s Glass (Blue Coast Records) is a solo violin performance in San Francisco’s Grace Cathedral, recorded straight to DSD. As heard here, the liveliness and detail available from the track Light in the Fracture (DSD download) are superb. The subtleties of the bow sliding on the strings can be picked out as easily as the violin’s uniquely-rich timbre and texture; a real sense of the venue’s acoustic ambience is also evident. One wonders how ‘direct’ DSD replay might have been able to improve on this.

Still on hi-res, a 24/96 PCM ‘rip’ of Joni Mitchell’s Blue (180g remastered vinyl) also fared well. On the title track, the piano is given natural tonality, attack and decay; Mitchell’s voice, meanwhile, is as free of grittiness as it is full of emotional bite. Also accurately-reproduced is the record’s simple soundstaging; for something rather more complex in this respect I switched to the Esoteric remaster (CD) of Black Noise, by innovative Canadian guitar-free prog-rock band FM (famous for, amongst other things, the violin and mandolin contributions of charismatic performer Nash the Slash). The complex driving rhythms, analogue-synth washes and treated strings make for an enthralling listen and reveal the DS5’s ability to convey a wide image. These positive traits were confirmed by playing a CD of Stravinsky’s Rite of Spring (Birmingham S.O./Simon Rattle, EMI

Classics).

Listening to the DS5 via the Roksan and AE109s its (digital) level control was turned up to maximum, so as not to lose resolution. At very low output levels the subtle effects of digital volume control can be heard on the music’s dynamics (a faint ‘whine’ is also audible). With five or more LEDs illuminated these difficulties were kept at bay. With the ES-HF300 headphones I was using, the effects of the DS5’s volume control were negligible as volume had to be advanced to five or six for good listening levels.

CONCLUSION

There is much to recommend the DS5. It offers a fast, dynamic and detailed sound and sensible connectivity. However, the issues affecting PC DSD playback need to be addressed before full advantage can be taken of this increasingly-popular



A packed circuit board, complete with top Cirrus CS4398 DAC.

feature. Sound quality wise it scored highly, offering fine results so if DSD difficulties are of no concern then this is a high quality product at a great price.



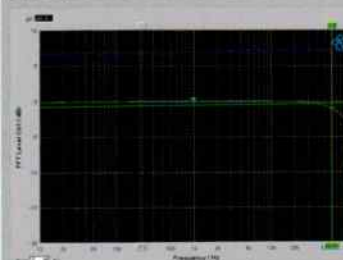
Rear panel carries USB that works up to 192kHz.

MEASURED PERFORMANCE

Frequency response of the AMI music DS5 reached 60kHz with 192kHz sample rate digital, our analysis shows, output rolling off smoothly toward the 96kHz

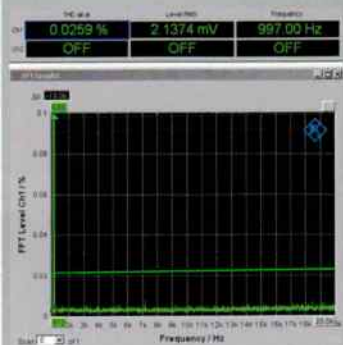
upper limit. The DAC exploits the bandwidth potential of high rate digital well.

FREQUENCY RESPONSE



Linearity with CD was normal, distortion measuring 0.22%, but this limit is determined by 16bit quantisation noise, rather than the DAC circuits. With 24bit linearity was very high, distortion measuring 0.027% – about as good as it gets. For a small and unpretentious DAC that is reasonably priced, this is impressive.

DISTORTION



Output was a normal 2V but even at this low-ish output level EIAJ Dynamic Range measured a very high 118dB, another superb result.

The little AMI music DS5 measured very well in all areas. It has enormous dynamic range, close to the best and will likely sound smooth and clear. **NK**

Frequency response (-1dB)	4Hz - 60kHz
CD Distortion (24bit)	(%) 0.008
-60dB	0.027
Separation (1kHz)	112dB
Noise (IEC A)	-117dB
Dynamic range	118dB
Output	2.2V

AMI MUSIK DS5
£530



EXCELLENT - extremely capable

VALUE - keenly priced

VEROICT

Flexibility and excellent sound quality make the DS5 worthy of consideration.

FOR

- coaxial, optical and USB inputs
- fast, revealing and lively sound
- worthwhile headphone amplifier

AGAINST

- PC-based DSD support falls at the last hurdle
- simultaneous headphone and line outputs not allowed

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"Dylan has created a myriad of words that have become a catalyst for change"



Paul Rigby

Language is such a powerful force. It can evoke emotion and memories and can lift you from your chair into action. A truly magical thing. I noticed that my fourteen-year-old son is voicing his approval with the word 'Sound'. "So what did you think of that, then?" "It was sound," he says, which is then accompanied by a series of understated nods and the slight pursing of his lips. I used to use the same word when I was his age.

Emotion? When I first heard the word, "Enjoy!" from a waiter in a local café, after being served a particularly appetising Full English I was taken a-back but thought the expressive use efficient and quite cute. It rapidly transmogrified with over-use, so that now, every time I hear the word used by a weary waitress (or even worse, a chirpy, chipper, chick delivering chicken), I not only cringe but wonder at the infectious, viral qualities of this typically inane, cheap, lazy, Americanism.

Don't start me on those people who, in reply to a direct question, demanding a 'yes', 'no' or similar definitive answer, instead, begin their reply with, "So..." First time I heard that, I wondered if I had just entered the conversation, half way through a sentence.

Action? Ah, that would be Bob Dylan then, wouldn't it? One of the largest criticisms of the sixties, the associated hippie movement and, above all, the notion that music would change the world was that, well, it didn't. This is more laziness.

Some observers expected to sit back and watch as if 'Blowin' In The Wind' was about to sprout legs and stride, like some quaver-bedecked Godzilla, over to the White House to pound some sense into the President.

That wasn't the point of the culture-changing music scene. In addition, it wasn't even up to Dylan to personally climb up the nearest nuclear missile and disarm it with his pen-knife.

The idea of music changing society as a whole – which Dylan certainly did – was to move people's heads. We are all on a path that will result in us taking actions A, B and C. If we are influenced by strong external forces then our path will change so that, instead, we will take actions X, Y and Z. It's not (nuclear) rocket science.

Sometimes, those forces will be based on ideas, philosophies, speeches, books, poems and, yes, songs. Face it: World War Two, seven and a half million dead, the crumbling of old country boundaries and the rise of new plus aftershocks such as the Cold War, economic ructions and fundamental changes in every society in the world were the result of a compact set of Nazi ideals, partly printed in readable forms, partly spoken and, afterwards, infused into the culture in a hundred different ways. Words. Just words.

Dylan has created a myriad of words that have become a catalyst for change. This is even more important than being responsible for a single political movement because his lyrics have not been bogged down within a single dogma and, hence, have never become tired, hackneyed or old fashioned.

When Dylan retreated from direct politics back in 1964, his work became more cutting, cynical and direct. He reacted with disgust at those who saw the world as simply black and white. Hence, 'Maggie's Farm' from the LP, 'Bringing It All Back Home', combines class and generational rage with a rejection of

wage labour. 'It's Alright Ma, I'm Only Bleeding', from the same album, is an indictment of a society built on hypocrisy and greed.

From the anti-Vietnam protestors in the sixties who chanted his lyrics in front of the White House to today's anti-war and global justice movements, who see his songs as a fundamental bulwark against corporate and governmental mismanagement, Dylan has changed and continues to change minds, thoughts and actions.

Dylan's words can all be found, neatly packaged, like a folio book set, in 'Bob Dylan Complete Album Collection Vol. One' CD box set, featuring thirty-five studio titles, six live albums and a 2-CD rarities collection. This is all well and good but I was more intrigued by the £250 box set alternative which features all of that material on a single USB stick which is installed within a faux harmonica, the Dylan instrumental icon. On the USB stick are both MP3 (320kbps) and FLAC (16bit/44.1kHz) versions of the music, along with a digital version of the hardcover booklet, housed in a limited-edition, numbered box.

You could be disappointed that the music is not offered in at least 24bit/96kHz or you may be happy that the task of transferring the entire CD box set to your Astell & Kern AK120 has been done for you. No matter, what you get is an archive of great music and, possibly more important, words of distinction that made and make a difference.

Words are the most powerful force known to man, they are elemental in nature. For one man to produce such a concentration of influential texts, however, is not only remarkable, it offers a cultural significance that interweaves around thoughts, ideas and events. ●

"as I was writing this, the postman delivered a box containing the arm"



Tony Bolton

Over the last few months I have occasionally talked about a radiogram that I was considering buying and the rather unusual Variable Reluctance cartridge that is supposed to be fitted to it. Well, there has been progress on all fronts. I am now the proud owner of a 1955 Dynatron "Berkeley" RG11 AM/FM Radiogramophone, to give it its full title. An example of this unit can be seen at <http://www.dynatronmuseum.org.uk/1950's.htm>. The RG11 is shown with the lid down. Further images of another example, including the internals, can be seen at <http://www.vintage-radio.net/forum/showthread.php?p=170769>.

It is a substantial beast, measuring 35 1/2" high, 37" wide, 16" deep and weighing a not inconsiderable 182 lbs. The price when new was £209 - 5s - 9d, including Purchase Tax which equates to about £6,500 in today's monetary values. This one is a very early example and comes complete with a duplicated typewritten instruction manual which contains a note apologising for the style of the manual and advising that printed examples will be available soon.

Unfortunately, as so often happens with these majestic machines, the LF10A power amplifier is missing, which is what caused me to hesitate in buying it, but I have now sourced a replacement so went ahead with the deal. It will, when restored, replace the Ferguson 322RG radiogram that lives in the bay window of our dining room, but since the house is (inexplicably) filled with records, hi-fi, gramophones and associated ephemera, the Dynatron is currently in store at a friend's house until I have created space for it.

One of the reasons for choosing this machine with its EL84 push pull amplifier over the earlier Triode powered models was the presence of FM radio and an auxiliary input. Although the FM frequencies only extend to 100m, where I live in Devon that covers all of the main national stations, our local BBC station and Classic FM, so meets all of my radio needs.

Since this is going to be the main music source in the dining room, I am going to connect the TV and a DVD player to a stepped attenuator to drop the signal level to a suitable voltage, and create a lead that converts from this stereo output to the mono Auxiliary input on the Dynatron so that I have all of these components running through the radiogram. The DVD player will double as a CD player when required. The only thing it won't play are stereo LPs and since I have bought this primarily for 78 reproduction and have enough stereo systems in the house already, I don't regard this as a problem.

The pre-amplifier is impressively specified with three EQs for disc: 78, HiFi (for Decca FFRR 78s and LPs) and LP for all RIAA recordings. The treble control also has a high cut position that is for use with early 78s.

As well as the FM band, (with a Magic Eye tuning indicator) the tuner has the usual Long and Medium Wave reception with bandspread Short Wave. There is also a sensitivity control that has four positions and also rolls off the treble by preset amounts to give the best available reception of AM signals.

The other missing component, as I have mentioned in previous columns, is the Tannoy Variluctance cartridge. I still haven't managed to find one of these yet, but recently

had a find on eBay (UK) in the form of three Goldring Variable Reluctance cartridges. There are two examples of the 580 model and one of the 600.

A quick look in a 1958 HiFi Yearbook showed that the 580 had a 3.2mV/cm.sec output, 68kOhm impedance and a frequency response of 20 - 18kcps. Tracking force was 7g. Finished with a dull bronze colour on the Mu-metal shielded body, it cost 84/- including 27/4 PT.

The 600 model had the same output and loading but was fitted with diamond stylus for LP use, with sapphire for 78s (the 580 used Sapphires for both needle sizes) and has a polished gold-plated body. Frequency response was recorded as 20 - 21kcps and it cost 168/- (including 54/7 PT). Both of these have a better bandwidth than the original Tannoy fitment, which began to roll off at 16kcps.

Two of them have both stylii fitted, whilst one of the 580s has the microgroove needle missing. Since these are available from various sources for under £15 each, I am not too concerned by this. I checked the circuits for continuity and found virtually identical readings from all three cartridges. As yet I had not tried them out since I didn't have an arm that would comfortably handle the 21g weight of these cartridges, or had a suitable (low) compliance.

However, a few days ago, eBay again came to my aid with an early '60's Garrard TPA 10 arm. As I was writing this, the postman delivered a box containing the arm. It needs cleaning, and the paintwork on the headshell is a little tired, but mechanically it is in excellent condition. I have an armless Thorens 150 in my shed that will provide a temporary home for the arm, so I can get to know these cartridges through one of my hi-fi systems. ●



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"let me get straight onto the subject of this new super-DAC"



Noel Keywood

I had to get up early to find the quiet, uninterrupted time I needed to half-understand a White Paper by Californian chip manufacturer ESS about how their Sabre32 DAC works.

Technical documents like this tell me where digital is going. And after reading about the Sabre32, I came across another, brand new audio DAC of even higher specification. It was fascinating and revealing.

Let me get straight onto the subject of this new super-DAC, which I can use to illustrate many points. It was announced in a press release dated 26th December 2013. That's Boxing Day to Europeans and Americans alike, so no prizes for guessing where it didn't come from!

It comes from Asahi Kasei of Japan, well known for high performance audio chips. Called the AK4495S (sexy eh?) it pushes digital audio boundaries even further out, but whether we will see a hi-fi product that exploits its abilities is another issue, cost being a lot to do with it.

The AK4495S is designed to be a technology and market leader; by definition it will be expensive. A chip like this will likely cost around £30 apiece in quantity, which translates to £200 or so of the retail price. That's big! With casework, power supplies and displays, not to mention all the support circuitry including USB receiver, the physical parts cost will be high and so will the market price, an absolute minimum of £1000 and £2000 more realistic.

So we are unlikely to see a chip like this used in budget products, and especially not CD players where a mechanical CD transport must be factored into the total parts cost. CD players are assigned 'cooking DACs', not super DACs like this one, to keep

cost within bounds of what is deemed acceptable.

The AK4495S builds upon the Asai Kasei audio DAC range and upon the flagships of rivals. What you get is 32bit processing, like the Sabre32, but up to a sample rate of 768kHz; the Sabre reaches 200kHz. I have no idea why anyone would want this, as 192kHz sample rate is the current consumer limit.

Technically, higher sampling rates ease filter design and since these filters affect sound quality there may be benefit in going to 384kHz. It may well be that the ADC that turns analogue into digital in the first place, in the recording studio, is the issue here. But file size and data rate would balloon.

Will we ever get 32bit recordings? Again, it is the original ADC that counts and I am sure we could, but 24bit gives 156dB dynamic range, which is more than enough. At 120dB, the figure we are currently measuring, it is noise in the analogue circuits that is the limiting factor. To get the best out of an advanced DAC you must use super-quiet output amplifiers if you want to hit the figures, and we cannot yet fully exploit 24bit.

Where the AK4495S looks interesting is in its extensive filtering arrangements. It comes with computer software to aid digital filter programming and this, I suspect, may well be a hidden factor that will aid adoption. You see, as good as the Sabre32 might be, if you want to use any more than its two digital filters, Fast and Slow, then you have to programme it in C++ and this is a difficult and time consuming process. It adds to development time, raising cost. Additionally, many companies lack the necessary skills and understanding of digital audio to even

know what they could, or should be doing here. Burr Brown's PCM 1796 has been on the market for 8 years now and can be interfaced with an external programmable digital filter, but few if any manufacturers have exploited this.

Audiolab got their head under the bonnet of the Sabre32 and that's why their M-DAC has no fewer than seven different filters. Asai Kasei haven't missed the importance of this so make much of it in their AK4495S Data Sheet. Having just been told by a major Japanese manufacturer that they recently received a development kit for the Sabre32 so they can offer user-selectable filters in their AV receivers (eh?), I can see where this is going. In the coming months we can expect high-end DACs appearing, likely with weird and wonderful filter sets, much like Teac's UD-501 we reviewed in the September 2013 issue.

DSD is getting ever more attention too. The AK4495S will process DSD64 and double-speed DSD128, so future commercial products using it should be DSD-ready. What's more there many DSD filters, so we can expect selectable filtering too, as found on the Teac UD-501. Peculiarly, although DSD seems esoteric in consumer audio, it lies at the heart of modern DACs, and has done since Philips introduced the SAA7350 and TDA1547 Bitstream combination.

The new Asahi Kasei AK4495S shows that DAC chips now far outstrip the requirements of consumer audio. They are streets ahead, unlike the bad old days when digital chips lagged the market's needs. We don't now listen to bad DACs, so much as expect them to improve bad digital! My, how things have changed – quietly, digital is going places. ●

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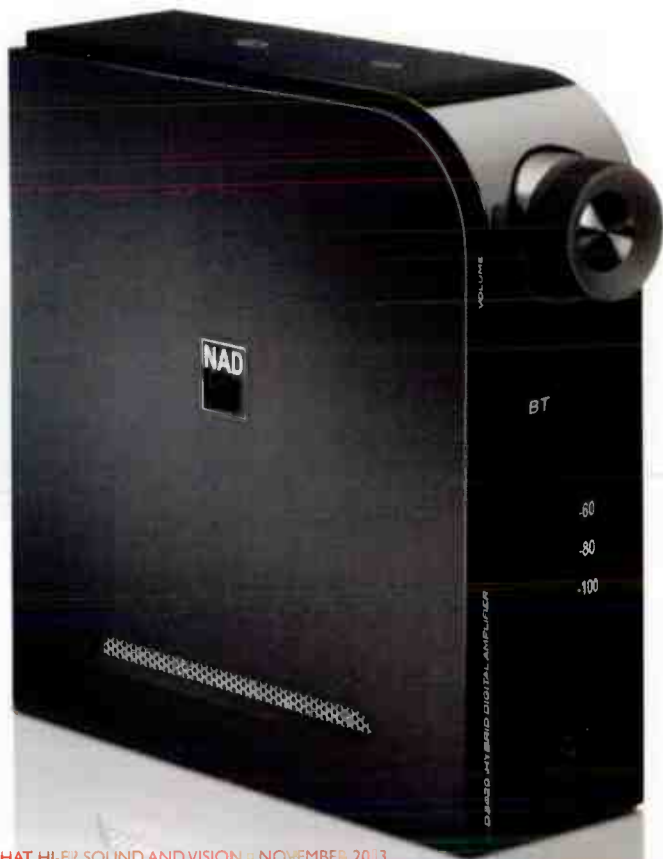
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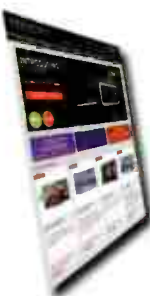
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SME M2-9R TONEARM 82

Tony Bolton enjoys this revival of the great SME3009 pickup arm

VINYL PASSION UNITY 2 SUB CHASSIS AND ARMBOARD 85

Head under Sondek, Tony Bolton replaces sub-chassis and arm board to great effect

AUDIO ORIGAMI CLEANING KIT/OYAIDE MAT 89

news

WAH WAH, YEA YEA

As well as their Popul Vuh releases, this month, the Spanish label giants, Wah Wah (www.wah-wahsupersonic.com), via Mapache, has an intriguing trio of LPs on offer, including the English folk outfit Heron's self-titled LP from 1970. Previously available on the Dawn label, it offers pastoral and fresh-faced acoustics with drummer-less and pleasing harmonies. Limited to 300 copies is Ramoncito's 1978 LP, 'Y Su Salsa', a latin-fest of Afro-Cuban vibes plus Central American rhythms.



Finally, hold on for the first ever vinyl reissue of Jacques Birge and Francis Gorge's 'Defense De' (1976), a significant (and highly collectable in its original form) avant-garde LP that was part of Nurse With Wound's legendary 'list', printed on the front of the latter's debut LP and since seen as a measure of avant-garde quality by the cognoscenti. This edition includes a bonus DVD of nearly six hours of rare tracks plus the film, 'La Nuit de Phoque'.



SPEAKERS CORNER

A host of goodies from the German audiophile label (speakerscornerrecords.com) includes Santana's 'Amigos' (1976), a dynamic piece featuring R&B, funk and Mexican folk music.

Louis Armstrong and Ella Fitzgerald's 'Porgy & Bess' (1957) offers sixteen songs from the famous George Gershwin opera. Not the best performances from either artist but the most pleasing presentation of the opera on record.



Charlie Mingus' 'Tijuana Moods' (1962) was actually recorded in 1957. One of his greatest albums, Mingus pushes his sidemen to their limits and beyond. Stunning.

From Weather Report, 'Mysterious Traveller' (1974) saw Joe Zawinul dominate and Wayne Shorter take a back seat. Inspiring and quite audacious jazz/rock fusion.

Also look out for Gerry Mulligan & Chet Baker's 'Carnegie Hall Concert Vol 1 & 2' (1974), a rare reunion featuring fresh approaches to golden oldies; 'Nilsson Sings Newman' (1970), a subtle, graceful masterpiece featuring Newman on piano and, finally, Shorty Rogers' 'The Wizard Of Oz And Other Harold Arlen Songs' (1959), a worthy reissue.



MUSIC ON VINYL

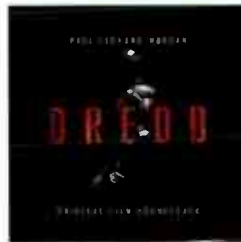
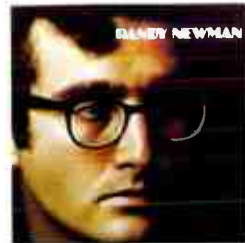
New from this prolific label (www.musiconvinyl.com), the epic Dream Theater 4 LP collection, 'Once In A Live Time' (1998). Their first official live album, it is a solid, although never really sparkling, career spanning document.



John Cougar Mellencamp 'The Lonesome Jubilee' (1987) explores the American heartland, in a passionate examination of the working man infused by romance and melancholy.

Randy Newman's self-titled LP (1968) satirises social conventions such as the typical love story, the relationship between a man and his son and exploitation. Then he surprises you by revealing a selection of songs that, frankly, examines the extremity of loneliness in a searingly painful way. An idiosyncratic LP that, upon the initial release, exposed a major talent.

Also look out for the Original Film Soundtrack, 'Dredd', via Paul Leonard-Morgan and Macy Gray's 'On How Life Is' (1999), her post hip-hop, unpredictable, assured debut.



BACK ON BLACK

A trio of releases from this English reissue label (www.backonblack.com) features two from Nazareth: 'Exercises' (1972), full of acoustic fare and rather opulent harmonies (no driving rock here, then) plus the band's self-titled debut (1971). Both LPs offer softer, considered and adventurous works. A praiseworthy pairing that will shock fans of the band's later works.

Also look out for Ihsan's new album, 'Das Seelenbrechen', arguably his best album yet with remarkable movie soundtrack experiments in addition to his more traditional output.



KOUPLE FROM KSCOPE

Joining Steven Wilson's Blackfield (*Kscope*; www.kscopemusic.com) on 'Blackfield IV' is Suede's Brett Anderson, Mercury Rev's Jonathan Donahue and Anathema's Vincent Cavanagh. Despite the celebrities, the album is a patchy affair. Is that because Steven Wilson's song writing input has been reduced to zero? Project leader, Aviv Geffen, needs help.

On the upside, Katatonia's new and stripped version of 'Dead End Kings' shows the band's sensitive side. Not for everyone but fans who indulge should be pleasantly surprised.

...AND FINALLY

Winston McAnuff & Fixi (*Chapter Two/Wagram*; www.facebook.com/winstonmcanuffandfixi) combines reggae dread with French accordion hip-hop on this 12" EP single. Easy-going and relaxed.

Linda Thompson's 'Won't Be Long Now' (*Topic*; www.topicrecords.com) proves that she still has the magic. Featuring Martin and Eliza Carthy, Richard Thompson, John Kirkpatrick Gerry Conway, Linda's three children and grandson Zak Hobbs, it's a perfect folk document.

The Crunch (*Legal*; legalrecords.co.uk) offers a selection of fine power pop ditties that raises the bar after their lukewarm debut single.

Le Mur's 'Silentia Nova' (*Sireena*; www.sireena.de/tribaltomp) explores space rock, prog and krautrock influences on limited edition, coloured vinyl. Hawkwind fans take note.

'Peru Maravilloso: Vintage Latin, Tropical & Cumbia' (*Ceviche*; www.cevicheuk.com) is a double LP of rare Peruvian treasures from the sixties and seventies. Fast paced with admirable diversity.

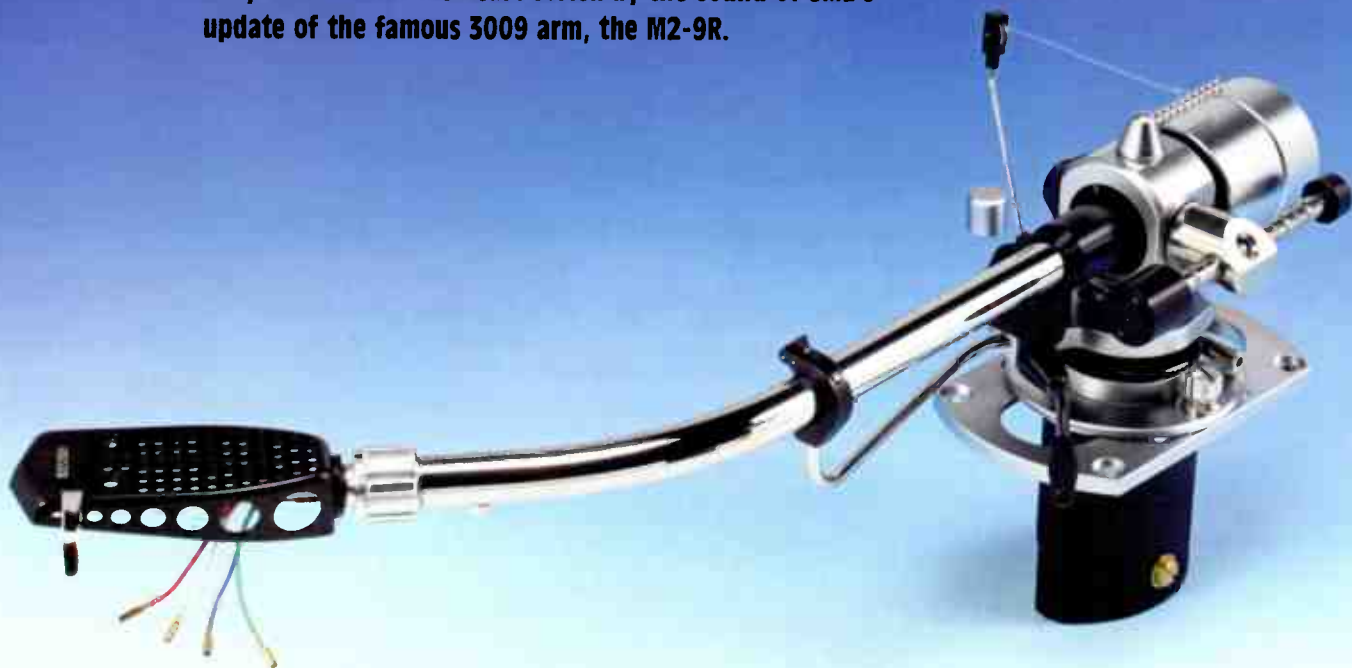
Chin Of Britain's self-titled LP (www.waltztimerecords.com), hand numbered and limited to 250 copies, offers an excellent, hard-edged, guitar-driven foundation overlain by lush vocal harmonies that provides a textural contrast.

Finally, Glassers' 'Interiors' (*True Panther*; truepanther.com) is an inventive exploration in architectural soundscapes, combining electronica with the organic.



Call to arms

Tony Bolton finds his heart stolen by the sound of SME's update of the famous 3009 arm, the M2-9R.



Two Tungsten counterweights are provided, for standard and heavy cartridges.



Udating a tried and trusted product can be a risky thing to do, especially when an item has enjoyed nearly half a Century of production. In the world of hi-fi, Quad have been successful with their updates of the old Quad II amplifiers and SME have now joined this select group with the new M2-9R. This is an update of the 3009 based upon their successful M2 series of arms.

The old SME 3009, in its various forms, achieved sales of over 450,000 examples between its introduction in 1958, and the cessation of this model in 2003, so the new M2-9R has a very hard act to follow.

Whereas the M2 has a straight arm, the M2-9R follows the shape and style of the old 3009 series with a J shaped arm. However, although it looks very similar to the old 3009, there are very few components that have been carried over, apart from the classic black headshell.

The arm tube is made of thin-walled stainless steel (previously it

was made of anodised aluminium) and the counterweights are now made of tungsten instead of brass. The bearing assembly is completely different, with the old knife edge bearings replaced with 10mm ball races.

Internal wiring is with Silver Litz cable. This terminates in a pair of RCA sockets mounted at the side of the base, with an earth screw on the opposite face. 1.2m of balanced hybrid cable is provided to carry the signal to the phono stage.

Comprehensive and easy to follow instructions are provided and setup actually is very similar to the old 3009. Before applying downforce through the calibrated outrider weight, the arm is statically balanced using either or both of the screw on counterweights at the back of the arm. Most users will only need one counterweight, since this copes with cartridges weighing up to 16gms. The second weight can be added to accommodate cartridges weighing up to 38gms using the SME headshell, and plug in heads up to 46gms, so users of Ortofon SPU cartridges are well catered for.

Tracking alignment is adjusted in

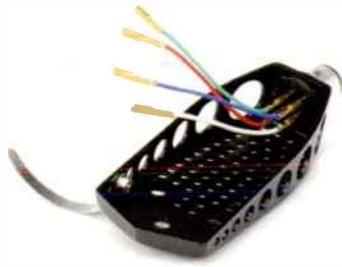
the usual SME manner with a sliding bedplate (an alignment protractor is provided) and this arm also boasts a knurled thumbwheel to adjust the arm height (VTA). The pillar clamp screw must be slightly loosened and then the thumbwheel can be moved to give very accurate fine tuning of the VTA. Once positioned correctly the pillar clamp should be retightened.

Having set this up on my Sondek, in place of the Hadcock 242 Cryo, and rebalanced the LPI 2's suspension, since the SME, at 735gms, weighs quite a bit more than the Hadcock, I settled down to the customary ramble through my record collection.

I started at the dance music end of the shelves with Swedish DJ and composer Human Blue's 2002 trance opus 'Electric Roundabout'. The first track, 'Memorex', opens with a deep pulsating bass tune that gradually builds in intensity until it is finally topped with a sparingly applied mid range of synthesised sounds, with high hats complementing the bass lines. My first reaction was of surprise at just how much bass information this arm allowed the cartridge to retrieve from the

record. It wasn't quite as powerful as it would have been using the SME Series V, but it ran it a pretty good second and carried the loping rhythm of these sounds with a tightness to the timing that was nothing short of exemplary.

One of the things that I have always loved about the old 3009,



The design of the classic SME headshell remains the same.

"I felt almost pinned back in my seat by the force of Grace Slick's voice and the massed electric guitars"

and the reason that I ran one for a while, was the lyrical nature to the sound it produced. Yet, it could also do "intense" satisfactorily and I was delighted to find that the redesign had not dimmed that characteristic in any way.

My early '90s pressing of 'Surrealistic Pillow' has the beautiful guitar instrumental, 'Embryonic Journey' immediately followed by the building power of 'White Rabbit'. The clarity of the finger work on the guitars was a joy to behold, yet a few minutes later I felt almost pinned back in my seat by the force

of Grace Slick's voice and the massed electric guitars, bass and drums as the 'Airplane's' journey through Lewis Carroll's writing came to a close.

I first came across this arm when I reviewed the Timestep RA turntable (HFW January 2014 issue). In this case it was mounted on a modified Technics direct drive turntable and playing 78s. It was only a few minutes work to equip my spare SME headshell with the Ortofon 2M 78, crank the Funk Firm K Drive PSU up to speed and I settled down for an evening of classic jazz.

Fat's Waller's 1943 version of 'Ain't Misbehavin' was one of the last recordings he ever made and contains a scorching drum solo by Zutty Singleton that leads into Waller giving a superb display of stride piano in the closing bars. It sounded very vivid and vibrant, with a level of detail around the way the band were interacting with each other that I had not noticed before.

The interpretation of the rhythm was also spot on, the snappy foxtrot beat proving impossible for my feet to ignore.

I also explored classical sounds, finding Jaqueline du Pres' classic performance of the Elgar 'Cello Concerto' awash with emotion. This combined with a well lit and spacious presentation of the sonic image that resulted in my being thoroughly engrossed.

I'll be blunt. I've fallen in love with this arm. It does everything I need it to in the way of accommodating a variety of cartridges. Adjustments are



The new bearing housing contains the 10mm ball race bearings. The thread and weight antiskate arrangement is carried over from the previous model.

easy to do and to replicate. The build quality is first class, as you would expect of an SME product, and it has successfully married the flowing musical nature of the 3009 with the frequency range, extension and control that have earned both the 309/312 and Series V models such an enviable reputation. It isn't cheap, but it is worth every penny!

It is a successful reinterpretation of the classic 3009 arm for the 21st Century and deserves as long a production run and all of the success of its predecessor.

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MUSIC USED

Elgar. 'Cello Concerto in E minor. Op.85'. Jaqueline du Pres. Cello. Sir John Barnerolli conducting the London Symphony Orchestra. EMI Records Ltd. ASD 655. 1965.

Fat's Waller and His Rhythm. 'Ain't Misbehavin'. The Gramophone Co. Ltd (HMV). C.3737. UK release 1946.

Jefferson Airplane. 'Surrealistic Pillow'. RCA Records. NL83738. 1967 (1986 German reissue.)

Human Blue. 'Electric Roundabout'. Spiral Trax Records. SPIT LP 010. 2002.



Downforce is applied by moving the calibrated outrigger rod forwards. The knurled VTA adjustment thumbwheel can be seen above the pillar clamp.

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SME series 3 tonearms various	EPOA
SME 309 boxed	£695
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Ongami detachable headshell	£325
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Synnx PU2 tonearm	£295
Thorens TD125 MKII in plinth	£275
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Linn Klimax DS as new with warranty	EPOA
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Naim CDS with PSU (with brand new laser)	£1995
Philips CD610 16bit cd player	£95
Pioneer PDR509 legato link	£145
Pioneer PD9700 stable platter	£225
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Sony CDP X-B920E	£125
Sony XE680 SACD player	£195

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Sony 700ES tuner	£75
Sony ST8900 QS DAB tuner	£145
Technics STG90L top of the range tuner	£95

MISCELLANEOUS

Akai GX77 open reel with various tapes mint condition recently been serviced	£495
Awa XK S9000 top of the range cassette deck	£595
Cardas golden ref 8 5mtr balanced interconnect	£595
Cardas reference tonearm cable	£375
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Ferrogaph logic 7 open reel 10"	£495
Nakamichi receiver 2	£195
Nakamich LX3 cassette deck	£195
Nordost Blue Heaven speaker cable 5mtr	£295

RECORDS

(downsizing my collection excellent as new condition)	
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Joe Henderson, Bobby Hutcherson	

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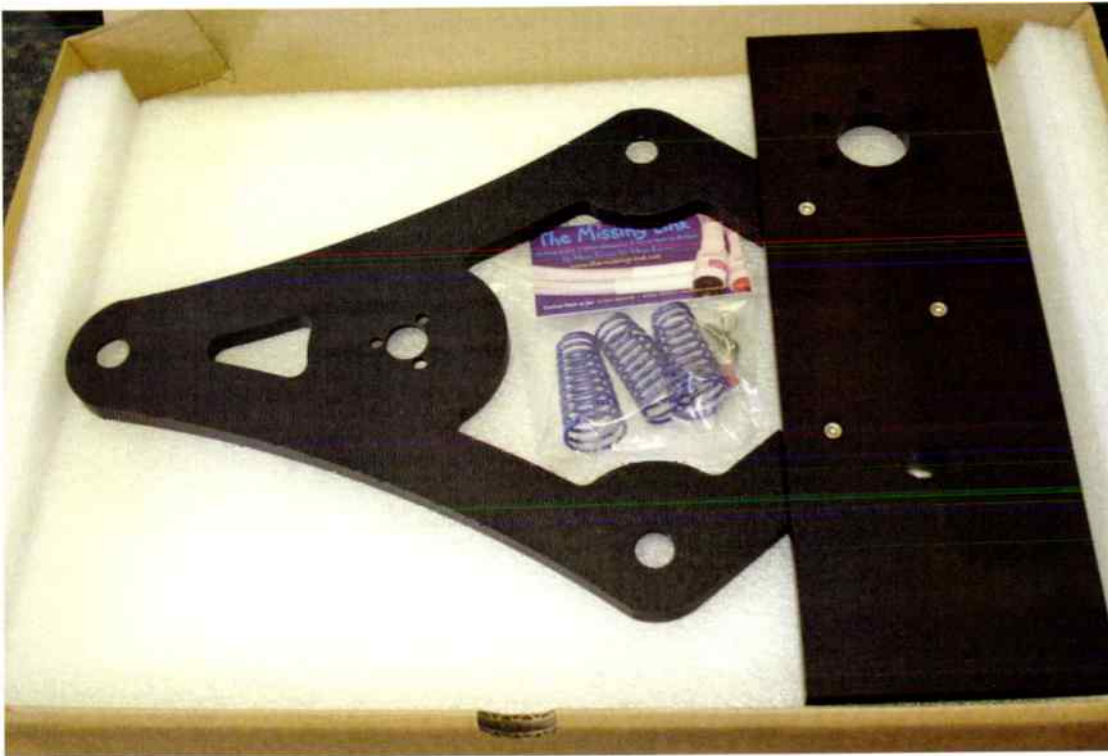
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Unified Passion



This is how the Unity 2 subchassis and armboard arrive. The blue anti-resonance coating on the springs is clearly visible."

Tony Bolton finds his passions stirred while listening to the Unity-Two subchassis and armboard on his Linn Sondek

There are various manufacturers offering after market modifications to the venerable Linn Sondek, and my 1982 example goes through periods when it seems to spend as much time in pieces being "hotrodged" as it does being played. Recently there has been a quiet phase in my exploration of these upgrades, but this came to an end a couple of weeks ago when Mark Sears delivered and fitted his Vinyl Passion Unity-Two subchassis and armboard to my LP12.

The Unity-Two actually comes in three parts, all of which are available separately, so the upgrade process can be done in one hit, or in stages as finances allow. Both the armboard and the subchassis are made from solid billets of Aerospace 7000 grade alloy. This form of aluminium is alloyed with zinc, and is then precipitation hardened to the highest strength of any aluminium alloy. The components are machined from solid billets, and I could not fault their

construction or finish.

The springs come in a fetching blue colour. This is an anti-harmonic coating that was developed for Aerospace engine parts. The coating is claimed to damp any tendency for the springs to resonate within the audio spectrum. These are available at £35 per set of three.

I started off with the complete Unity-Two kit fitted to my Sondek

"the rendition of the recording gained in presence and majesty, becoming far more accessible and rewarding to listen to."

and, over the next couple of weeks, dismantled and rebuilt the deck as I tried various combinations of the Unity-Two products with the standard Linn fitments. My comments that follow are a distillation of my findings over no less than five

combinations of subchassis, armboard and springs.

I'll start with the effect of the springs. Comparing the same tracks with the standard Linn subchassis and armboard I felt that there was a smoother ascent through the mid range and upper mid frequencies. There seemed just a little less gloss around vocals, and vivid sounds such as trumpets seemed slightly more

controlled. I would describe the effect as a small but useful tidying up of the edges of sounds.

Next I explored the sonic effects of the armboard with the Linn subchassis. Compared to the standard Linn MDF armboard the

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Jeff Dorgay, Tone Audio Magazine, January 2013



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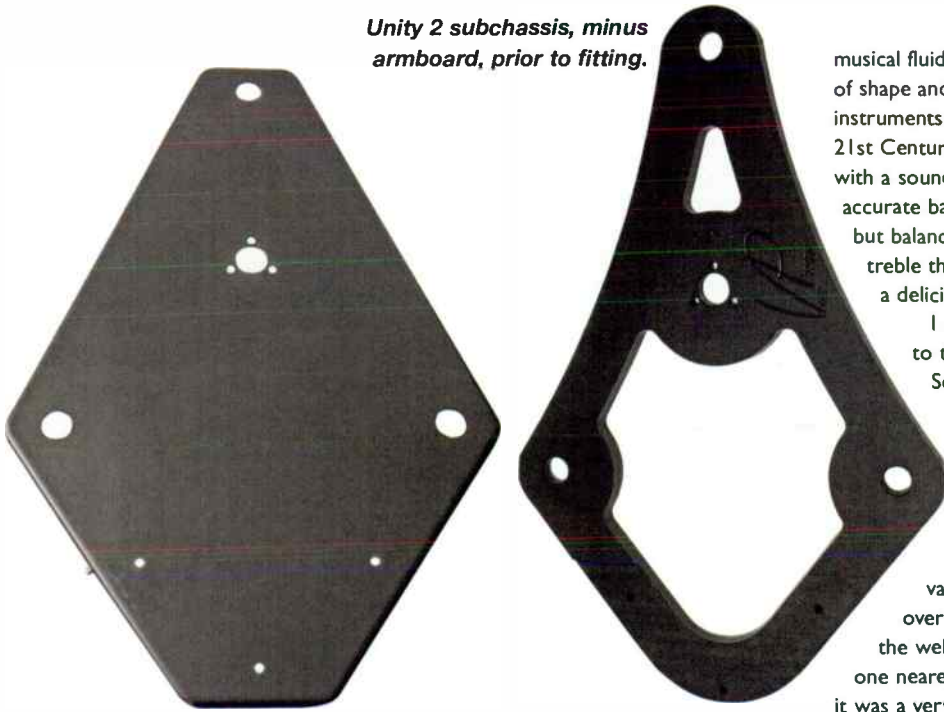
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Unity 2 subchassis, minus armboard, prior to fitting.



The standard Linn subchassis after removing springs and rubber grommets.

effect was transformative. The midband was clearer, the standard unit leaving traces of graininess in the sound compared to the Unity-Two version. Bass control was also vastly improved with the Unity-Two. The Orb's 1991 12 inch single 'Perpetual Dawn' has a slow rolling bass line that runs through it and I felt that the bass gained in weight and precision, almost as though the relative gain compared to other frequencies had been turned up just a little. The sound was also less confused, with really deep notes being defined, rather than a low rumble.

After this I tried the subchassis with the Linn armboard and found benefits in the form of a more grounded, almost organic feel to the sound. By this stage I was wandering through the classical section of my collection. I was particularly impressed with the way older recordings lost some of the 'elderly and frail' feeling that can sometimes affect their reproduction.

The standard Linn setup made very musical sounds from the overture on my 1954 copy of Wagner's 'Die Meistersingers'. This record is in 'used but good' condition, with just a few noticeable glitches caused by damage to the groove wall. These became more of a background affair with the Vinyl Passion component in place, and the rendition of the recording gained in presence and majesty, becoming more accessible and rewarding to

listen to. The tonal qualities of the orchestra became better defined and the size of the mono image, and my view into it, was enhanced.

After this I tried all of the Unity-Two components as a set, with the Linn top-plate. This is a case of the total being greater than the sum of the parts. The combined effects of the Vinyl Passion components displayed the synergy of products that are designed from scratch to work together, presenting me with a sound that preserved the Sondek attributes of infectious rhythms and

musical fluidity, but had a sense of shape and definition to the instruments that was quite up to 21st Century expectations. It left me with a sound that had very fast and accurate bass lines, a well projected but balanced mid range and a treble that reached very high with a delicious smoothness.

I now find myself listening to the best sound that my Sondek has ever produced in all my years of ownership of it.

The complete Vinyl Passion Unity-Two kit can be fitted by the purchaser or by various approved agents all over the country. A check on the website should locate the one nearest to you. I felt that fitting it was a very worthwhile investment in both time and money and I would urge LP12 owners to investigate this option as soon as possible. You will not regret it.

SYSTEM USED

Linn Sondek/ Hadcock 242 Cryo/
Clearaudio Concept MC cartridge
Luxman E200 phono stage
Townshend Allegri pre-amp
2 x Quad 303 power amps
Kelly KT3 loudspeakers

MUSIC USED

Wagner. 'Die Meistersinger Von Nurnberg'. Schoeffler, Edelman, Gueden with Chorus of the Vienna State Opera and the Vienna Philharmonic Orchestra conducted by Hans Knappertbusch. Decca Records. LXT 2659 - 2664. 1954.

The Orb. 'Perpetual Dawn'. Big Life Records. BLR T46. 1991.



"The Unity 2 armboard and chassis fitted to my Sondek prior to fitting the arm and setting the bounce. My oily paw prints are yet to be wiped off the subchassis!"

**VINYL PASSION
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OUTSTANDING - amongst the best

VALUE - keenly priced

VERDICT

A well designed, affordable after-market subchassis and armboard that catapults the LP12 sound into the 21st Century.

FOR

- wider perceived bandwidth
- expansive and focussed imaging
- retains Sondek rhythmic abilities

AGAINST

- nothing I can think of

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AUDIO ORIGAMI STYLUS CLEANING KIT. £18

Even if you do your best to keep your records clean, inevitably there will eventually be a build up of dirt and debris on the stylus. Brushing the stylus is a convenient way of clearing this, but care is needed.

The Spyglass in the Audio Origami cleaning kit has a reasonably powerful magnification and is equipped with a light that comes on as the lens is pulled out of the protective case. This case also contains the battery. Although there is not enough magnification to closely inspect the needle for wear, the accuracy of the vision it provides does make the act of cleaning the stylus a lot easier and less prone to mishap.

I also found the lens very useful in checking the position of the stylus on the alignment grid when setting

up cartridges. The light was strong enough to allow me to peer under the cartridge body, and the lens gives good enough images for the magnifier to be held at a safe distance from the arm and headshell, avoiding any accidents. It made a fiddly job a lot easier.

The brush contains a tightly packed head of short carbon fibre bristles which are soft enough to allow them to deflect as they are drawn past the cantilever and tip, but are stiff enough to dislodge any reasonably stubborn particles of dirt.

At £8 plus P&P, the Spyglass is excellent value and very practical. The stylus brush is £10. **TB**

[www.audioorigami.co.uk]



SOUNDBITES

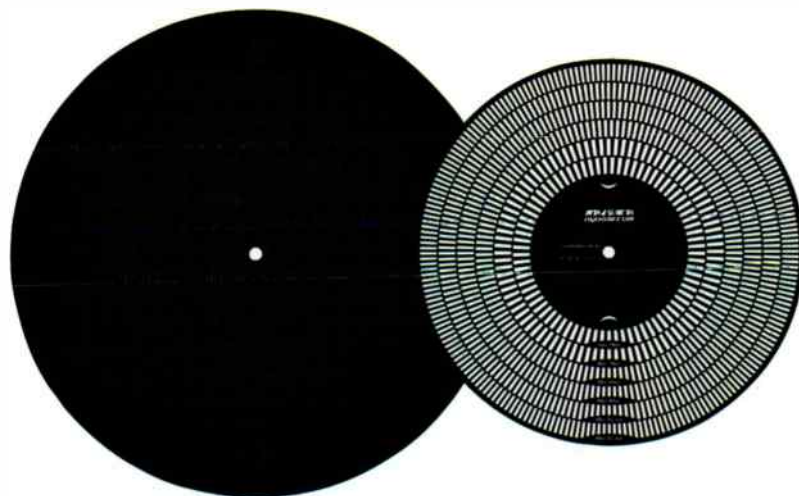
OYAIDE BR-12 TURNTABLE MAT. £90.00

There was a time when rubber turntable mats were standard fitments on virtually all turntables. Unfortunately they tended to impart a somewhat grainy sound to music and fell out of favour in the 1970s. Oyaide of Japan have developed a new version, the BR-12 turntable mat.

This is made of butyl rubber, which is claimed to have excellent anti-vibration properties, mixed with tungsten. This has a similar specific weight to gold and is used as an anti-vibration material. The combination of the two make for a mat that the manufacturers claim is effective in attenuating unwanted vibration in the record.

The mat is quite heavy and thick, so a small adjustment of the height of the arm may be necessary to accommodate it. Sensitive suspended subchassis decks may also need the suspension tweaking a little for optimum bounce.

The mat is dished with a one



degree slope to the centre and it is recommended that a weight is placed on the record to ensure even contact across the mat. The surface has a series of rings recessed into it for further dissipation of vibration.

I was immediately struck by the grip, weight and depth to the bass sounds with this mat. The midrange and treble were smooth and in balance with the bass. I tried

it with both vinyl and shellac discs and found a very grounded and solid presentation of the music from both formats.

Turntables with metal or glass platters will benefit from using this excellent product. A useful strobe disc is also provided. **TB**

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Unto the pure

Tony Bolton tries out IsoTek's new Sigmas EVO3 mains purifier and is stunned by the results.



I have been using a GII IsoTek Sigmas mains purifier on my upstairs system since it came on the market, and I was surprised to discover that this was some 8 years ago. Technology, and our usage of it moves on and the Sigmas has been updated, now called the Sigmas EVO3.

Similar in size to the previous

model this new version has redesigned casework which features a screen on the front panel that houses three buttons. The left one causes the incoming mains voltage to be displayed, the right shows the percentage of distortion that is detected on the incoming mains supply, and the centre one switches off the display.

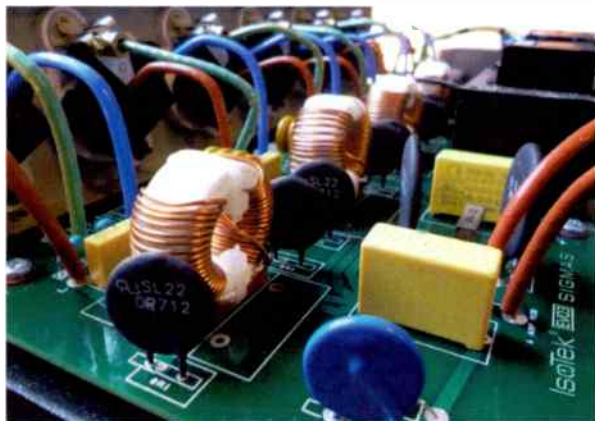
The only other controls are two switches mounted underneath at the front which provide power to the two high power (16 Amp) output sockets situated at the back left hand side, and the four lower power (10 Amp) sockets that occupy most of the rest of the back of the unit. The IEC mains input socket is also at the back on the left. An IsoTek EVO3 Premier power cable is provided.

IsoTek are understandably cautious about revealing too much of what is going on inside the Sigmas EVO3 but provided a block diagram to explain the circuit. Most of this is self explanatory and features the "Direct Coupled" technology from the Company's high power Titan purifier and the "Adaptive Gating" from the Nova, which is optimised

for source components. The former is claimed to provide optimal high current, low impedance filtering to maintain transient and dynamic performance from amplifiers and subwoofers, while the latter auto senses and adapts the current draw through the lower power sockets to the demands of the load plugged into it.

A new technology for the EVO3 series is KERF (Kerchoff's Equal Resistance Path) which ensures equal resistance and power delivery to all sockets. None of these are connected to another to avoid cross contamination of the power feed and each has its own dedicated filter network.

The internal wiring uses IsoTek's newly developed Ultra Pure - Ohno Continuous Cast copper, solid core internal wiring. This is silver plated before being insulated with Teflon. A fine Teflon strand is wound helically around the wire before a secondary Teflon tube is extruded over the top. This provides an air dielectric with virtually no capacitance. The printed circuit board uses 24 carat gold-plated 2oz copper. Power surges and



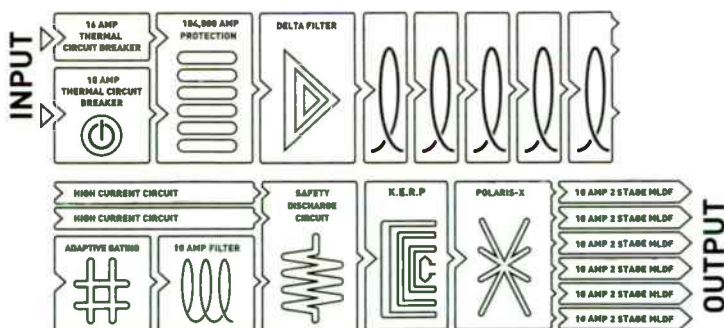
Normally the internal components of an IsoTek product are covered over but the Company have kindly let us have this internal shot to give some idea of how the inside looks, without giving away any trade secrets.

spikes are catered for with a claimed 108,000Amps of instantaneous protection via a pyramid array of voltage dependent resistor devices.

From the moment I plugged this device in, replacing the GII version, it was apparent that the Sigmas EVO3 was a bit special. It seemed as though my entire system had received a major adrenaline shot, with a sense of power and control over the music that was akin to a substantial system upgrade.

I discovered a whole new layer of low bass that had only previously been hinted at. Saint- Saens Organ Symphony sounded truly majestic

“.. with a weight to the lower notes that was made of pure granite, yet seemed to have the agility of an Olympic athlete.”



This block diagram shows the principles of the circuit of the Sigmas EVO3, and the separation of the power flow to the various sockets to avoid cross-contamination between the units plugged into it.



The two sockets (16Amp) in the red coloured area are for high power components such as amplifiers, while source components use the four lower power (10Amp) sockets in the black section. The IEC mains input is on the left.”

with a weight to the lower notes that was made of pure granite, yet seemed to have the agility of an Olympic athlete. Mid and upper band sounds gained in colour, texture and definition, so the complex section towards the end of the second movement, where the orchestra, organ and pianos combine, had a clarity that I have never heard through this system.

Gentler sounds from the Everly Brothers LP 'Beat And Soul' were very well described with a space around the voices that helped the imaging appear nearly three dimensional. Since this is a mono recording I found this level of air and definition to the sound very impressive. The opening track, a cover of Mickey and Sylvia's 'Love Is Strange', had a throbbing beat below the guitars and vocals that drove the music along effortlessly, leaving the vocal harmonies floating through the air.

I also tried running my TV through the Sigmas EVO3 and found that, apart from very obvious improvements to the sound quality, the picture gained definition in the shape of the images. I use the BBC News channel as my default test for image quality since the studio lighting and other variables should, hopefully, be fairly consistent. I felt that colour saturation was improved, with darker shades and blacks seeming to be deeper and more consistently textured. Background detail through the windows behind the presenter were also better defined and there seemed to be a greater sense of the dimensionality of the studio.

I am truly impressed and amazed at how much of an improvement the Sigmas EVO3 is over the previous model. I tried comparing it to the GII Titan that I use on the downstairs system and found

that the Sigmas was surprisingly close to the bigger unit in perceived performance. The Titan was still better, but the performance gap had narrowed considerably.

Often a new version of a product offers improvements over the previous design but not enough to warrant current owners upgrading. This is one occasion where owners of the GII version will find such substantial benefits from upgrading to the EVO3 model that the financial outlay can be fully justified. Whether you use it in an audio or AV system, the improvements in every aspect of that equipment's performance are so obvious that it is a complete 'no-brainer'. This product is truly awesome in the effect it has upon a system and can be regarded as an essential purchase.

SYSTEM USED

Linn Sondek/ Hadcock 242 Cryo/ Clearaudio Concept MC. Luxman E200 phono stage. Townshend Allegri pre-amp. 2 x Quad 303 power amps. Kelly KT3 loudspeakers.

MUSIC USED

Saint-Saens. 'Symphony No.3 in C minor, Op. 78. "Organ Symphony". Chicago Symphony Orchestra conducted by Daniel Barenboim. Gaston Litaize, Organ. Deutsche Grammophon Records. 2530 619. 1976.

The Everly Brothers. 'Beat And Soul'. Warner Brothers Records. W 1605. 1965.

ISOTEK SIGMAS EVO3 £2295.00



OUTSTANDING - amongst the best

VALUE - keenly priced

VERDICT

A mains purifier that offers a truly stunning improvement in performance over the previous model that more than justifies its price.

FOR

- wider perceived bandwidth
- improved dimensionality and imaging
- deeper colours and textures of visual images

AGAINST

- absolutely nothing

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NIGHTINGALE ADM-32 INTEGRATED VALVE AMPLIFIER	Suffolk	£2,000
NVO SPA ONE PHONOSTAGE	Suffolk	£2,950
PARASOUND MC275 POWER AMP	Suffolk	£380
PERRAUX SM3 PREAMP WITH BUILT-IN PHONOSTAGE	Suffolk	£550
QUAD 99 MONOBLOCK AMPS (PAIR)	Wales	£700
ROKSAN KANDY KMA 2/3 MKIII POWER AMPLIFIER	Kent	£450
SHUGUANG 300B-Z 'TREASURE' VALVES (PAIR)	Kent	£295
STEREOKNIGHT M100 MONOBLOCKS	Suffolk	£2,995
TAG McLAREN F3 SERIES THEATRE AV32R SL AV RECEIVER	Kent	£399
TECHNICS SU-C800UM2 PRE AMP & SE-A800SM2 POWER AMPLIFIER	Suffolk	£400
TECHNICS SU-C800UM2 PRE AMP & SE-A900SM2 POWER AMPLIFIER	Suffolk	£500
TOWNSHEND AUDIO ALLEGTO TVC PRE AMP EX DEMO	Suffolk	£1,500
TRAFOMATIC EXPERIENCE ELEGANCE 6550 VALVE AMP	Suffolk	£2,400
TRAFOMATIC EXPERIENCE TWO 300b VALVE AMP	Suffolk	£2,000
VERITAS P400 240WATT POWER AMP	Suffolk	£600
YAQUM MS 300B SINGLE ENDED INTEGRATED VALVE AMP	Suffolk	£550

TURNTABLES, TONEARMS, CARTRIDGES

CLEARAUDIO UNIFY 12" CARBON TONEARM	Kent	£899
FUNK FIRM SAPPHIRE TURNTABLE WITH FXR2 ARM	Suffolk	£2,500
GARRARD 301 OIL BEARING GOOD WORKING ORDER	Suffolk	£1,000
GARRARD 401 TURNTABLE IN SME 2000 pPLINTH WITH SME 3009	Suffolk	£995
INSPIRE APOLLO TURNTABLE WITH CUSTOM MADE LID AND UPGRADE EXTERNAL PSU	Suffolk	£875
INSPIRE HIFI LINN LP12 VIVID UPGRADE	Wales	£999
INSPIRE HIFI UPGRADED LINN LP12 SONDEK & FUNK FIRM FXR2 ARM	Wales	£2,500
LINN SONDEK LP12 TURNTABLE/ LINN ITTOK/ LINN TROIKA/CIRKUS	Suffolk	£1,500
LORICRAFT PR3/2 CLEANING MACHINE	Suffolk	£1,000
LUMLEY HELIOSPHERE TURNTABLE	Kent	£1,750
ORTOFON CADENZA BRONZE MOVING COIL CARTRIDGE- EXCELLENT- LIGHTLY USED	Suffolk	£850
ORTOFON INFLUENCED RMG 309 12" TONEARM- GOLDPLATED VERSION	Suffolk	£1,000
PROJECT PHONO BOX RS PHONOSTAGE MM/MC	Suffolk	£450
QT IOTA SIGNATURE REFERENCE, BALANCED PHONOSTAGE MM/MC	Suffolk	£750
ROKSAN TMS 3 turntable WITH REFERENCE PSU	Suffolk	£4,250
SUGDEN MASTERCLASS PHONOSTAGE MM/MC	Suffolk	£750

SPEAKERS

ACAPELLA CAMPANILE SPEAKERS	Suffolk	£20,000
ATC C4 ACTIVE SUBWOOFER PIANO BLACK	Suffolk	£2,000
ATC SCM10-2 LOUDSPEAKER STUDIO MONITORS - EXCELLENT, BOXED, PAIR	Suffolk	£870
EPOS ELAN 30 SPEAKERS, CHERRY	Suffolk	£700
EPOS M5i IN CHERRY - EX DEMO, BOXED	Suffolk	£300
EPOS M12i AVAILABLE IN CHERRY, RED CHERRY AND BLACK OAK	Suffolk	£390
KEF LS50 LOUDSPEAKERS- BOXED	Suffolk	£575
LAKE AUDIO MODEL 2POINT 2, WITH RIBBON TWEETERS	Suffolk	£400
LSA AUDIO GROUP LSA 2 LOUDSPEAKERS (USA) BLACK ASH	Kent	£1,100
LOVINGTON HORN SPEAKERS WITH FOSTEX DRIVERS	Suffolk	£650
MERIDIAN M20 SPEAKERS, PAIR	Suffolk	£420
NIGHTINGALE CONCENTUS CTR II LOUDSPEAKERS	Kent	£5,000
QUAD ESL 2905 ELECTROSTATIC SPEAKERS - NEW	Suffolk	£3,000
QUAD 12L2 AVILABLE IN CHERRY, MAPLE OR BLACK	Suffolk	£320
QUAD 22L2 LOUDSPEAKERS	Suffolk	£820
QUAD 9L ACTIVE SPEAKERS IN PURPLE, NEW, UNUSED	Suffolk	£300
QUAD LITE SURROUND SPEAKER SYSTEM WITH SUB	Suffolk	£500
REF 3A DULCET SPEAKERS GLOSS BLACK	Wales	£4,500
REFERENCE 3A EPISODE SPEAKERS	Wales	£925
SPENDOR A5 SPEAKERS, WITH BOXES	Suffolk	£900
SPENDOR SE2/3 SPEAKERS WITH BOXES, SPECIAL EDITION	Suffolk	£1,000
SUNFIRE CRM-2 LOUDSPEAKERS CHERRY	Suffolk	£700
TOWNSHEND MAXIMUM SUPER TWEETERS	Suffolk	£595

CD PLAYERS

ARCAM FMJ CD37 CD PLAYER	Suffolk	£880
AUDIO NOTE CD ZERO VALVE CD PLAYER	Suffolk	£900
AUDIONOTE DAC 1 SIGNATURE	Suffolk	£550
CAYIN CDT17A CD PLAYER IN GOOD WORKING ORDER, BOXED - UPGRADED	Suffolk	£1,000
EAR ACUTE VALVE CD PLAYER	Suffolk	£2,995
EXPOSURE 2010S CD PLAYER	Suffolk	£310
FURUTECH ADL GT40 USB DAC/HEADPHONE AMPLIFIER	Suffolk	£350
JUNGSON HEDO CD PLAYER	Suffolk	£550
LECTOR DIGITUBE 24/96 VALVE DAC	Suffolk	£795
LINDEMANN D680 CD PLAYER	Kent	£3,000
LINN CLASSIK CD, TUNER, AMP, RARE BLUE	Suffolk	£400
MERIDIAN 500 CD TRANSPORT MK2	Suffolk	£495
MICRO SEIKI CD PLAYER	Suffolk	£800
MUSICAL FIDELITY CD PRE 24 (CD PLAYER WITH PREAMPLIFIER)	Kent	£700
NAIM CD5 SI CD PLAYER	Suffolk	£675
NEODIO NR22 HD CD PLAYER - LATEST SPEC- USB SOCKET	Suffolk	£6,000
ROKSAN ROK-DP1 CD TRANSPORT	Suffolk	£450
SIM MOON EQUINOX CD PLAYER	Suffolk	£700
STELLO DA 100 DAC NEW OLD STOCK	Suffolk	£425
STELLO DA220 DAC NEW OLD STOCK- 1 YEAR GUARANTEE	Suffolk	£1,000
TEAC VRDS 25X CD PLAYER/ TRANSPORT	Suffolk	£995
TEAC VRDS 25 CD PLAYER/ TRANSPORT	Suffolk	£750
THETA DS PRO PRIME DAC	Suffolk	£350
VINCENT CD-S6 VALVE CD PLAYER	Suffolk	£750
WADIA DIGIMASTER X32 DAC	Suffolk	£450

CABLES AND INTERCONNECTS

AUDIOQUEST CASTLEROCK 3m BiWIRE SPEAKER CABLE	Suffolk	£750
AVID SCT 1M BALANCED INTERCONNECTS	Suffolk	£500
AVID SCT 1M PHONO INTERCONNECTS	Suffolk	£400
ECOSSE "THE LEGEND" SE MK2 BALANCED XLR INTERCONNECT 0.5M	Suffolk	£800
KUBALA SOSNA EXPRESSION DIGITAL 1M INTERCONNECT	Suffolk	£400
MISSING LINK " LOG-RHYTHM" MK2 TONEARM CABLE	Kent	£360
SILTECH G7 330i ANNIVERSARY 1M PAIR INTERCONNECTS	Suffolk	£499
SYNERGISTIC RESEARCH RESOLUTION REFERENCE MK2 1M BALANCED XLR CABLES	Suffolk	£500

MISCELLANEOUS

ACCUAPHASE 106 TUNER, EXCELLENT	Suffolk	£425
AKAI GX95 CASSETTE DECK, BOXED	Suffolk	£400
MERIDIAN 565 DIGITAL SURROUND PROCESSOR (K	Kent	£375
NAGRA IV-S STEREO REEL TO REEL	Suffolk	£1,400
REVOX B77 2 TRACK REEL TO REEL - SERVICED	Suffolk	£500
FANFARE FT1 TUNER WITH REMOTE CONTROL	Suffolk	£300
KRELL HTS HOME THEATRE STANDARD	Suffolk	£950
QSONIX Q100 MUSIC SERVER UPGRADED TO Q110	Suffolk	£900
TEAC 2340sx 4 TRACK REEL TO REEL TAPE RECORDER	Suffolk	£350
TRY TRV 84HD VALVE HEADPHONE AMP	Suffolk	£750

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STAX SR-007 Omega Reference system, ie, SR-007 electrostatic ear-speaker with matching SRM-00711 direct coupled dual triode vacuum tube energiser. Original owner. Absolutely as new. £2200. Tel: 01505 346 791 (Renfrewshire)

LINN LINGO Mk1. Recent service (£90), boxed, £525. Audio Technica AT-150 MLX cartridge, unused in sealed box, £210. Wanted: good quality Linn tone-arm cable. Tel: 01323 728 118 or Email: alanchamberlain@hotmail.com

QUAD 405 upgraded with phono sockets and speakers terminals. Also internal upgrade. Good external condition, £160. Quad 33, 303, and FM3 also available. Very good condition. £150 the lot. Tel: 01277 219 639 (Essex)

FOR SALE: Very rare Mobile Fidelity Sound Lab original master recordings Rolling Stones vinyl eleven LP box set. Limited Edition No. 2515. Mint condition. Played once. Stored since 1990. Sensible offers. Tel: 07983 045 136 (Twickenham, London area)

MICHELL ELECTO mono blocks. Owned since new. Vgc. £600.00 the pair. Tel: 01633 872998

TRICHORD DIABLO MM/MC phono amp with never connected PSU. 2 1/2 years old. Mint condition, boxed (£1225) £500. Tel: 07905 348 812

SPEAKERS FOR Sale. Wharfedale Denton 2XP, 6ohms, 25 watt, £25. NAD 8200, famous design, 8ohms, 200 watt, £120. Kef Charlton III SP3020, 8ohms, 100 watt, £150. Will demonstrate. Collection only. Phone for details. Tel: 0115 975 4070

WANTED: GOOD quality Linn tonearm or full Linn Sondek deck and arm or Rega P9 or RP8. Other makes considered. Equipment should be in excellent condition. Tel: 01323 728 118 or Email: alanchamberlain@hotmail.com

CYRUS 8VS2 with PSX-R power supply. Very little use, both boxed, £500. Half metre pair Chord Chorus interconnects, £75 or will swap or part exchange for Royd Mistral loudspeakers in excellent condition. Tel: 07534 614 889

DENON RCD M38, Denon RCD M39, Tannoy Mercury V speakers, Dali Zensor speakers, Q-Acoustics 2010i speakers, Wharfedale 9 speakers. All items boxed. Open to offers. Buyer collects please. Tel: 01977 695 385

PINK TRIANGLE LPT turntable, Rega, £300. Pioneer A88X amplifier, 110 wpc, £250. Linn Index speakers, £70. Marantz CD60 player, remote, £60. QED DiscMaster phono-stage, £40. C/Fibre record brush, £6. Tel: 01708 457 691

DENON DVD-2900 SACD/CD/DVD player. Dedicated SACD DRC and with Trichord upgrade package, £185 ono. Denon DVD-1920 SACD/CD/DVD player, stereo and 5.1 surround audio, HDMI 1080P upscaled video, £65 ono. Tel: Brian 01773 831 830 (Alfreton, Derbys)

PERPETUAL TECHNOLOGIES P1-A + P3-A interpolation processor and upsampling DAC combination, Original PSU's and unmarked. Together only £245. Prefer dem/collect mid Derbys. Tel: Brian 01773 831 830

SLATE AUDIO 'Stormforce Fifteen' loudspeakers. Based on Tannoys HPD 385A 15" units. Built from solid marble and slate. Bi-wired with new bi-wire crossovers, cones, surrounds. Mint. (New £8000) £3500. Tel: 0754 620 6093

WANTED FAULTY or non working Quad 34 preamps. Contact Mike 01758 613790 with price.

TEAC 7030-SL open reel tape deck. 1/2 track, 7 1/2 and 15 ips. Well kept and recent re-calibration. £250. Lots of 10 1/2" and 8 1/4" (Ferrograph/Racal) USA Soundcraft tapes. £1 each (2400ft L/P min) Tel: Brian 01773 831 830 (Alfreton, Derbys)

ALFRED IMHOF IM Pointmaster ultra rapid needle sharpener in original box. Also one packet of 10 HMV miniature Thorn needles. Offers. Tel: 01773 746 939 (Derbyshire)

MERIDIAN 557 power amp. as new, £750. Naim CD5i player, low hours, £425. Project headphone amp, used only twice, £60. Wanted: Tube amp. Tel: Phil 07973 426 291 (Birmingham)

I.P.L. S3 transmission line speakers with ribbon tweeters and magnesium cone bass/mid units bi-wireable. Finished in rosewood veneer mounted on sand filled bases. Reluctant sale through downsizing. £170. Tel: 01277 219 639 (Essex)

GRAPHIC EQUALISERS. Kool-Sound EQ215, 15-band stereo, £55 ono. Technics E-66 (mid-width 14") £45 ono. Marantz EQ558, 11-band pro-model, £220 ono. All above vgc. Tel: Brian 01773 831 830 (Alfreton, Derbys)

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KRELL EVOLUTION 402 STEREO POWER AMP LITTLE USE	EXCLT/BOXED	£6750
MUSICAL FIDELITY NU VISTA M-3 £850 JSA UPGRADE (ONE OWNER SUPERB!)	MINT/BOXED	£2350
DENSEN B200 PRE/GIZMO & B300XS POWER AMP (ONE OWNER)	MINT/BOXED	£1850
MARANTZ PM11 S2 INTEGRATED (£3300)	EXCLT	£1795
DENON PMA-QS10II 30 KILO INTEGRATED (ONE OWNER)	MINT/BOXED	£995
BEL CANTO PRE-3 & S300 POWER AMPLIFIER	MINT/BOXED	£1750
DENSEN B200 PRE AMP & GIZMO REMOTE (ONE OWNER)	MINT/BOXED	£895
LYNGDORF SDAi 2175 INTEGRATED	EX.DEM/BOXED	£1295
H-CAT P-12A PRE AMP (£2500?)	DEM	£1250
PS AUDIO GCA 100 (100 WATTS PER CHANNEL X 5) POWER AMP	MINT/BOXED	£1795
BEL CANTO PRE-1 & REMOTE	EXCLT/BOXED	£995
AUDIO INNOVATIONS 1000 SILVER PRE-AMP	EXCLT	£695
TRIO LO7-C PRE AMP WITH MM/MC/STAGE(RARE)	EXCLT	£695
TRIO LO5-M MONOBLOCS (VERY RARE)	DEM	£695
ADVANTAGE i200 INTEGRATED AMP (£1800?)	EXCLT/BOXED	£895
MUSICAL FIDELITY MA-50 MONO'S	EXCLT/BOXED	£595
MARANTZ MA-700 MONO'S VERY RARE FEW HOURS DEM USE	EXCLT/BOXED	£495
MERIDIAN 501 PRE AMP	MINT/BOXED	£395
TALK ELECTRONICS TORNADO 4 MONOBLOCS (ONE OWNER)	EXCLT/BOXED	£795
TALK ELECTRONICS TORNADO 5 MONOBLOCS (ONE OWNER)	EXCLT/BOXED	£995
JOHN SHEARNE 2.5 INTEGRATED AMP	EXCLT	£450
JOHN SHEARNE 3.5 POWER AMP	EXCLT	£450
DENON AVC A11 SR AV AMP (GOLD) (ONE OWNER)	EXCLT/BOXED	£495
ULTRA RARE NAKAMICHI 620 POWER AMP	EXCLT/BOXED	£575
AUREX PRE/POWER/TUNER/TAPE	EXCLT	£295
MARANTZ LAYLA ALL IN ONE (ONE OWNER LOVELY!)	EXCLT	£295
MARANTZ ARCH ALL IN ONE INC. LOUDSPEAKERS	EXCLT	£275

CD/TRANSPORTS/DACS

MUSICAL FIDELITY NU-VISTA 3D (ONE OWNER FROM NEW)	MINT/BOXED	£995
BARCLAY DIGITAL F-1 SUPER TRANSPORT	VGC	POA
BOW ZZ EIGHT CD PLAYER (SERVICED NEW MECH)	MINT/BOXED	£2750
TECHNICS SL-PS7 INTEGRATED CD PLAYER (ONE OWNER)	EXCLT/BOXED	£395
INCA TECH KATANA RCA/XLR OUT	VGC	£475
LYNGDORF CD-1 CD PLAYER/TRANSPORT	EXCLT	£745
PERPETUAL TECHNOLOGIES P1A UPSAMPLER/DSP (LAST ONE)	EX.DISPLAY	£695
PERPETUAL TECH. P3A MODWRIGHT SIG2 24/96 DAC (LAST ONE)	EX.DISPLAY	£695
THETA CARMEN CD/DVD TRANSPORT	EXCLT/BOXED	£895
THETA DSP PRO GEN III RCA/AES/& GLASS IN RCA/BALANCED OUT	EXCLT/BOXED	£795
THETA DATA UNIVERSAL CD/LD PLAYER AT&T(ONE OWNER RARE)	EXCLT/BOXED	£495
MERIDIAN 500 TRANSPORT	MINT/BOXED	£450
SONY XA-1200ES MULTI CHANNEL SACD PLAYER	£299	
STELLO CDA-320 24 BIT/44/96/192 CD PLAYER WITH DIGITAL INPUTS	EXCLT/BOXED	£695
VACUUM STATE JLTI SACD/CD PLAYER (LAST ONE £1300)	NEW/BOXED	£695
VACUUM STATE LOGIC JLTI SACD/CD PLAYER	DEM/BOXED	£595
MICROMEGA STAGE 2	EXCLT	£249
MERIDIAN 203 DAC	EXCLT	£175
PIONEER CLD 925 LASER DISC PLAYER (ONE OWNER FROM NEW)	MINT/BOXED	£249
CAMBRIDGE AUDIO 740C CD PLAYER (ONE OWNER LITTLE USE)	EXCLT/BOXED	£275

VALVE AMPS

ROGUE AUDIO M-150 MONOBLOCS BOXED	N.O.S	£2995
ART AUDIO INTEGRA EL-34 INTEGRATED AMP (ONE OWNER SUPERB)	EXCLT	£1150
AUDIO RESEARCH VS-110 POWER AMP LITTLE USE (ONE OWNER)	MINT/BOXED	£2450
PAPWORTH M-100 MONOBLOCS ONE OWNER FEW MONTHS USE	MINT/BOXED	£2750
MATISSE REF.2 BOX PRE AMP MM/MC (ONE OWNER.)	EXCLT	£2995
PATHOS INPOWER CLASS A HYBRID MONOBLOCS (SUPERB £9K?)	EXCLT	£4250
AUDIBLE ILLUSION MODULUS 3a 2 BOX PRE LITTLE USE	MINT/BOXED	£2195
ROGUE AUDIO 66 MAGNUM REMOTE CONTROL PRE	EX.DEM	£795
ANTIQUA SOUNDLABS A-1009 845 MONOBLOCS		
EX.DEM	SERVICED/VALVED	£2995
ANTIQUA SOUNDLABS LH-01 PRE-AMP H/PHONE AMP	EX.DEM	£375
ANTIQUA SOUNDLABS MINI PHONO 2 BOX	VGC	£295

VINYL

WILSON BENESCH CIRCLE (ONE OWNER 25 HOURS USE ONLY)	AS NEW/BOXED	£895
WILSON BENESCH ACT 2 TONEARM	MINT/BOXED	£995
VPI JMW MEMORIAL TONEARM	BRAND NEW	£499
AUDIO INNOVATIONS 1000 MC STEP UP	EXCLT/BOXED	£475
CARTRIDGE MAN MUSIC MAKER II FEW HOURS DEM USE	EXCLT	£450
EMINENT TECH MODEL 2 AIR BEARING LINEAR TONEARM	VGC/BOXED	£995
PINK TRIANGLE LPT/RB-250/CART EXPORT SPEC WITH PSU	VGC	£595
LINN LP-12 CIRCUS/TRAMPOLIN/VALHALLA (JUST SERVICED)	VGC.	£695
VOYD VALDI 2 MOTOR AND HUGE SPLIT PHASE PSU	BOXED	£695
DENON OP-1200 LTD./SHURE CARTRIDGE DIRECT DRIVE CLASSIC	VGC	£595
MICHELL ISO PHONO STAGE & HERA HUGE POWER SUPPLY	EXCLT	£395
TOM EVANS MICRO GROOVE	EXCLT	£375
MISSION 774 TONE ARM UPGRADED LEAD	VGC	£375
DENON DL-30L TURNTABLE ARM AND CARTRIDGE	EXCLT	£225
ANTIQUA SOUNDLABS MINI PHONO (2 BOX WITH NOS MULLARD VALVES)	EX.DEM	£349

LOUDSPEAKERS

USHER DANCER MINI-X DIAMOND 3 MONTHS USE	MINT/BOXED	£1850
ALR JORDAN CLASSIC 2 BIRCH VENEER (NEW BDXED £800+)	NEW BOXED	£475
FAB AUDIO FAB-1 FERRARI RED (DEM USE ONLY)	BOXED	£4795
ROGERS LS35A 15 OHM MATCHED PAIR	VGC	£995
SPENDOR LS35A 11 OHM MATCHED PAIR	EXCLT	£995
ART AUDIO PRECISION MONITOR (FLOORSTANDERS		
PIANO BLACK 6K+)	EXCLT/BOXED	£2795
B&W 802 MATRIX SERIES 2 IN WALNUT (ONE OWNER)	EXCLT	£1395
B&W 801 MATRIX SERIES-2 IN WALNUT (ONE OWNER)	EXCLT	£1995
MARTEN MILES CHERRY (8K+ ONE OWNER FROM NEW)	SALE!	£2995
TANNOY CPA-12	EXCLT	DUE
SNELL C MKIV AMERICAN WALNUT (SUPERB)	EXCLT	£1250
PODIUM 1s FEW WEEKS USE ONLY (£6000? NEW)	MINT	£2295
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PROAC STUDIO 150 (PREMIUM YEW FINISH)	VGC	£695
ACOUSTIC REFLEX (CONCRETE BAFFLE HORN		
LOADED FLOORSTANDERS)	EXCLT	£495
AURUM CANTUS MUSIC GODDESS (£2500)	DEM	£1595
AURUM CANTUS LEISURE 3 SE (LAST PAIR £1350)	BRAND NEW BOXED	
AURUM CANTUS BLACK ORCHID	NEW/BOXED	£895
(LAST PAIR £1300)	BRAND NEW BOXED	
AMPHION NEON 1 (1 OWNER)	NEW/BOXED	£895
THEIL CS 1.5 (ONE OWNER FROM NEW)	EXCLT	£895
MIRAGE M6 SI HUGE BI-POLAR FLOORSTADERS (£6.5K?)	MINT BOXED	£995
HARPER QUARTETO FABULOUS FLOORSTANDERS (£4000)	VGC	£1995
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CURA CA-30 FLOORSTANDERS (£3000 ONE OWNER FROM NEW)	SALE!	£2995
T&A TMR-100 SIZEABLE GERMAN TRANSMISSION LINES	EXCLT	£995
SEQUENCE SONATA-300 FLAT PANEL WALL/FLOOR SPEAKERS	SALE!	£495
AUDIO ARTISTRY DVORAK 2 PANELS 2 SUBS & CROSS OVER	NEW/BOXED	£295
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TUNERS/TAPE/STANDS/MAINS

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240V UK MODEL 8 OUTLET (RARE)	EXCLT	£1295
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BLACK RHODIUM 8 WAY MAINS BLOCK	EXCLT	£375
RUSS ANDREWS 3FT REFERENCE PDWER CORD/WATTGATE W350	EXCLT	£149
RUSS ANDREWS 6FT REFERENCE POWER CORD	EXCLT	£159
16 AMP IEC KRELL/MUS.FID	EXCLT	£159
BLACK RHODIUM SUPERMAINS 25 BRAIDED POWER CORD	BRAND NEW	£85
BLACK RHODIUM SUPERMAINS 25 BRAIDED POWER CORD/RHODIUM EASY PLUG	BRAND NEW	£125
TECHNICS ST-GT650 RDS TUNER	VGC	£99
TECHNICS ST-GT550 RDS TUNER	VGC	£75
MUSICAL FIDELITY X-CANS V-3	MINT/BOXED	£275

LOUDSPEAKER CABLE

TARA LABS RSC 5 METRE SHOTGUNNED BI-WIRE PAIR	EXCLT	£395
BLACK RHODIUM PDLAR NINJA DCT 2.9 METRE PAIR	EXCLT	£650
XLO 5.2 SIGNATURE-1 4FT PAIR	DEM	£495
SONORAM PLATEAU 4 METRE VERY HEAVY HI END PAIR	EXCLT	£475
COGAN HALL INTERMEZZO 5FT PAIR	EXCLT	£275
KIMBER APR 2.5 METRE TERMINATED PAIR	EXCLT	£99
RAPPORT (USHER) 5 METRE PAIR FACTORY TERMINATED	DEM	£249
XLO REF.2.5 METRE PAIR	EXCLT	£375
BLACK RHODIUM S-300 BI WIRE 5 METRE BI WIRE PAIR(£400)	NEW	£250
BLACK RHODIUM S-300 BI WIRE 4 METRE PAIR (£240)	NEW	£175

INTERCONNECT CABLE

CHORD CO.SIGNATURE 1.5 METRE RCA PAIR (ONE OWNER)	MINT/BOXED	£359
CHORD CO.SIGNATURE 1 METRE RCA PAIR (ONE OWNER)	BOXED	£295
CHORD CO.SIGNATURE 1 METRE PAIR BNC TO BNC	UNUSED	£299
KIMBER KCAG SILVER CABLE 0.5 METRE LOCKING WBTS ONE OWNER	BOXED	£299
KIMBER KCAG SILVER CABLE 1 METRE (ONE OWNER)	EXCLT	£399
KIMBER KCAG SILVER CABLE 1 METRE (ONE OWNER)	EXCLT	£399
KIMBER CABLE TIMBRE 1 METRE RCA LOCKING WBTS (ONE OWNER)	EXCLT	£89
KIMBER CABLE TIMBRE 1 METRE RCA LOCKING WBTS (ONE OWNER)	EXCLT	£89
ACOUSTIC ZEN SILVER REF 2 METRE XLR	VGC	£595
ACOUSTIC ZEN MATRIX REFERENCE II 1 METRE RCA	VGC	£275
ACOUSTIC ZEN MATRIX REFERENCE II 1 METRE RCA	VGC	£275
AUDIENCE Au24 REFERENCE INTERCONNECTS	EXCLT	£345
XLO REFERENCE 1 METRE BALANCED PAIR	EXCLT	£175
HARMONIX HARMONIC-STRINGS HS-101 1METRE XLR	DEM/BOXED	£299
ANALYSIS PLUS SOLO CRYSTAL OVAL 0.5 METRE	EXCLT	£225
VAN DEN HUL MCD102 HYBRID 1 METRE XLR TO RCA	EXCLT	£85
AUDIOQUEST/AUDIOTRUTH EMERALD 1 METRE PAIR	EXCLT	£149

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GUIDELINES FOR BUYING AND SELLING SECOND-HAND EQUIPMENT

FOR THE BUYER

1. Not everyone is honest - Buyer Beware!
2. Don't send cash!
3. Accept no verbal guarantees.
4. Have you heard the item or something similar? If not, why do you want it?
5. Don't pretend to have knowledge - it's your fingers that will get burnt!
6. Is it working? If not, why not? Can it be repaired and if so is it worth it?
7. Has it been modified and, if so, have notes been kept?
8. Was it any good in the first place?
9. Don't send cash!
10. If you are in the slightest doubt, arrange an audition (see point 5) If it's too far, wait for another time.
11. Either buy it or don't: vendors are excusably impatient with 'consultation' exercises.
12. Don't send cash!

FOR THE SELLER

1. Not everyone is honest - Seller Beware!
2. Make no verbal guarantees.
3. Even 'nearly new' is still second-hand. If the manufacturer's guarantee is no longer in force, your price should reflect this.
4. There is very little intrinsic value in second-hand hi-fi; it's only worth what someone will pay for it.
5. The best guide to pricing is last month's Classifieds: that a 'classic' was worth £xxx a year or two ago is no guide. Values fall as well as rise.
6. Amateur second-hand dealing is not a big money game: you win some, you lose some.
7. Be prompt with despatch. If in doubt about buyer's bona-fides, either wash out the deal or send C.O.D.
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MAY 2014 ISSUE - 5TH MARCH
JUNE 2014 ISSUE - 3RD APRIL

THE JESUS AND MARY CHAIN

PSYCHOCANDY
1985



"It seriously wouldn't have surprised me if someone had have been killed at one of those gigs"

“We made the cover of Smash Hits. We got it at the expense of Spandau Ballet and they pulled their feature. They were outraged because the spotty, noisy Mary Chain got the cover. And as far as I'm concerned that was the peak of our career.”

Well, not quite. In fact, you could argue that they never really had a 'peak' as such. Chart success never troubled the band yet their influence on groups to come was incalculable. You can trace a direct link from The Jesus And Mary Chain (JAMC) to the likes of My Bloody Valentine, Dinosaur Jr, Loop, Spacemen 3, Ride, Sugar and The Pixies.

JAMC were run by two Scottish-born brothers, William and Jim Reid plus a short list of 'others' who came and went but notably included Bobby Gillespie, who would later leave to form Primal Scream. "We went to Glasgow to rehearse with Bobby and it was quite freeform and I remember thinking, 'this has really clicked.' That was the moment when it really became amazing," said bassist, Douglas Hart.

Influenced by the likes of the Velvet Underground and The Stooges on one hand and Brian Wilson and Phil Spector on the other, the Mary Chain sound combined a soulful, twangy, nostalgic rock with a white noise-induced, feedback distortion that began in 1984 with the remarkable single, 'Upside Down'.

The band appeared on the scene when music had hit the doldrums. Bands, past their prime, were making a return off the back of the Live Aid event. Pop was now staid and safe.

The Mary Chain were anything but safe. Their incendiary, end of the world, chaotic music lit the blue touch paper which, added to the fact they often played with their backs to the audience, often appeared blind drunk on stage, sometimes played with faulty gear which didn't improve the sound and, to add to the confrontational aspect of their act, might decide to go on stage an hour late and then play just fifteen minutes, sometimes caused riots.

"It seriously wouldn't have surprised me if someone had have been killed at one of those gigs. We wouldn't go on stage until we were

'in the mood'. We'd be sitting in the dressing room getting tanked up and the promoter would come in like a nervous wreck going, 'For f**k's sake, you were supposed to be on half an hour ago.' Then there would be this sound like thump, thump, thump and we'd be like, 'What the f**k is that?' After a while someone would come in and say, 'You'd better lock the door. The audience are coming to get you.'"

Nevertheless, the band were seminal in what they did and how they did it and their debut album, 'Psychocandy', initially published on the Blanco Y Negro label, is that marker in the sand featuring a cross between the Beach Boys and Velvet Underground. This one album: loud, heaped with reverb and feedback but highly musical and melodic, created an entire musical movement, which also triggered the shoegaze period of rock and, ultimately, Britpop.

To celebrate the band's 30th anniversary, Demon has produced a quite beautiful vinyl box set that features all six of the band's studio releases, including 'Psychocandy', fully remastered, along with a booklet featuring interviews with the band and photos. Three bonus LPs exclusive to the box set are also included.

For the first time on vinyl the BBC sessions are released together too. A bespoke deluxe gatefold package contains John Peel Sessions and additional Janice Long sessions that appeared across the Demon CD re-issue packages recently. Also, through a fan-lead competition on social networks across the world, fans have voted for their favourite 'The Jesus & Mary Chain B-Sides & Rarities', the most popular of which feature on a bespoke LP.

To explain the 'Psychocandy' album, which was a tight, lean production, Jim Reid described his musical raison d'être at the time. "When I think back to the music that we listened to in East Kilbride, of course there were The Stooges and things like that but there was also The Shangri-Las. Those kind of disparate things gave us an elevated feeling. You know, you used to meet all these people then that were into punk but hated The Beach Boys and we found that so weird."

Jesus & Mary Chain? It was like a young Who entering the eighties indie scene. It was a complete shock to music. **PR**

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